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WAR PROGRESS

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January Production Drags

Lend-Lease Roundup

Scorecard on Merchant Shipping

Number 178

February 12, 1944

History Repeats With a Difference

Munitions production drags in January, but this year there was no end-of-the-year cleanup in December to explain the drop. Reconversion rumors may be a factor.

AS HAPPENED last year, the war production curve turned down in January. Total munitions, at $5,480,000,000 (preliminary, new-cost basis), were 2% under December, 1% behind schedule. And except for aircraft, which was up 6%, a big majority of programs were down, as the table on page 7 shows. Curiously, aircraft, though it came very close to schedule (only 3% off), accounted for most of the lag dollarwise—simply because it is the dominant munitions program today.

But January, 1944, is only superficially akin to January, 1943. The December, 1942, end-of-the-year cleanup of assembly lines borrowed from the early months of 1943; and to put it mildly, January was robbed. This time, except for the Maritime program, there was no important borrowing from the future. Thus, the decline can be classified as real, not accidental.

INCONCLUSIVE CONCLUSIONS

Explanations for the drop are various but inconclusive: bad weather, strikes, absenteeism, and perhaps a disposition of both management and labor to let down because of reconversion rumors. Moreover, declines were in the schedules—it's customary for many plants and shipyards to slow down in January for annual inventory, and this was allowed for. However, this cannot gainsay that munitions output did not meet the reduced schedules and that a rise after a slow month—December—was distinctly in order.

There were extenuating circumstances. Most lags were in low-priority programs. The deficit from schedule in the naval program was accounted for almost entirely by auxiliaries and minor-type ships; combatants actually were 5% ahead on a value-in-place basis, according to preliminary estimates. The lag behind schedule in aircraft was largely in spare parts, 9% behind the goal. But this schedule is still not firm; indeed, it will probably be revised downward. In number and weight of planes accepted, schedule was beaten for the first time since December, 1942 (WP-Feb 5'44,p5).

REVISIONS IN PROCESS

Furthermore, many major programs are in the process of change. And this is not conducive to meeting schedules on the nose. The Maritime Commission is in process of cutting Liberty ship construction by 44% and clearing the ways for a big new program of military-type ships (WP-Jan29'44,p5). Similarly the Navy recently added 500,000 tons of landing vessels to an already large 1944 program; rushing these through means shunting aside some miscellaneous minor ships, and, of course, causes delays.

There's another important point of departure between January, 1944, and January, 1943. A year ago, virtually all programs were expanding; quantity was still a primary objective. Now the munitions program as a whole is near the peak. Volume of production is no longer the main index. By now there is little real question of the country's ability to produce substantially the quantity of munitions it needs. The main problem

is to get the type of munitions most needed: specifically landing craft, airborne radar equipment, heavy trucks and tractors, and the newer models of aircraft.

Landing craft—now the No. 1 munitions program—continued in the red: though deliveries rose 21% over December, they were still 14% short of schedule. However, the estimated amount of work put in place was close to schedule. Chief problem here is to get a very high level of deliveries in a short time: the peak of 164,000 tons scheduled for June is almost double the January rate. But the program is picking up fast, with the help of an overriding priority for components.

Other difficult programs came through with a bang. Tractors beat par, airborne radar ran well ahead of a steeply rising schedule, and the B-29 Superfortress exceeded the goal for the first time. The SB2C Helldiver also beat schedule, but chiefly because the more realistic W-9 schedule lowered the sights.

ONLY THE PROLOGUE

On the other hand, the C-46 Commando transport plane again fell far short, and the A-26 attack bomber has yet to get really started. Heavy trucks also did poorly, failing to meet a reduced schedule. Landing vessel priorities may create further component difficulties for this program.

Altogether, January shapes up as pretty much the kind of month we can expect from now on. As for the one question that remains—Is the war production effort slackening?—February should give a clearer answer. A rise, and a fairly sharp one, is called for—even though it is a short month.

Aircraft

Aircraft started the year in high. Output of airframes, engines, propellers, gliders, spare parts, etc. increased 6% over December to a new peak of $1,639,000,000. And as noted in WAR PROGRESS last week, the 8,789 planes accepted brought an airframe-weight gain of 5%.

Outstanding performance was in heavy bombers—Superfortresses, Liberators, and Flying Forts. During January, these three models accounted for 42 out of every 100 pounds of airframe weight accepted, as against 36 out of every 100 pounds six months ago. Next to transports, heavy bombers scored the largest increase over December (airframe-weight basis):

	January Acceptances as % of	
	December	W-9
All military planes....	105%	102%
Combat planes.....	106	103
Heavy bombers.....	111	105
Patrol bombers.....	99	94
Medium bombers.....	89	102
Light bombers.....	104	107
Fighters.....	105	100
Transports.....	112	90
Trainers.....	90	111
Communications.....	92	105

Boeing at Seattle is the Cinderella plant of the heavy-bomber program. For

IN THIS ISSUE:

a time last year, production of Flying Fortresses lagged consistently behind schedule and the monthly peak for 1944 was cut from 270 to 240. Then, after its manpower problems were straightened out (WP-Oct30'43,p1), Boeing production ran consistently ahead of schedule, and the old top of 270 was restored. Now the peak has been raised again—to 290 for this month and 350 in March—and Boeing will complete Fortress contracts in February instead of June, 1945. That means that Boeing will get into all-out production on the B-29 Superfortress four months ahead of the previous plan.

Curtiss, Buffalo, may turn out to be another Boeing. Right now it's one of

MUNITIONS STATISTICS BROUGHT CLOSER TO DATE

STATISTICS on the dollar value of war output have been revised. Instead of talking in terms of monthly munitions production of nearly $6,000,000,000, we now have to get used to a new and lower figure—$5,480,000,000 (January preliminary).

That does not mean that production has fallen more than half a billion dollars per month. Actually, physical output of munitions in January was down only about 2% from December. But the old series was based on munitions prices as of August, 1942. Since that date, the cost of tanks, planes, ships, guns, and ammunition has been generally lowered. To allow for the downdrift, the entire series, from 1942 to date, has been revalued with August, 1943, unit costs.

This has a double effect: Not only does it bring the data into closer alignment with actual disbursements of procurement agencies, but also it gives a more accurate idea of the interrelationship of data. Thus many items, such as Liberty ships or Flying Fortresses just getting into production in 1942, took many man-hours, were therefore figured at high cost; today, those same items take fewer man-hours; and the new costs, quite properly, give them a lower weight in the series.

As a result of this revision, total munitions production in 1943 now totals up to $56,600,000,000, instead of the $60,500,000,000 previously used. Construction underwent a separate revision and for last year comes to $8,500,000,000 instead of $11,300,000,000. Key 1943 figures—new and old—compare as follows (preliminary):

	New Series	Old Series
	(billions)	
Munitions	$56.6	$60.5
Aircraft	13.9	15.1
Ships	12.9	13.0
Guns & fire control	3.8	4.7
Ammunition	5.6	6.8
Combat & motor vehicles	6.1	6.4
Communication & elec. equipment	3.7	4.1
Other equipment & supplies	10.6	10.5
War construction	8.5	11.3

Yearly figures in the new series shape up as follows:

	Munitions	Munitions & War Construction
	(billions)	
1942	$30.6	$43.2
1943	56.6	65.2
1944*	72.4	75.9

*January 1 schedule.

the problem plants of the industry. And members of the Aircraft Production Board are trying to expedite output of the much-wanted C-46 Commando transport plane; acceptances here have been hampered chiefly by several "must" modifications. In addition, the plant has not yet recovered from rapid-fire revisions in P-40 Warhawk schedules.

WARHAWK HAMPERED

Through most of 1943, Warhawk output ran at the rate of about 400 planes per month. In October the schedule was cut abruptly: to 300 in January, 200 in February, and 100 per month thereafter. Accordingly, Curtiss made arrangements with suppliers to reduce parts and equipment deliveries. Then late last year, an increased foreign demand brought an upward revision: to 350 in January, 300 in February, 250 in March, and 200 thereafter. That meant new arrangements with suppliers, who haven't yet had sufficient time to readjust shipping schedules. Meanwhile, many Warhawks have been coming off the assembly line minus certain items of equipment and hence are unacceptable.

Largely because the Warhawk fell 75 planes short of W-9, Army 1-engined fighters missed their goal of 1,735 planes. At 1,171, however, Navy fighters ran 4% ahead of schedule after lagging for three months in succession. Biggest gain in this group was at Goodyear, Akron, which turned out 150 Corsairs, 20% ahead of its goal and 83% better than December. Acceptances at Goodyear had been hampered by lack of hangar and flight-test facilities; now however, these difficulties have been overcome and plans are being made to up its schedule.

Another plant singled out for special attention by the Aircraft Production Board is Douglas, Chicago. It has yet to make a schedule on the C-54 Skymaster, a 4-engined long-range transport. Last month it turned out three, or two under schedule; in December four, or three under schedule.

The main reason is shortage of trained supervisory personnel; to correct this, experienced employees may be switched from Douglas, Santa Monica. In a similar situation about six weeks ago, the North American Dallas plant "imported" personnel from North American, Inglewood. Result: January acceptances of B-24 Liberators at Dallas (55) more than doubled December, and the plant's output of P-51 Mustangs (120) was 45% ahead.

The A-26 Invader, the high-preference light 2-engined bomber, ran into some production trouble; five were accepted as against seven scheduled. As heavy as a medium bomber, the Invader is one of the most complicated production jobs in the entire program. At the moment, assembly is being slowed by lack of know-how on milling of the spar cap.

Incidentally, January acceptances of 8,789 exceeded the forecast by 2%, or 205 planes, but part of this increase was accounted for by a quirk in the schedule. When W-9 was set up, two Canadian producers of trainer planes—Noorduyn Aviation, Montreal, and Fleet Aviation, Ft. Erie—were switched from the U.S. to the Canadian aircraft program. However, 90 planes were accepted from these two plants in January to complete contracts. It was a windfall in the numerical sense only—the additional trainers had little influence on airframe weight.

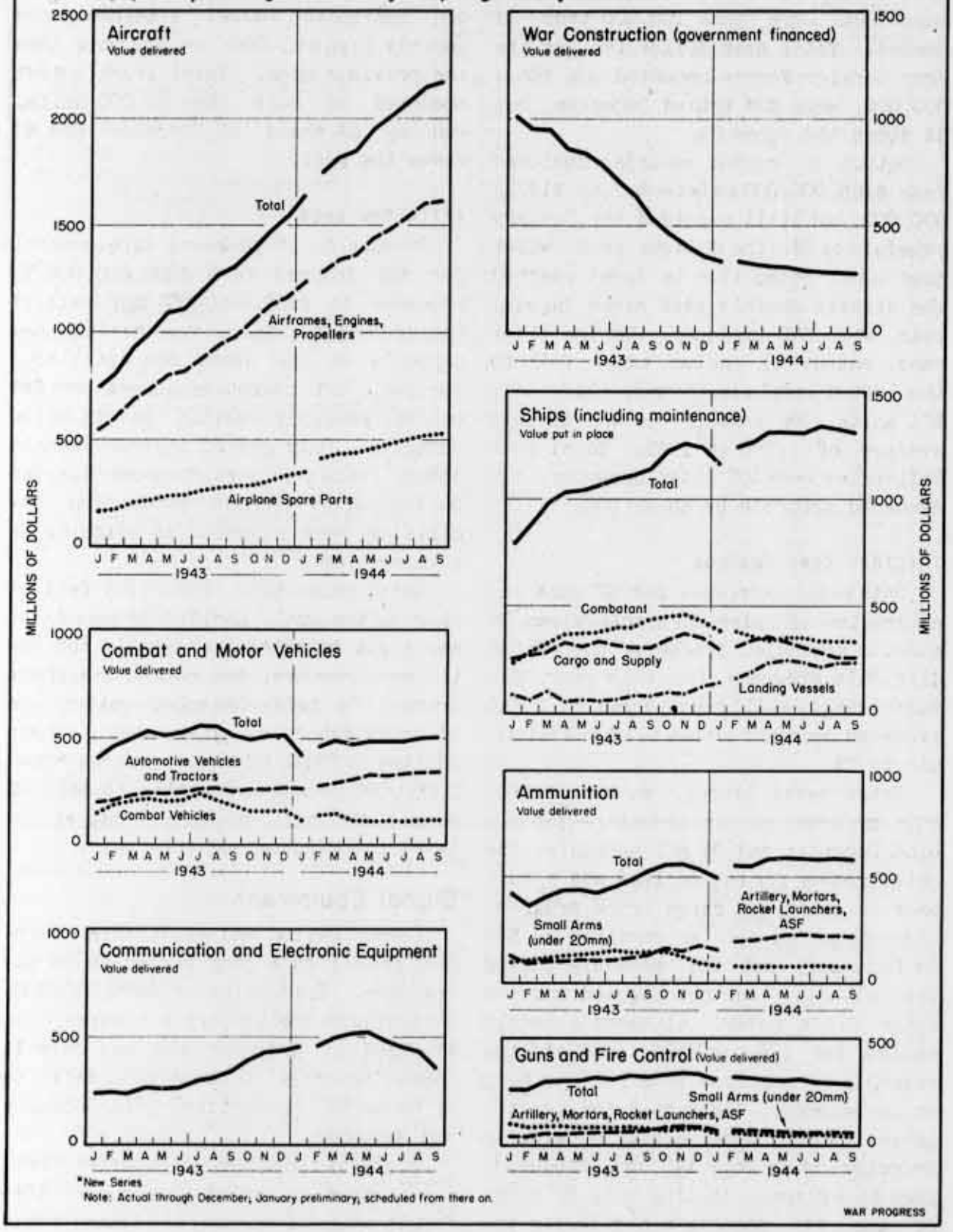
Army Ordnance

Declines were fairly general throughout the entire ground army munitions list and, in the case of motor carriages for self-propelled guns, ran as high as 51%. In only a few instances did output exceed the generally declining schedules —aerial bombs and combat and motor vehicles.

Aerial bombs suggest the extent to

1944 MUNITIONS* OFF TO SLOW START

Production drops 2% from December, despite fairly big gains in aircraft, signal equipment, landing craft. Army output generally down.



*New Series

Note: Actual through December; January preliminary; scheduled from there on.

WAR PROGRESS

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which some ASF programs have been cut. Output of the general purpose bomb, for instance, amounted to 45,000 tons last month; but plants have a capacity to turn out more than 100,000 tons—if needed. Total bomb deliveries for the Army Service Forces amounted to $66,-000,000, were 30% behind December, but 5% above the schedule.

Output of combat vehicles declined from $165,000,000 in December to $117,-000,000, but still exceeded the January schedule by 6%. The M5 light tank (which goes out of production in June) reached the highest monthly rate since August, 1943, with 590 produced. On the other hand, output of medium tanks fell to the lowest level since March, 1942—only 671 units, as compared to the monthly average of 1,770 in 1943. Total tank deliveries were 400 under December, but exceeded schedule by about 200.

TRACTORS COME THROUGH

Both motor carriages for SP guns and automotive vehicles and tractors ran 3% ahead of schedule. Tractors, one of the difficult programs for this year, did surprisingly well; acceptances at 2,645 exceeded December output by 8% and schedule by 7%.

Extra-heavy trucks, another difficult program, continued to lag—15% behind December and 9% off schedule. The chief reason for the decline was a cutback in the 4-ton cargo truck program; 283 were turned out, as compared to 501 in December, but the schedule called for only 314. Another laggard was the 6-ton prime mover; although schedule called for 104, only 60 came off the assembly line, less than half as many as in December. The 4-to-5-ton tractor truck, which made a poor showing in December when only 148 were produced, came back strong, falling only 20 short of the 441 monthly schedule for the first quarter of the year. Production of 2½-tonners reached 17,200, one-sixth more than in December. This only equals last summer's rate. However, the 2½-ton amphibian (duck) attained a new monthly high of 1,000, or 400 more than the previous peak. Total truck output amounted to more than 50,000 units, running 2% ahead of December and 4% above the goal.

ARTILLERY LAGS

Production of guns and fire control for ASF dropped from $200,000,000 in December to $158,000,000 and fell 4% behind the goal. Small arms hit the new schedule on the nose, but artillery, mortars, and rocket launchers ran 24% behind December output and 6% below schedule. Only six of the much-wanted 155mm. field guns were produced, against 20 scheduled. Reason: production facilities were diverted to catching up on spare parts.

Total ammunition production fell 1% short of the goal. Small-arms ammunition was right on schedule. Shells for artillery, mortars, and rocket launchers dropped 7% below December output and 4% below schedule. There was a sharp decline in 75mm. HE shell output from 1,000,000 rounds in December to 550,000 rounds—8% off schedule, but at the level to be sustained this year.

Signal Equipment

Communication and electronic equipment got off to a good beginning in the new year. Production of $460,000,000, according to preliminary estimates, ran 4% ahead of December and was only 1% behind schedule, as compared to deficits of 8% and 6%, respectively, in December and November.

Airborne radar made a surprise showing. Listed as one of 1944's most difficult programs because of planned rapid

PRODUCTION PROGRESS – Preliminary

Value delivered or put in place – millions of dollars.

	January Preliminary	December Actual	% Change	January Schedule*	% Deviation Jan. Prelim. vs. Schedule
MUNITIONS AND WAR CONSTRUCTION	$5,810	$5,954	- 2%	$5,880	- 1%
TOTAL MUNITIONS	5,480	5,594	- 2	5,550	- 1
Aircraft	1,640	1,550	+ 6	1,695	- 3
Total airframes, engines, propellers	1,242	1,171	+ 6	1,260	- 1
Airplane spare parts	354	332	+ 7	390	- 9
Other aircraft and equipment (excl. commun.)	44	47	- 6	45	- 2
Ships (incl. maintenance)	1,160	1,246	- 7	1,178	- 2
Combatant	393	434	- 9	374	+ 5
Landing vessels	140	120	+17	141	- 1
Cargo and supply	308	359	-14	295	+ 4
All other	319	333	- 4	368	-13
Guns and Fire Control	310	336	- 8	327	- 5
Small arms (under 20mm.)	71	83	-14	71	0
Artillery, mortars, rocket launchers – ASF	59	78	-24	63	- 6
Fire control and searchlights (excl. Radar)	66	69	- 4	68	- 3
Naval guns and other	114	106	+ 8	125	- 9
Ammunition	500	534	- 6	509	- 2
Small arms (under 20mm.)	84	100	-16	84	0
Artillery, mortars, rocket launchers – ASF	163	176	- 7	170	- 4
Aerial bombs – ASF	66	94	-30	63	+ 5
Naval ammunition and other	187	164	+14	192	- 3
Combat and Motor Vehicles	425	514	-17	410	+ 4
Combat vehicles	117	165	-29	110	+ 6
Motor carriages for SP guns	37	76	-51	36	+ 3
Automotive vehicles and tractors	271	273	- 1	264	+ 3
Communication and Electronic Equipment	460	442	+ 4	463	- 1
Other Equipment and Supplies	985	972	+ 1	968	+ 2
WAR CONSTRUCTION	330	360	- 8	330	†

* As of December 1, 1943, for Construction; January 13 for Aircraft; January 1 for all other.
† Schedule used for preliminary.

expansion, production was about 20% ahead of December and more than 10% above schedule. Chief reason: AN/APN-4 airborne navigation equipment. After missing schedule by 27% last month, it came back strong, 39% ahead of schedule; 834 sets were delivered. AN/APQ-5, bombing equipment, ran 31% under schedule.

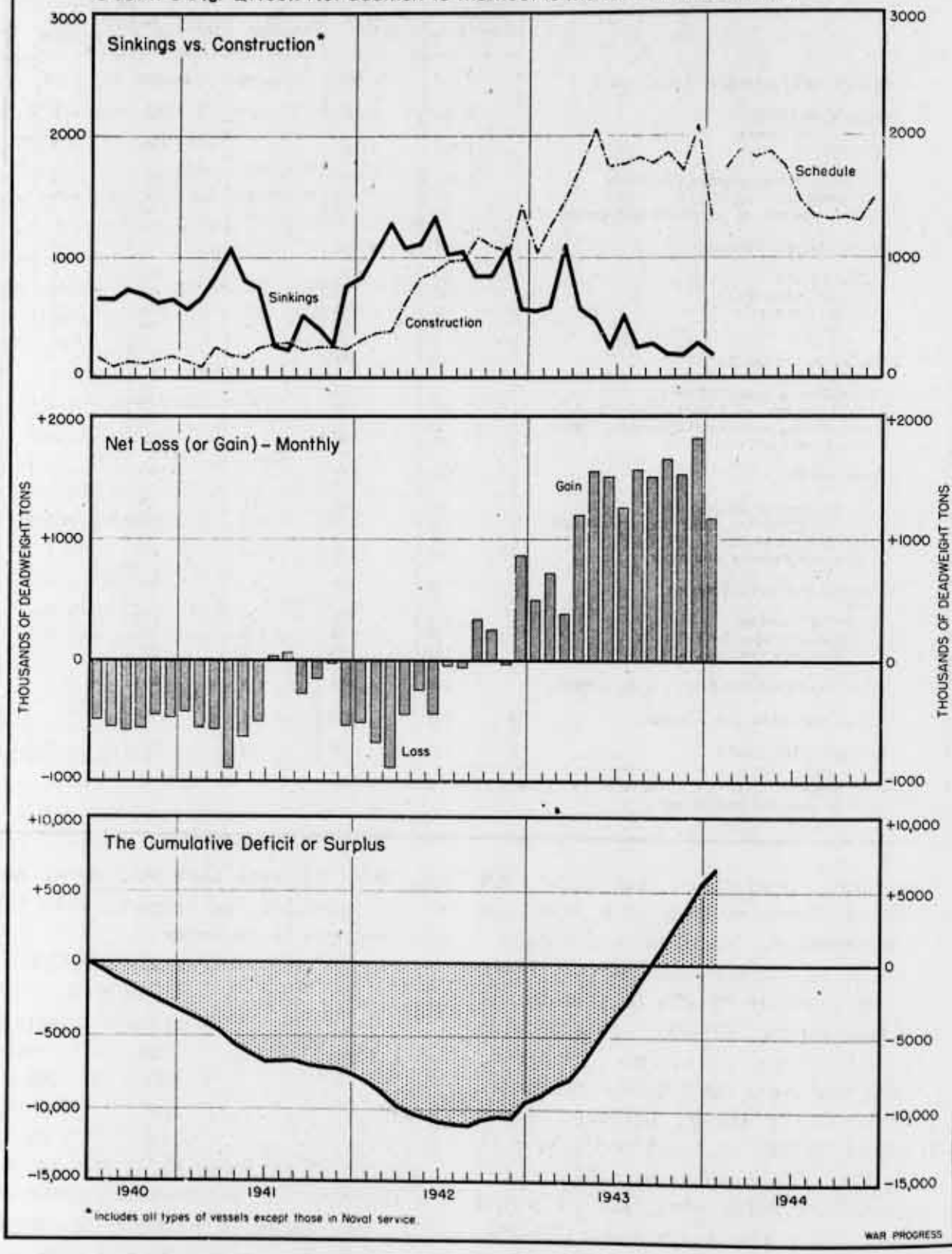
Radar as a whole, however, missed its goal by 3%, although production of $134,000,000 was 2% higher than in December. The deficiency was in ground radar. Here the laggard was SCR-268, the $95,000 antiaircraft fire-control set; only 31 sets were delivered out of 50 scheduled, as compared with 130 sets produced in December:

	January Production as % of	
	December	Schedule
Total signal equip.	104%	99%
Radio.....	102	102
Radar.....	102	97
Other.....	115	93

Output of airborne radio was 3% below the rate for the fourth quarter of 1943, but exceeded schedule by about 6%. Although the program has been cut

SCORECARD ON MERCHANT SHIPPING

Sinkings in January of United Nations vessels drop to near-record low; construction is down 36%. Effect: Net addition to the fleet is the lowest in 10 months.



back for the first quarter, it rises again in the second. The cutback is in the SCR-287, airborne liaison equipment.

Naval Ships

Like most munitions programs, the naval program was scheduled to fall off last month for a beginning-of-the-year breather; but it dropped even more than expected. Deliveries of Navy-built ships, at 255,000 displacement tons (preliminary), were 12% less than December and 13% less than schedule. All the main categories ran behind. However, the poorest showing was made by minor types—patrol, mine, district, auxiliaries, etc.—which the Navy is not pushing hard:

	Deliveries (tons)	% Change Dec.	% Change Sched.
All combatants*.	121,000	-30%	-6%
Landing vessels.	86,000	+21	-14
Patrol & mine*..	12,000	-20	-20
Aux. & all other	36,000	+16	-30
Total.....	255,000	-12%	-13%

* Not including aircraft carrier escorts and frigates built by the Maritime Commission.

The only big ships scheduled came through: the 27,100-ton aircraft carrier "Franklin" and the 10,000-ton cruiser "Vincennes." Also the Navy completed three carrier escorts as scheduled. But Maritime, which is slated to add five carrier escorts a month until July, completed only four last month. And the DE program, now in a sharp decline, failed to make par for the first time in months; 29 were completed as against 30 called for. DEs are now making way for landing vessels.

Hence the most serious lag is in the landing vessel program, which fell 14% short of the goal. However, the January schedule was boosted by a carryover of the December deficit, and the 86,000 tons completed were slightly more than called for by the December 1 schedule. February deliveries may exceed the present goal of 93,000 tons. Though the landing craft program was reinstated at a high level late last year, shipyard experience had been developed. In February, 1943, the earlier landing craft program reached a peak of 106,000 tons.

Merchant Ships

Although Maritime Commission deliveries took a big tumble last month, work actually done may not have been too far from schedule. Maritime completed 1,210,000 deadweight tons—20% less than schedule and 41% under December's record of 2,059,000 tons. In large part, this reflects the year-end rush to clean up unfinished business and get set for the 1944 program, with its shift in emphasis from Liberty ships to military types and the new Victory.

Deliveries of major merchant ships fell to 1,095,000 tons, as compared to 1,955,000 tons in December. All types failed to meet the reduced schedules. Only 73 Libertys were completed instead of the 88 called for, nine standard cargo types instead of 11, and 14 tankers instead of 20. (Machinery trouble delayed the acceptance of some tankers.) Result was that the net addition to the United Nations fleet—new construction minus losses due to enemy action—was the lowest in 10 months (chart, page 8).

The main military types came through: 11 transports (including six attack types for the British) were delivered—one over schedule. One AKA (attack cargo) also was delivered, as scheduled. The real test for the combat-loader program, however, lies ahead. The additional ships recently put into the 1944 schedules are slated for delivery in the last half of the year.

$10,000,000,000-Year for Lend-Lease

Larger proportion of U.S. munitions output went abroad in 1943 than in 1942; total shipments doubled. Soviet's share, 29%; United Kingdom's, 41%.

LEND-LEASE SHIPMENTS to all countries in 1943 amounted to more than $10,000,000,000—double the 1942 total of $4,900,000,000. This brought to nearly $16,000,000,000 the value of munitions, agricultural products, and industrial products lend-leased since the beginning of the program in March, 1941.

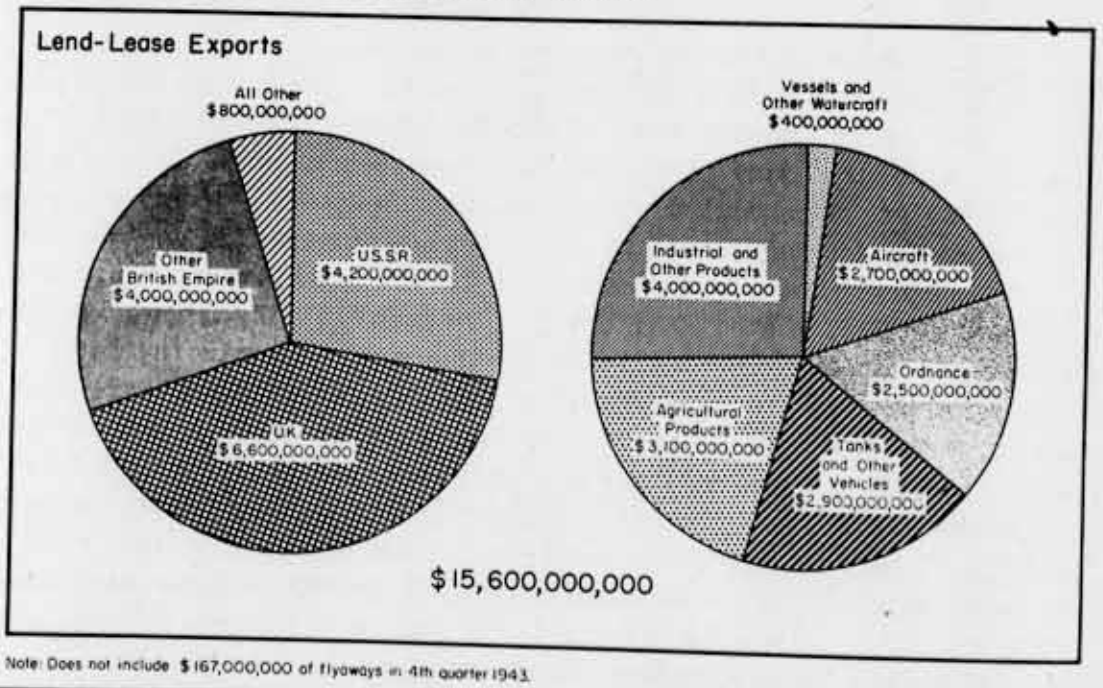
A somewhat larger proportion of U.S. munitions went abroad last year under lend-lease than in 1942. One-third (on a dollar-value basis) of tanks and other motor vehicles made in the U.S.A. were shipped to the United Nations, as against one-fifth in 1942. At the same time, shipments of planes, guns, ammunition continued at about the '42 rate—13%.

Shipments to the Soviet Union, at $2,900,000,000 in 1943, were 112% higher than the 1942 total of $1,350,000,000. (Exports to Russia in 1941 were insignificant, amounting to only $1,000,000.) The Soviet share of total lend-lease last year was 29%, as against 28% in 1942. By category, the shipments for the two years were as follows:

U.S.S.R.	1943	1942	% Change
	(millions)		
Ordnance.....	$368	$214	+72%
Aircraft.....	510	304	+68
Tanks, other vehicles.....	481	326	+48
Vessels, other watercraft....	79	11	+618
Agricultural...	579	184	+215
Industrial.....	850	313	+172

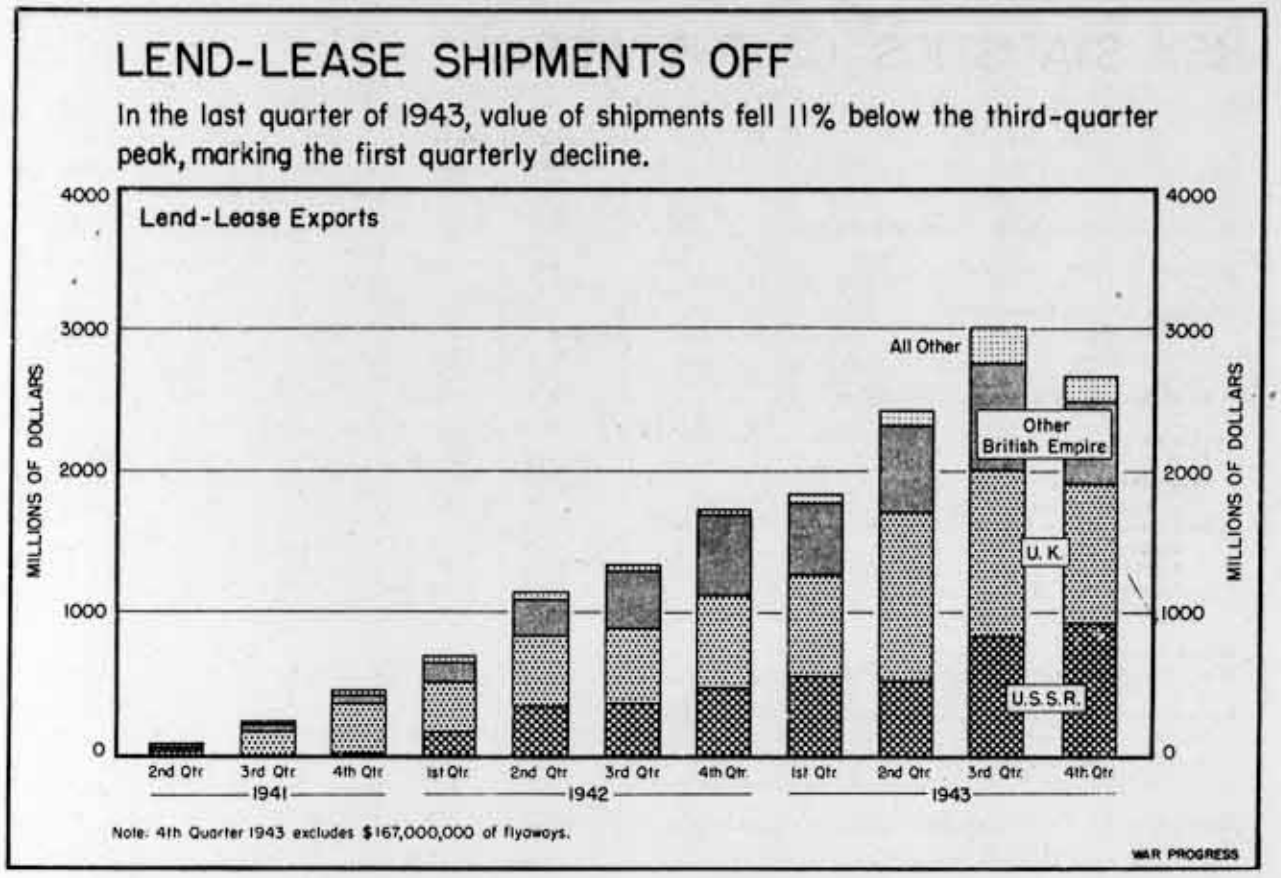
THE LEND-LEASE PIE TO DATE

Since the start of the program, exports to the United Kingdom accounted for 42% of the total, as against 27% to Russia.



Note: Does not include $167,000,000 of flyaways in 4th quarter 1943.

WAR PROGRESS



Plainly, the composition of exports to the U.S.S.R. has shifted. Planes, guns, tanks, and other motor vehicles constituted only 47% of 1943 shipments to the Soviet, as compared to about 62% in 1942. (Munitions shipments to all countries have remained steady—about 53%.)

MORE FOOD TO SOVIET

On the other hand, agricultural and industrial products sent to Russia have risen sharply—from 37% of the Soviet total in 1942 to 50% in 1943. This shift is the Soviet choice. Food, seeds, and other agricultural products have been needed to offset the losses of food-bearing territory (some recently regained) to the Nazis. And butter shipments to the Soviet amounted to nearly 100,000,000 pounds, about 5% of the U.S. annual supply. (In December, they reached a new high of 26,000,000 pounds.)

Demands for more industrial machinery, chemicals, steel, nonferrous metals, petroleum products, etc. increased as the Germans took over important industrial areas. However, despite the de-emphasis, munitions shipments to the Soviet mount up. Through last December, approximately 8,000 planes, more than to any other lend-lease country, were shipped to Russia; also nearly 4,000 tanks and about 217,000 motor vehicles, including trucks, jeeps, and motorcycles. Unquestionably, lend-lease has helped to put the Red Army on wheels.

U.K. STILL LEADS

The United Kingdom continued as the major lend-lease recipient last year. Shipments amounted to $4,000,000,000, as against $2,000,000,000 in 1942. But the U K. share of total lend-lease fell from 45% in 1942 to 41%. Here, the shift has been to munitions (47% in 1943,

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,844	1,627	1,701	1,652	1,417
War bond sales (millions of dollars)	870	651	309	147	182
Wholesale prices (1926=100)					
All commodities	103.1p	103.1p	102.9p	101.0	102.0
Farm products	122.1	122.6	121.9	125.0	118.2
Foods	104.2	104.7	104.6	106.6	105.0
All other than farm products and foods	98.0p	98.0p	97.8p	97.2	96.4
Petroleum:					
Total carloadings	50,871	51,499	47,029	53,169	52,721
Movement of cars into the East	23,384	22,187	20,428	27,413	25,812
Total stocks of residual fuel oil (thousands of barrels)	52,734	52,857	55,731	66,714	
East coast stocks for civilian use (1940-41=100 Seas. Adj.)					
Gasoline	44.5	43.2	43.6	n.a.	n.a.
Kerosene	51.6	47.7	48.0	|	|
Distillate fuel oil	92.2	89.8	87.6	|	|
Residual fuel	64.1	65.9	67.6	n.a.	n.a.
Bituminous Coal:					
Production (thousands of short tons, daily average)	2,138p	2,108	1,842	2,028	1,917
Exports (no. of freight cars unloaded for export Friday, excl. grain)					
Atlantic Coast ports	2,783	3,020	2,173	2,701	1,223
Gulf Coast ports	291	397	430	336	335
Pacific Coast ports	1,267	1,284	1,215	1,320	888
Steel operations (% of capacity)	100.2	99.8	99.6	97.8	99.3
Department store sales (% change from a year ago)	-2	-8	-3	-7	-19

p. preliminary n.a. not available

as against 31% in 1942). The record.

U.K.	1943 (millions)	1942 (millions)	% Change
Ordnance.....	$627	$250	+151%
Aircraft.....	613	276	+122
Tanks, other vehicles.....	655	98	+568
Vessels, other watercraft....	108	46	+135
Agricultural...	1,080	731	+48
Industrial.....	932	604	+54

China was one of the few lend-lease countries which showed a decrease last year, as compared with 1942. More than 90% of shipments to China in 1943 were planes and parts. Percentagewise, Algeria registered the biggest increase last year. Other countries showing big gains included Turkey, Egypt, Australia, Union of South Africa, and Brazil:)

	1943 (millions)	1942 (millions)	% Change
U.K.	$4,015.0	$2,005.0	+100%
U.S.S.R. ..	2,867.0	1,352.0	+112
Egypt	851.1	440.4	+93
Australia .	422.9	210.8	+100
New Zealand	90.8	62.9	+44
India	513.9	287.2	+79
Iran	14.0	34.8	-60
Iraq	77.0	68.5	+13
U. of S.A..	105.8	51.8	+104
Algeria ...	279.4	none	∞
Nigeria ...	11.1	7.8	+42
Turkey	84.2	10.9	+665
Gold Coast.	8.9	20.6	-57
Brazil	59.4	15.5	+283
China	36.2	62.9	-42

December shipments to all countries exceeded the billion-dollar mark again. Included in the total was more than $1,000,000 of flyaway planes.

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Disclosure Punishable Under Espionage Act

Reconversion and the Small Plant

Number 179

February 19, 1944

Small Plants: Reconversion Problem

Many can't get either war contracts or materials for civilian production; a third are having a hard struggle to keep going. Should they come first in transition?

ALTHOUGH production of bedsprings for civilians is limited to 40% of 1941 output, war orders are enabling some firms in the industry to operate well above their prewar capacity. But the firm that has no war contract—above all, the single-line firm that makes only bedsprings—will have a hard time getting along on its 40% quota. Here, in a nutshell, is the reason why thousands of small plants are up against it at a time when business as a whole is at record high levels.

SMALLNESS IS HANDICAP

Smallness is an obvious handicap in a big war. Little firms got few contracts at first because they couldn't take large orders and fill them quickly. Moreover, many of them are equipped to make only vanity cases, cigarette lighters, or other minor products, and lack the financial and technical resources to convert to war production. Thus a Department of Commerce study of some 3,500 representative firms employing up to 125 workers showed that 85% were still making—or trying to make—the same products in 1943 as in 1941, and that only 7% had succeeded in converting entirely to a new line.

Yet all the little firms together make a big problem—simply because there are so many of them. Although the Smaller War Plants Corporation will generally try to assist any independent firm that employs less than 500 workers, most calls for help come from plants with less than 100. In 1939 there were almost 170,000 such plants, comprising 92% of all industrial establishments in the U.S. and employing 30% of all industrial wage earners.

OUTPUT AT STANDSTILL

The Department of Commerce study measures their difficulties. From January, 1941, to January, 1943, manufactured goods as a whole increased 68%; but the output of the small firms stood still. (Although the dollar value of their product went up 16%, wholesale prices rose 20%.)

Furthermore, even among the small plants there were the haves and the have-nots. Though 21% of the firms managed to double the value of their prewar outrut, 12% were producing less than half as much. About one-third were doing poorly or expecting a sharp curtailment.

WANTED: MORE WORK

More recent surveys by the Smaller War Plants Corporation indicate that these dreary expectations were realized. Of 186 random small plants in and about St. Louis—a Group III, or easy labor area—only 69, or 37%, were operating at capacity; 42 had up to a third of their capacity open; 51, from one-third to two-thirds; and 24, from two-thirds to 100%.

By circularizing more than 50,000 small plants, SWPC has drawn up a list of their specific needs. Most want orders—more work to do; about 25% need

more materials to work with; about 20% need more workers. Only 2% asked for financial help or relief from federal regulations.

Hence SWPC, working through 14 regional and 103 district offices, has been trying to steer more war contracts their way. From October, 1942, to the end of 1943, it helped to place about 30,000 contracts, with a total value of $1,750,000,000, in some 13,500 plants. SWPC also can act as a prime contractor and subcontract to small manufacturers. So far this year, it has parceled out over $40,000,000 of business, particularly for clothing for the relief and rehabilitation program. In addition, it provides the small contractors with loans for the purchase of materials and machinery, advice on technical and production problems, assistance in pooling facilities and equipment, etc.

SWPC GOES TO BAT

SWPC occasionally can help in getting materials for producers of consumers' goods as well. Thus a manufacturer of neon signs and fluorescent lighting fixtures wanted to continue production, using steel in inventory, but was turned down by the industry division of the War Production Board. By showing that the steel couldn't be used for anything else, SWPC got the ruling reversed.

Manpower problems of small plants are a poser—especially because higher-paying war plants bid away their highly skilled workers, their two or three key men. When their engineer or toolmaker leaves, they are virtually crippled.

In general, the smaller the small plants are, the worse off they are. A possible relief for some of them is the laboratory experiment under consideration for the WPB areas centering in Philadelphia, Cleveland, and Kansas City. If it is approved, plants with fewer than 50 workers (or than 10 in Group I tight-labor areas, 25 in Group II areas) could get an authorization from WPB regional offices to purchase noncritical and leftover materials to make civilian items now prohibited or limited. Certain prohibitions, of course, will be retained, especially in luxury items or items requiring tight components. (To the extent that small war plants use leftover inventories resulting from contract terminations, now widely scattered throughout the country, they will help to solve a storage problem and to lift surpluses off the market.) The assumption is that these smaller plants have relatively low wage scales and presumably would not attract workers away from war industry.

RELAXATIONS OPPOSED

However, because of impending inductions into the armed forces, labor continues scarce. And military authorities contend that no diversion of workers into expanded civilian production should be permitted at this time; indeed, not until after the invasion of Europe has been successfully launched. Industry groups, too, oppose relaxations in behalf of small business, on the ground

IN THIS ISSUE:

MIDMONTHLY PLANE TALLY AUGURS GOOD MONTH

ANOTHER good airplane month is in prospect. During the first 15 days of February, 600 more planes were accepted than in the corresponding period of January; and even with one less work day, February should surpass last month by a good margin.

However, about 200 planes, completed in the first half of January, were not accepted until later in the month, as bad weather delayed flight-testing. And though New Year's Day was not an official holiday, absenteeism ran so high that production was held down. Despite this, January acceptances amounted to 8,789 planes, but this included 200 trainer planes not covered in the schedule. This month's schedule of 8,617 planes should be met easily.

Heavy bombers performed exceptionally well. And on an airframe weight basis, production so far this month is 20% ahead of January. The Superfortress did nicely—23 were accepted, as against 17 in the first 15 days of January. The month's schedule lists 57. A total of 683 Liberators and Flying Fortresses rolled off assembly lines, a smart gain over the 585 in the corresponding period of January.

North American, Kansas City, which had not been doing too well, cleared 95 B-25 Mitchells, more than double the 15-day record of last month. As a result, the medium bomber group is running well ahead of last month..

Production of the new A-26 Invader is coming along about as well as can be expected. Three were accepted, as against a schedule of 11; none came through in the first half of January. Through January, only 14 were built.

Another difficult plane, the C-46 Commando, also picked up sharply—16 were accepted during the first days of this month, as against five in the corresponding period in January. A total of 59 are scheduled for February.

that it puts the large firms, tied up in war work, at a disadvantage in the race for postwar markets.

To the latter objection, SWPC answers that larger enterprises, making nationally advertised products, could catch up quickly.

QUOTA SYSTEM A HARDSHIP

Moreover, SWPC argues that strict application of the quota system, in which all competitors within an industry are given a limited production quota based on prewar sales, works a direct hardship on the small firms—especially those without war contracts. These companies may find it impossible to break even on production at a fraction of capacity. The larger firm—partly because it is cushioned by war orders—often has a much lower break-even point from that fact alone.

In particular, SWPC is pushing this plan for the time when Germany falls, when reconversion really starts. For when cutbacks come in large volume, small subcontractors will be hard hit, and since their cash reserves are apt to be limited, they will not be able to wait long to resume civilian production. Moreover, they would be able to get going quickly, whereas larger plants would have to tool up. Thus this plan will help to take care of disemployed workers, and thereby ease the transition to partial peacetime production.

Trouble Programs: Few But Crucial

They constitute only 15% of total munitions schedule, but comprise items immediately needed in Pacific—landing vessels and aircraft. Design changes one difficulty.

BACK IN 1943, when munitions production was rapidly expanding, almost every major program was a trouble spot. Plants had to be tooled, workers trained, components and materials secured. But this year, now that production as a whole has matured, the difficult schedules are comparatively few. They constitute only about 15% of total munitions programs, but this is a crucial 15%.

As the situation shapes up now, the difficult jobs ahead are:

Navy: Landing craft.

Maritime Commission: Transports and attack-cargo ships.

Aircraft: B-29 Superfortress and the unnamed B-32; the A-26 attack bomber, the Invader; heavy transports—C-46 Commando and the C-54 Skymaster; the Navy light bomber—SB2C Helldiver. Engines: Pratt & Whitney R-2800, Packard V-1650 2-stage Merlin, and Wright R-3350.

Airborne radar.

Army: Heavy-heavy trucks, tractors, construction equipment, and diesel-propelled transportation equipment (both marine and rail).

These difficult programs aggregate about $11,000,000,000. And about three-fifths of this is concentrated in aircraft and landing vessels:

Difficult Programs	1944 Goals (millions)	% of Total Munitions
Landing vessels ...	$2,600	3.6%
Maritime items	1,450	2.0
Airborne radar	1,450	2.0
Army items	1,400	1.9
Aircraft items	4,500	6.2

By all odds, landing craft is the most urgent of the difficult programs. It is tough because the stepup in required deliveries is so sharp: June is almost twice as high as January. The total naval program for 1944 calls for 3,800,000 displacement tons, 50% more than last year. And 40% of that tonnage is in landing craft—1,600,000 tons, double the tonnage built last year. Though landing craft have been given overriding priority, there is apt to be some competition with other naval ships and other programs for critical components—propulsion machinery is a good example.

SHIFT CAUSES SHIP TROUBLE

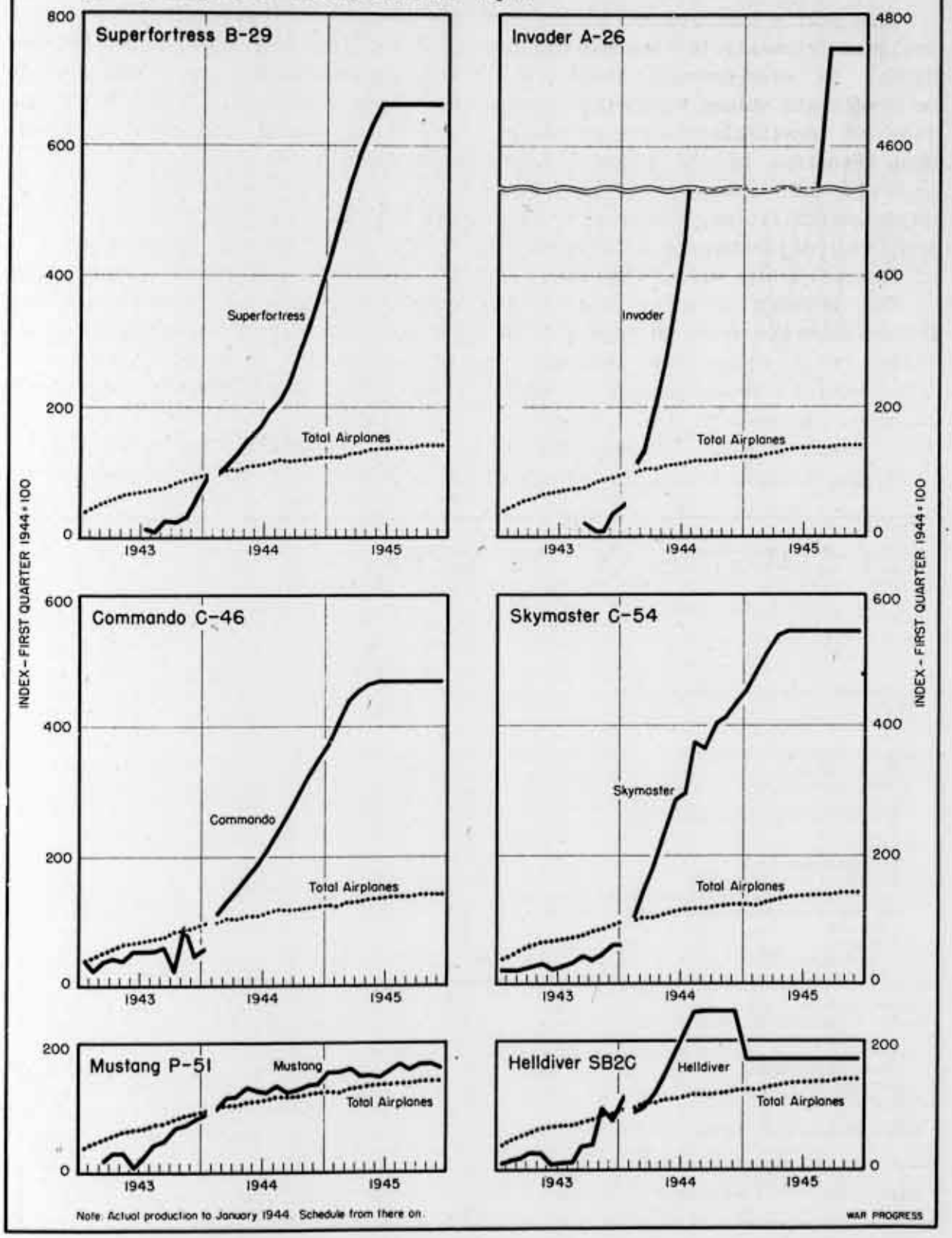
Maritime's program is difficult because of the major shift from Liberty ships to the new Victory and to military types (WP-Jan29'44,p5). Transport and cargo-attack vessels represented less than 10% of Maritime deliveries last year, on a value basis; this year they represent more than a fourth. Present schedules call for 229 transport-attack and cargo-attack vessels and 47 troopships.

Specifically, they present three problems: (1) the large amounts of outfitting required, (2) the number of different designs, and (3) the fast building time established for deliveries.

There are five different designs in troop transports, six in transport-attack ships, and three in cargo-attack vessels. This variety of design limits the interchangeability of materials and parts. And the scheduled building time is shorter than heretofore achieved on comparable types. However, a dozen of the most efficient yards have been selected to turn out the vessels, and work

STEEP GRADES IN AIRCRAFT

Here are the most difficult plane types. A-26 bomber, recently in production, is getting ready for a 4750% scheduled flight.



Note: Actual production to January 1944. Schedule from there on.

WAR PROGRESS

CONFIDENTIAL

on them will be pushed at the expense of less urgently needed ships.

SUPERFORTRESS SUPER TASK

This year's troublesome planes are designed primarily for the war against Japan. An ever-present problem will be to maintain volume production in the face of inevitable changes in design. Most important of the tough programs is the Superfortress. It involves three major new facilities, shifts from other models at two plants, and a large number of subcontractors who must be broken in.

The Invader is a new plane. Its schedule, as the chart on page 5 shows, calls for a steep rise; indeed, it's the steepest rise in the entire aircraft program. Moreover, the Invader is a hard plane to build (WP-Feb12'44,p4).

Modifications, to fit it for combat theaters, have slowed up production of the Commando, while Skymaster acceptances have fallen below schedule because of supervisory personnel problems at the Douglas, Chicago, plant.

A run of design changes has delayed the Navy Helldiver, but these seem to have been completed. From now on, the job is to expand production at scheduled rates.

ENGINES DELAY PLANES

The job of engine manufacturers is to keep up with plane output. Thus output of the Wright R-3350 must rise to supply the Superfortress and the B-32. A new plant, Dodge at Chicago, must come through with a rush if the program is to be met.

Ford's Dearborn plant has been having trouble turning out more than 1,300 Pratt

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	2,104	1,844	1,737	1,669	1,395
War bond sales (millions of dollars)	589	870	265	198	220
Wholesale prices (1926=100)					
All commodities	103.1p	103.1p	103.0p	102.7	102.1
Farm products	121.9	122.1	122.1	122.4	118.6
Foods	104.0	104.2	104.8	105.1	105.5
All other than farm products and foods	98.1p	98.0p	97.9p	97.3	96.4
Petroleum:					
Total carloadings	51,264	50,871	49,552	56,661	52,197
Movement of cars into the East	22,272	23,384	21,265	29,418	26,690
Total stocks of residual fuel oil (thousands of barrels)	52,453	52,734	54,327	66,448	70,815
East coast stocks for civilian use (1940-41=100 Seas. Adj.)					
Gasoline	n.a.	44.5	42.0	n.a.	n.a.
Kerosene		51.6	47.5		
Distillate fuel oil		92.2	86.2		
Residual fuel	n.a.	64.1	67.9	n.a.	n.a.
Bituminous Coal:					
Production (thousands of short tons, daily average)	2,127p	2,138	2,042	1,967	1,980
Exports (no of freight cars unloaded for export Friday, excl. grain)					
Atlantic Coast ports	2,788	2,783	3,051	2,665	1,514
Gulf Coast ports	310	291	369	345	335
Pacific Coast ports	1,182	1,267	1,292	1,410	906
Steel operations (% of capacity)	97.7	97.2r	99.0	98.2	99.3
Department store sales (% change from a year ago)	-21	+2	+4	+4	+45

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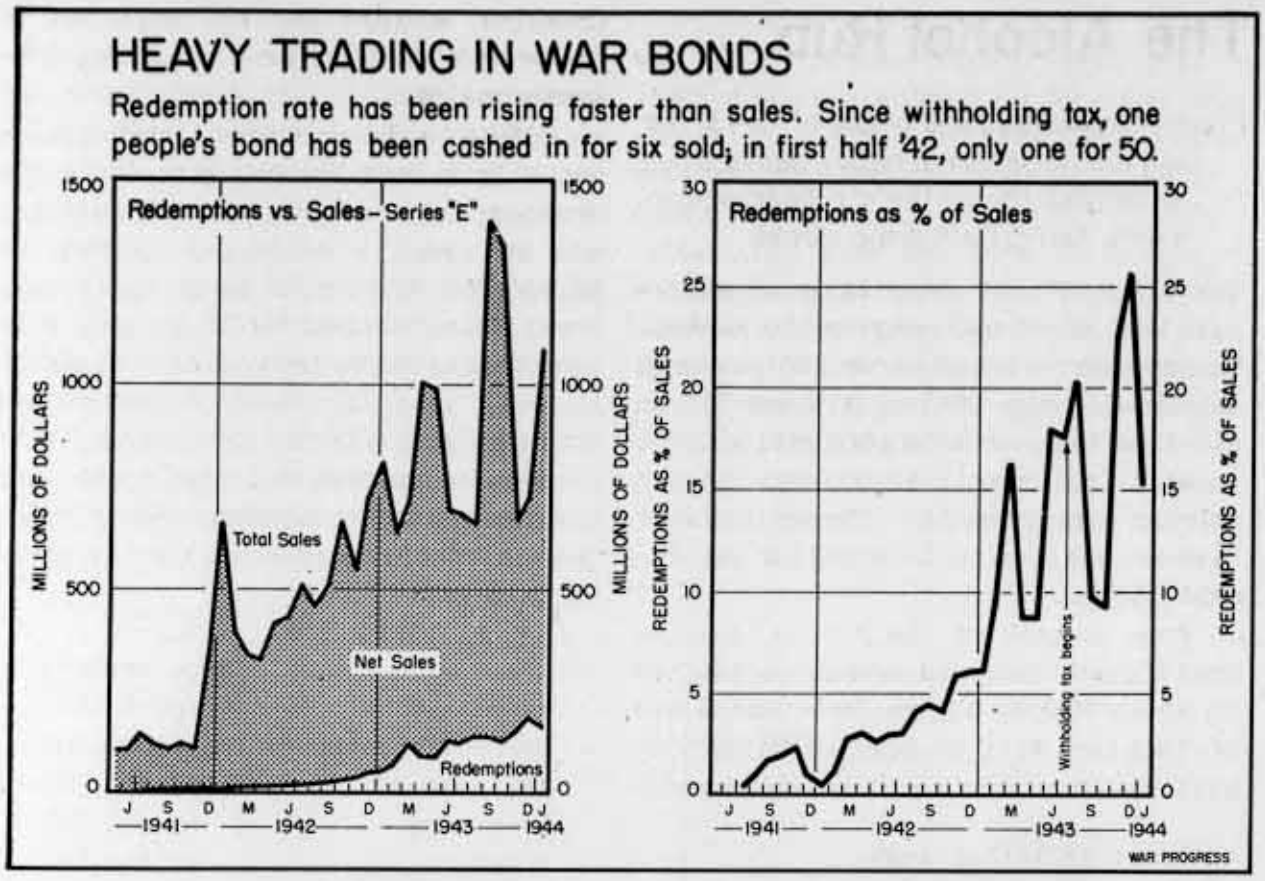


& Whitney R-2800 engines per month; its schedule calls for a rise to 3,100. This has been a drag on the program. The R-2800 is widely used in many planes. Packard must accelerate production of the V-1650 2-stage Merlin in line with production of the Mustang. To help with the job, Continental Aviation has been shifted from trainer engines to the Merlin.

RADAR RISING SHARPLY

Airborne radar schedules show one of the sharpest rises on the books for the first half of this year. June schedules are double the December rate of output. This program has been beset by frequent changes in models and designs and tightness of labor and components. However, the cutback in ground radar will release some components and labor for airborne radar.

Heavy-heavy truck, tractor, and construction equipment (bulldozers, graders, scrapers, etc.) programs present a common problem. Although assembly capacity is adequate, the supply of components—axles, transmissions, tires, and internal combustion engines—for which these programs are competing among themselves and with other programs, is limited. As with radar, heavy-truck production is due to double in the first half of this year.

DIESEL COMPETITION KEEN

The biggest question mark in transportation equipment programs (self-propelled marine equipment, diesel-powered locomotives, and cranes) is the availability of the diesel engines. Here the competition is with landing craft. The steam locomotive program, recently reduced, should be met without difficulty.

The Alcohol Rub

Production will run 25% ahead of 1943, but will fall far short of heavy demand due to stepped-up synthetic rubber requirements. Deficit will drain stocks.

THE ETHYL ALCOHOL reserve is one stockpile that is not overhanging the market. Rather, the reverse is true. This year's supply will top 1943 by 31% and hit an all-time high—593,000,000 gallons, but it will fall nearly 52,000,000 gallons short of requirements. The deficit will have to come from fast-dwindling government stocks.

From a peak of 138,000,000 gallons last August, reserves have already fallen to about 80,000,000 gallons; at the end of 1944 they will be down to 34,000,000 gallons—less than a month's requirements.

CARRYING BUTADIENE LOAD

The strain on the alcohol supply has come from a 170% boost over 1943 in 1944 requirements for the synthetic rubber program. Output of butadiene from petroleum is behind schedule; facilities construction has lagged, and some finished plants have not been able to get up to rated capacity. Plants making butadiene from alcohol, on the other hand, have been running smoothly at 150% of rated capacity. Alcohol, which was originally scheduled to carry only one-third of the butadiene load, is now carrying three-fourths of it.

That explains why the rubber program this year absorbs 53% of the total alcohol requirements, as against only 29% last year. Indirect military and civilian uses—such as plastics, synthetic textiles, tetraethyl lead for gasoline—will take 26%. Direct military requirements form only 7% of the total, the main item being for explosives. However, if gas warfare is started, the Chemical Warfare Service will put in for more alcohol. Antifreeze requirements are 5%.

Russia is the only lend-lease claimant. It raised its requests above the protocol figure by 18,000,000 gallons, and in 1944 is estimated to require 55,900,000 gallons, or 9% of the total. Great Britain asked for 33,000,000 gallons, but withdrew the request. Instead it will take Caribbean molasses and again go into alcohol production; this production has been shut down since 1942 to conserve tanker tonnage. Hence, 190-proof alcohol requirements for '44 shape up this way:

	Requirements (gallons)
Synthetic rubber ...	345,000,000
Indirect mil. & civ.	166,000,000
Lend-lease	55,900,000
Military.....	45,550,000
Antifreeze	32,000,000
Total	644,450,000

About 64% of new alcohol supplies—380,000,000 gallons—is scheduled to come from grain; 158,000,000 bushels will be needed. More than half this gallonage will come out of the beverage distilleries, which since October 8, 1942, have been 100% diverted to ethyl alcohol. The rest comes from industrial grain alcohol plants.

NO ALCOHOL FOR WHISKEY

Right now the War Production Board is pushing completion of three more grain alcohol plants with a combined capacity of 40,000,000 gallons; and further new production of 30,000,000-gallon capacity has been recommended by the Chemicals Bureau. No alcohol for whiskey is in prospect.

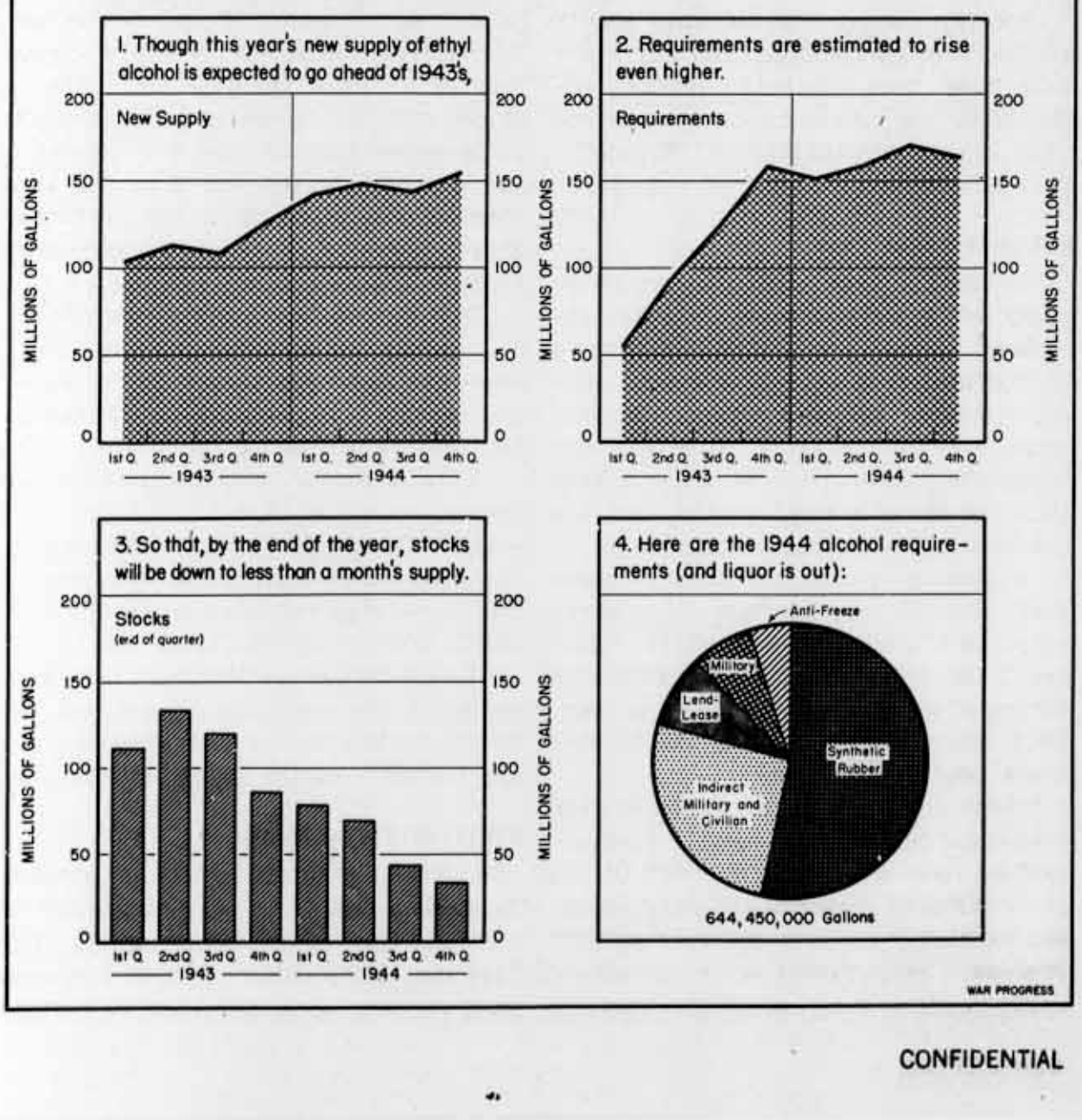
Corn is the usual and most satisfactory grain for the beverage distilleries

—it yields 10% more alcohol than wheat and is more adaptable to beverage-plant operations. A 50-50 corn-wheat mixture will give 10% more alcohol than wheat without corn. Furthermore, recovery of high-protein livestock feed from the mash is at least 25% greater from the 50-50 mix than from wheat alone. Since animal feed is scarce, that's an important factor.

But corn is tight; last July its use for industrial alcohol was forbidden—it was needed for livestock. Then the War Food Administration permitted a limited use for alcohol in December and the first quarter of this year. Now, however, WFA reports on grains have become increasingly pessimistic. Poor crops this year may threaten the corn and wheat supplies for alcohol. And if there is a shortage of grain for alcohol, then more molasses would be needed.

In prewar years, the chief source of ethyl alcohol was molasses, used in the form of blackstrap—a byproduct of sugar manufacture—[illegible]vert," a syrup pro-

SPIRITS IN THE U.S.A.



duced by chemically treating a concentrated sugar solution. Distilleries on the East and Gulf coasts—which have been the largest producers—depended on supplies from the Caribbean; the West Coast plants, on Hawaiian supplies. But submarine warfare shut off Caribbean shipments to the East Coast, and plants were converted to grain. Now, submarine warfare is less effective and shipping is easier; the U.S. is out to get about 23% of its 1944 supply—137,000,000 gallons—from molasses. But this means competing against gin and rum; there's much more profit in converting molasses into liquor than into industrial alcohol.

Finally, about 10% of this year's alcohol supplies—60,000,000 gallons—will come from synthetic production, utilizing the hydrocarbons from petroleum gases; an additional 16,000,000 gallons—3%—will come from imports.

BUT WHAT ABOUT '45?

So much for 1944. Against the contingency of grain shortages in 1945, increased alcohol production may have to be provided from petroleum gases, sulphite liquors, and wood wastes. Greater quantities of critical materials are needed for construction of these plants than for grain alcohol plants, but the raw materials are not so critical.

A Canadian plant has already proved that alcohol can be made from waste sulphite liquors from pulp mills. However, the potential from this source is estimated at 40,000,000 gallons a year. The problem here is locating the alcohol plant near the pulp mill.

Alcohol can also be produced from wood sugar derived from sawmill wastes—sawdust and shavings; the WPB Office of Production Research and Development has carried on pilot-plant work on this process. While plants using this method would require more materials than the sulphite liquor plants, it is estimated they could develop a much larger total output.

What it boils down to is this: The alcohol supply will probably just be sufficient for this year; but new plants are needed for '45, if ample supplies are to be assured. However, if the butadiene-from-petroleum process works out, then synthetic rubber requirements for alcohol may drop sharply, and new alcohol plants may not be needed.

War Progress Notes

CASHING IN WAR BONDS

MAINLY as a result of the fourth war loan drive, sales of people's bonds (series E) rose sharply last month to $1,085,000,000, as against $730,000,000 in December (chart, page 7). However, the January "gate" was some 23% less than the peak attained in the September drive; moreover, redemptions were much higher—15% as against 10% then.

Bond redemptions reached their highest levels in November and December, when one bond was turned in for every four sold. Income taxes and Christmas buying were the major factors.

To date, $1,765,000,000 has been redeemed, as against $18,560,000,000 sold—with the smaller ($25) bonds showing the heaviest turnover rate. Two reasons for this large redemption are (1) many people are placing all their savings in war bonds and turning them back into cash whenever an emergency arises, and (2) many bonds are bought under pressure and are turned in at the first opportunity.

STRIKING STATISTICS

OUT OF EVERY 10,000 potential working days last year, 14 were lost due to strikes. In 1942, strikes cost only five out of 10,000. In all, twice as many workers were involved in strikes

in 1943 as in 1942, and the average striker was off the job seven days, as against five in the preceding year.

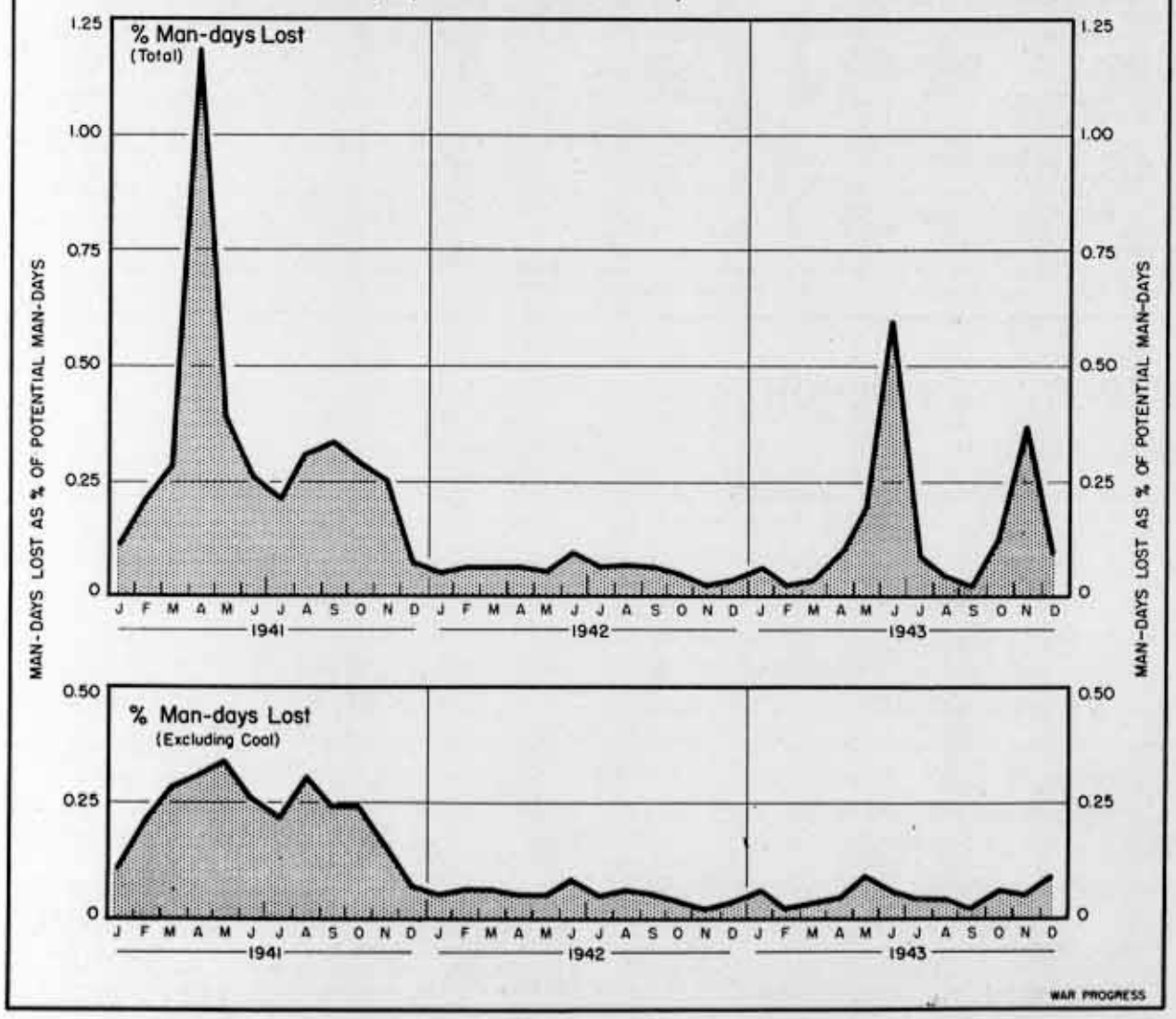
Leave out the coal strikes, however, and industry was pretty much in line with the 1942 record. Although more workers were involved in noncoal strikes, they stayed off the job a shorter time. So that excluding coal, the ratio of days lost to potential days worked was the same in both years—five out of every 10,000 (chart below).

Some 5% of the country's workers—1,900,000—were involved in strikes lasting one shift or more. Coal miners constituted about 20% of all strikers and accounted for nearly 65% of the time lost.

Last year's cost, however, was low compared with 1941, when 32 out of each 10,000 potential working days were lost, or 1939, when the strike cost was 28 out of every 10,000 potential working days. In 1937—year of the sitdown strikes—the ratio was about 40 per 10,000.

LEAVE OUT THE COAL STRIKE...

And strikes cost only 5 out of every 10,000 potential man-days in 1943. John L. Lewis' miners lift that proportion to 14 out of 10,000.



SELECTED MONTHLY STATISTICS

Income Payments-Labor Force-Labor Turnover

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
INCOME PAYMENTS-TOTAL (million dollars)	13,460p	12,435	12,741	12,161	11,608	7,026	6,604
Salaries and wages	9,036p	8,900	8,810	8,405	7,748	4,079	3,731
Comm., distr., and serv. industries	7,032p	6,947	6,902	6,524	6,197	3,385	3,098
Government	2,004p	1,953	1,908	1,809	1,528	555	511
Military	1,048p	1,030	973	858	673	41	34
Nonmilitary	956p	923	935	951	855	514	477
-Other	-	-	-	2	23	139	122
Other income payments	4,424p	3,535	3,931	3,756	3,860	2,947	2,873
Income payments, annual rate (adjusted for seasonal, billion dollars)	151.0p	148.8	146.4	141.9	129.9	74.4	68.8
LABOR FORCE-TOTAL (millions)**	51.9	52.6	53.0p	55.2p	54.7p	n.a.	n.a.
Employment	51.0	51.7	52.1p	53.9p	53.1p	|	|
Male	34.2	34.6	34.8p	36.3p	36.9p	|	|
Female	16.8	17.1	17.3p	17.6p	16.2p	|	|
Unemployment	.9	.9	.9p	1.3p	1.6p	n.a.	n.a.
LABOR TURNOVER IN MFG. INDUSTRIES† (rate per hundred employees)							
All manufacturing							
Accessions	5.10p	6.62	7.17	8.40	6.92	2.84	2.12
Separations-Total	6.39p	6.37	7.02	7.07	6.37	3.46	8.51
Quits	4.28p	4.46	5.19	5.20	3.71	0.69	0.60
Military separations	0.50p	0.52	0.61	0.69	1.29	n.a.	n.a.
Aircraft							
Quits	3.89p	4.22	4.86	4.55	3.69	1.14	0.68
Military separations	0.48p	0.52	0.71	0.68	1.78	n.a.	n.a.
Shipbuilding							
Quits	6.01p	5.35	6.25	6.20	4.49	0.75	0.61
Military separations	0.76p	0.80	1.00	1.06	1.95	n.a.	n.a.

* December. p Preliminary. ** Series revised. n.a. Not available. †Rates beginning 1943 refer to all employees rather than to wage earners only and are not strictly comparable with earlier data.

REPORTS ON REPORTS

Construction Shift

While the rate of commitments for facilities projects has fallen from the monthly peak of $2,700,000,000 early in 1942 to $300,000,000 in recent months, the number of projects has increased, 86% of them being less than $10,000. Current projects, according to *A Review of Facilities and Construction* (restricted; pp. 22), are in the main for alteration and rehabilitation of existing facilities.
(War Production Board Document #263)

Postwar Pattern

A balanced postwar economy in Yugoslavia will require (1) a shift from subsistence to scientific farming, producing less grain, more fruit, vegetables, livestock, and industrial and forage crops; (2) expansion of industries to provide a stable market for agricultural goods. *Agricultural Rehabilitation and Improvement in Home Living in Yugoslavia (Preliminary)* (confidential; pp. 32) suggests that improvements in land distribution and utilization and in farm implements and methods be brought about through education, farmer cooperation. (Department of Agriculture, Office of Foreign Agricultural Relations)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

PSF: WPB

The President

2

WAR PROGRESS

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Disclosure Punishable Under Espionage Act

The Story on Paper—Planes Do It Again—Big Trucks, Tight Components—Lockland Six Months Later

Number 181

March 4, 1944

Predicament in Pulp and Paper

Shrinkage in pulpwood supply forces cut in consumption, but not soon enough to check decline in stocks to near-minimum working level. Further contraction ahead.

PAPER HAS BEEN about the cheapest and commonest of materials—but now it's among the tightest. The story has familiar outlines. Consumption of paper and paperboard rose sharply from the outset of the war because of increased demands, and more sharply as they were pressed into service as substitutes for critical metals. At first supplies rose too, but then labor became scarce; woodsmen were drained into the armed services and higher-paying war industries. Result: supplies have been falling off since 1942.

Statistically, the situation is this: U.S. supplies of pulpwood (including imports) dropped from a peak of 16,712,000 cords in 1942 to 14,816,000 in 1943, and this year are expected to fall off 10% more. Meanwhile consumption of pulp has been running ahead of supplies since the beginning of the war, with the deficit coming out of inventories (chart, page 3). Stocks accordingly dropped 16% in 1943 to 2,833,000 cords, equivalent to about 1,750,000 tons of pulp; stocks of pulp were cut in half, from 872,000 to 428,000 tons. Thus total stocks are down to a pulp equivalent of 2,175,000 tons.

Total requirements for the first quarter of this year have been set at 2,781,000 tons of pulp, as against new supplies estimated between 2,200,000 and 2,500,000 tons. Theoretically, in-

TANK LANDING SHIP DELIVERIES SLUMP

DELIVERIES of big landing ships to carry tanks—the dominant vessel in the landing craft program—dropped sharply in February. Only 18 were completed, against 28 in January and 25 in December. The schedule—an ambitious one, which included the carryover from preceding months—called for 37 of these ships, known as LSTs.

The delivery delays were due mainly to a recent major change in design. During February, 15 ships of the old 491 class were delivered, completing that program. Only three of the new 542 class came through, against an original schedule of 15 and a February 1 schedule, including carryover, of 22.

Among the important changes in the LST are: a vehicle ramp instead of an elevator, the addition of a distilling plant, the addition of an emergency diesel fire pump. Designs for the new type were not completed until late last year. As a result, purchase-order placements were delayed and the flow of components was late in getting started. Also building difficulties have arisen. And at least one yard has reported a shortage of labor.

Other landing vessels in the program did well last month, either meeting or exceeding the sharply increased schedule. However, because of the LST performance, the program as a whole lagged 25% behind schedule and 10% behind January deliveries.

ventories may therefore have to shrink 20% more. But actually no such reduction is possible; stocks are unevenly distributed and not far above minimum working needs. And so requirements probably won't be met in full.

CEILING ON PULP USE

All this explains why the War Production Board placed a ceiling over pulp consumption on January 1 of this year. Specific quantities have been allocated to specific types of end products for the first quarter. Thus sufficient pulp has been provided for a monthly average of 1,399,000 tons of paper and paperboard, as compared with 1,397,000 tons in the first quarter of 1943 and 1,585,000 in the first quarter of 1942 (the peak period in U.S. pulp-production history):

Grade	First Quarter Monthly Averages 1944	1943	1942
	(thousand short tons)		
Paper and board total.....	1,399	1,397	1,585
Paper total.....	666	708	840
Newsprint.....	60	69	83
Groundwood.....	45	49	58
Book.....	115	138	178
Fine.....	74	85	94
Wrapping.....	186	189	236
Spec. industrial	22	16	18
Sanitary.....	66	68	69
Tissue.....	13	13	15
Absorbent.....	8	7	5
Building.....	77	73	82
Boards total.....	733	689	745
Container.....	363	324	362
Tube.....	28	22	15
Folding boxboard	168	160	163
Set-up boxboard.	63	72	106
Cardboard.....	4	5	5
Building board..	77	90	67
Other boards....	30	16	28

In addition, about 20,000 tons of pulp a month have been set aside for export and 40,000 for nonpaper purposes, such as cellophane, explosives, plastics, and especially rayon—a total 2% higher than 1943, and 9% higher than 1942. Nonpaper uses have increased sharply, but exports have fallen off.

DIFFICULT PROBLEMS

These allocations involve the difficult administrative problem of allotting consumption quotas to 600-odd individual mills, some of which control their own pulp supply, others of which are partly or wholly dependent upon the market. And estimates of supplies can hardly be firm: they include guesswork about labor supplies, transportation, and weather conditions, which differ in the different producing regions and are further complicated by the uneven distribution of inventories.

The South, for example, produces about 45% of domestic pulpwood but normally has very low inventories, since it converts the wood into pulp within

IN THIS ISSUE:

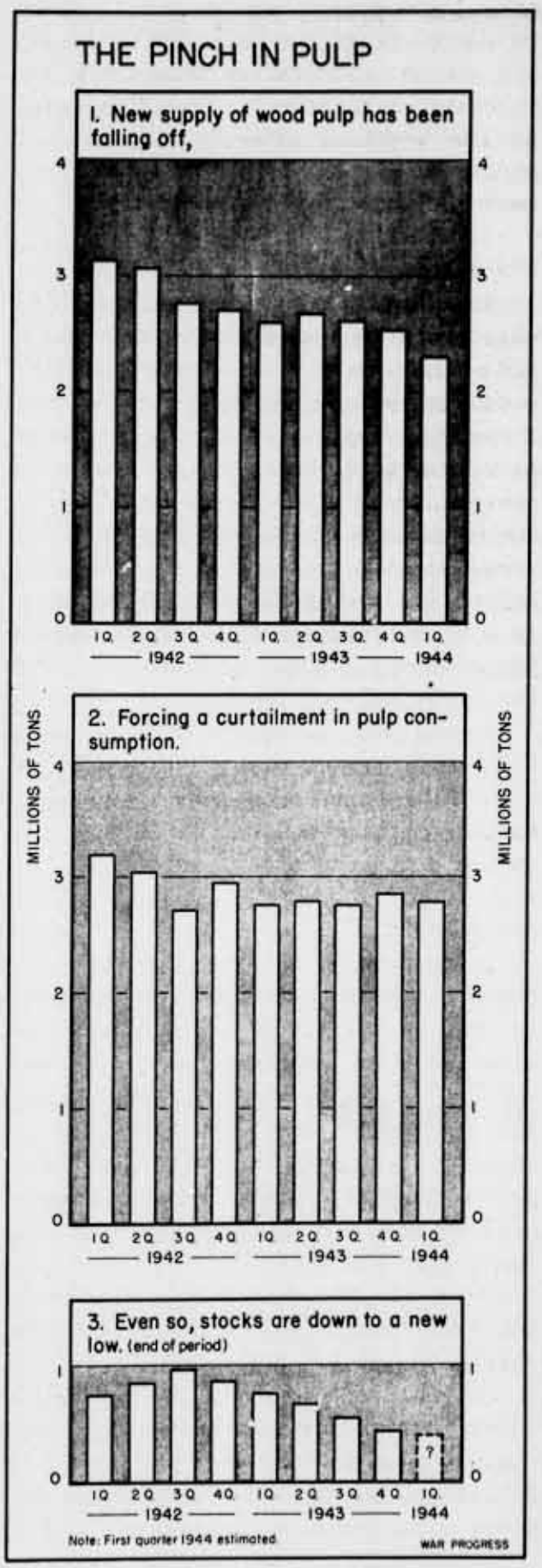
a week or so; a spell of bad weather can therefore seriously disrupt supplies. Spot shortages also occur. There's a shortage in dissolving pulps, needed for explosives and high-tenacity rayon yarns. This illustrates the added difficulty of adapting limited supplies to the many diverse and shifting requirements.

MILITARY NEEDS RISE

Biggest factor in the increased demand for paper and paperboard products is the rise in direct and indirect military requirements. And these requirements have been concentrated in paperboard, thus upsetting the balance in the industry. Whereas the paper-paperboard ratio was 55%-45% in 1942, now it is 47%-53%. In particular, current output of container board is 30% above 1939 and that of folding boxboard almost 50%. Likewise production of building board jumped from a monthly average of less than 10,000 tons in 1939 to about 90,000 in 1943, though it is now being cut down. Because more pulp has been diverted to paperboards, paper products are running below recent high levels, as the table on page 2 indicates. However, there are exceptions. Production of sanitary paper, for example, has risen 65% since 1939, reflecting both increased consumer buying power and increased demand by the armed forces and war plants. And serious shortages may develop in specific types, such as has developed in condenser tissue, badly needed by the signal corps.

SOLUTIONS MAKE SHORTAGES

Meeting one particular shortage is apt to create another. Thus military requirements for waterproof paper, which has been critical for some time, apparently are now being filled—but at the expense of container board and wrapping paper. Measures are therefore being



taken to conserve container board, which is also required for military purposes; amendments to limitation orders are due to restrict further its civilian uses. As for wrapping paper, civilians will probably get only half of what they used in 1942.

20% CUT IN NEWSPRINT

Most widely publicized has been the shortage in newsprint, which takes about 20% of the total U.S. and Canadian pulpwood supply. But newspapers have not fared too badly. Recent curtailments have cut total monthly U.S. supply of newsprint to 273,000 tons, which is only 80% of the 1943 average but 87% of 1939. (England last year got along with only 19% of its prewar newsprint.) The bulk of U.S. supply comes from Canada, which has promised 200,000 tons a month for the first half of the year.

Second-quarter allocations of pulp and paper are likely to be lower, in view of a seasonal drop in wood supplies. Further cuts may accordingly be expected in the less essential products.

RAY OF HOPE

On the whole, however, the pulp and paper situation looks brighter now than it did a few months ago. Canada has diverted more manpower to the woods, and the U.S. labor supply, despite some serious local shortages, is now almost holding its own. More loggers have been given draft deferments; farm workers have been allowed to take jobs in the woods for six weeks without notifying their draft boards and have also been urged to cut more wood on their own lots during the winter off season.

In addition, nearly 4,000 war prisoners began cutting pulpwood in the South early this year, and more are expected to be put to work soon in the North. Furthermore, January brought a windfall. A heavy storm in Texas blew down enough trees to make more than 100,000 tons of pulp.

Transportation remains a serious problem; many trucks and tires are badly worn. But some replacements are in sight, through the civilian truck program of the Office of Defense Transportation. Meanwhile a "truck rehabilitation program" has been set up to improve care and repair of existing equipment and, when possible, to arrange for rebuilding by factory methods.

SALVAGE SOUGHT

Furthermore, the wastepaper salvage campaign has been revived. (Waste materials account for 40% of paper and paperboard tonnage.) The goal set for 1944 is 8,000,000 tons, as compared with the 6,000,000 salvaged last year. This is unlikely to be reached; an estimated 1,000,000 tons can't be recovered because it leaves the country as packaging for war goods. Minimum requirements, however, could be met by 6,700,000 tons of waste, and indicated receipts for January are somewhat above this rate, which represents a reclaim of more than half of all available usable paper.

OVERALL PICTURE

Finally, this whole picture has to be placed against the background of the overall U.S.-Canada-U.K. pulp situation. The recent report of the Combined Pulp and Paper Committee sizes up the situation as follows:

	1944 Domestic Supply	1944 Requirements
	(000 cords)	
U.S.	11,852	20,595
Canada.....	8,660	1,869
Newfoundland	444	73
U.K.	—	1,060
Total.....	20,956	23,597

This leaves a deficit of 11%. In a preliminary report last October, however, the CPPC estimated a deficit of 27%—and the supply picture may look different again in another few months. Meanwhile, supplies can be, and are being, stretched somewhat by the use of lighter weight or poorer grade paper, by further redesign and standardization of containers, by re-use campaigns, etc.

U.S. TO BEAR BURDEN

At any rate, the U.S., which is down for 87% of total requirements, will have to bear the burden of any curtailment. Britain could hardly cut down on its scant allotment of 1,060,000 cords, even though this represents a slight boost over its 1943 consumption. Britain last year had to get along on 37% of the paper and 60% of the paperboard it used before the war.

Planes Top Goal Again

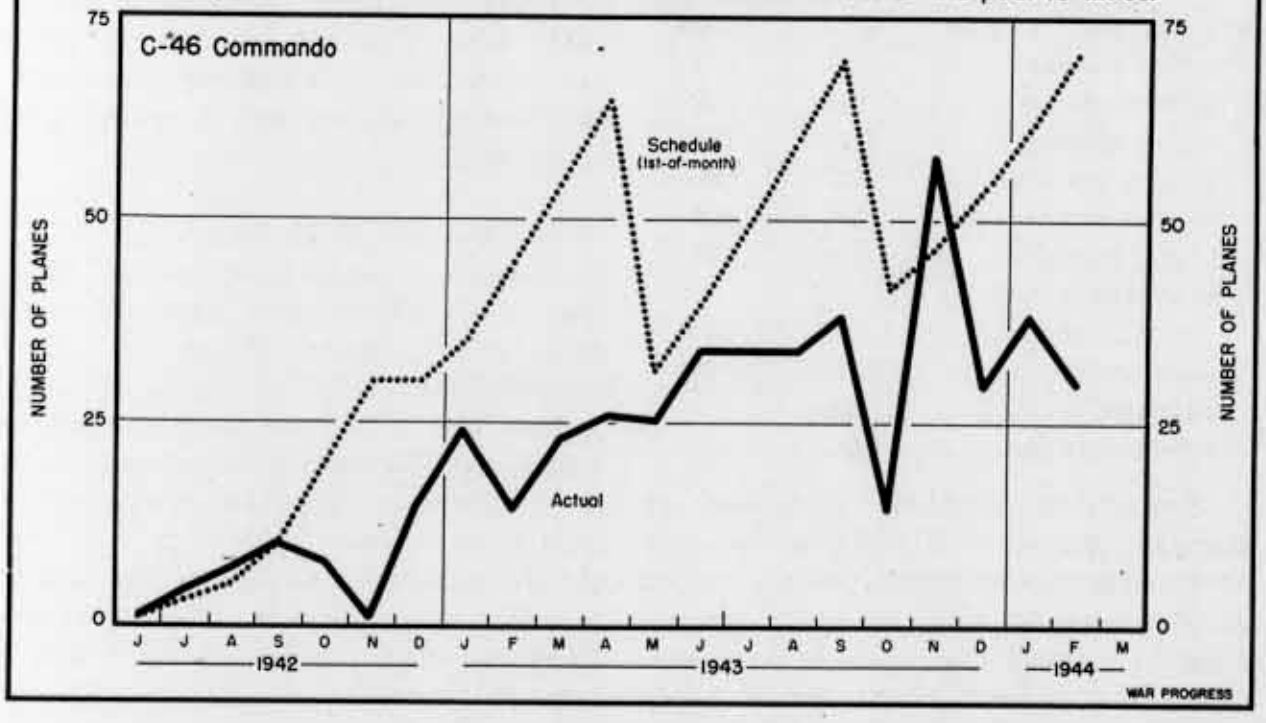
Airframe weight hits new high, 3% ahead of January. Acceptances total 8,760. Superfortress is on schedule—57 are accepted. But Commando and Warhawk fall behind.

AIRPLANE ACCEPTANCES last month ran to 8,760 planes. Though below January, this topped the first-of-the-month schedule by 143 planes.

The B-29 Superfortress came through as per program—57 were accepted, three ahead of January; moreover, output of 1,340 Flying Fortresses and Liberators exceeded expectations. As a result, not only did total airframe weight rise 3% to a new high of some 81,400,000 pounds, but also repeated its January performance by beating schedule by 2%. Changes by groups against January and

THE ERRATIC COMMANDO

After 21 months, acceptances of this transport plane are far behind expectations. First-of-month schedules have been missed 14 out of the past 15 times.



KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,471	1,653	1,627	1,478	1,431
War bond sales (millions of dollars)	439	676	651	180	273
Wholesale prices (1926 = 100)					
All commodities	103.6 p	103.3 p	103.1 p	102.9	102.7
Farm products	124.2 p	122.8 p	122.6	124.0	121.2
Foods	104.6	104.1	104.7	105.5	106.0
All other than farm products and foods	98.3 p	98.2 p	98.0 p	97.3	96.5
Petroleum:					
Total carloadings	50,903	53,030	51,490	55,875	52,239
Movement of cars into the East	22,240	23,631	22,187	28,125	26,592
Total stocks of residual fuel oil (thousands of barrels)	51,387	51,948 r	52,857	67,250	70,516
Bituminous Coal: Production (thousands of short tons, daily average)	2,053 p	2,158	2,108	2,002	2,027
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,831	2,540	3,020	2,651	1,406
Gulf Coast ports	384	358	397	351	448
Pacific Coast ports	1,223	1,348	1,284	1,359	883
Steel operations (% of capacity)	97.5	97.7	96.8 r	99.4	98.2
Department store sales (% change from a year ago)	-11	-9	+6	+1	+26

p. preliminary r. revised

schedule follow (airframe-weight basis):

	February Acceptances as % of	
	January	W-9
All military planes	103%	102%
Combat planes.....	103	103
Superbombers.....	106	100
Heavy bombers....	104	105
Patrol bombers...	95	89
Medium bombers...	114	105
Light bombers....	97	105
Fighters (incl. naval reconn.)..	101	100
Transports.....	115	99
Trainers.....	90	102
Communications....	92	105

Production problems continued at Curtiss, Buffalo. Only 29 C-46 Commando transports were accepted, as against 37 in January and a schedule of 70 (chart, page 5). Similarly, the 241 P-40 Warhawks that came through compared with 275 in the preceding month and a goal of 300: this explains in large part why Army 1-engined fighters were 5% short of the plan—all told, 1,654 were accepted.

After trailing schedule early in 1943, Navy fighters really hit their stride last month: 1,242 were accepted, 6% ahead of January and 4% better than expected.

PREFERENCE MODELS DO WELL

Douglas, Chicago, made its best showing to date with six C-54 Skymasters. This doubled January, but was only half the schedule of 12.

The new A-26 Invader is not yet on schedule, with seven accepted as against 11 programmed. But most high-preference models ran ahead of the plan: For example: the 313 P-38 Lightnings topped schedule by 4%, the 510 F6F Hellcats were 2% ahead, and the 608 P-47 Thunderbolts exceeded schedule by three planes.

Big Trucks and Tight Components

Program of heavy-heavies for 1944 calls for doubling 1943 output. Main difficulties lie in getting castings, forgings, and bearings. Manpower big factor.

THIS IS A WAR of big guns, heavy equipment, and—necessarily—big trucks. Accordingly, the Army is scheduling production of 68,000 vehicles which can carry a load of from four to 12 tons over the worst possible roads. (The 12-ton prime mover can haul a trailer carrying 40 tons.) These trucks are called heavy-heavies and never were made to any large extent in peacetime; and when they were made then, they were custom-built.

The need for powerful prime movers was demonstrated during the North African campaign. Smaller vehicles couldn't stand the gaff; furthermore, a four-ton truck is far better than two two-ton trucks in three ways. It requires (1) only one driver, (2) less road space, (3) less maintenance.

SHARP RISE IN SCHEDULES

So the Army's heavy-heavy truck schedules were boosted sharply last year; output averaged 3,100 per month, as against 1,900 in 1942. But this year, production must rise sharply again. Current schedules call for an average of 5,700 monthly. Moreover, output in the second half of this year is scheduled to rise to 7,100 vehicles per month, or more than double the December level.

To make this goal, some $80,000,000 of new facilities are expected to be completed by midyear. Hammers for the forgings industry, gear-cutting machines, malleable-iron castings capacity, additional axle and transmission capacity are needed.

All told, the 1944 program calls for 83,700 heavy trucks—more than double 1943's output. Of the 68,000 heavy-heavies on the Army schedule (including procurement for the Navy and the Aircraft Resources Control Office), some 24,000 are for the United Nations; Great Britain alone is slated to get 17,000.

ACROSS-THE-BOARD CUTS

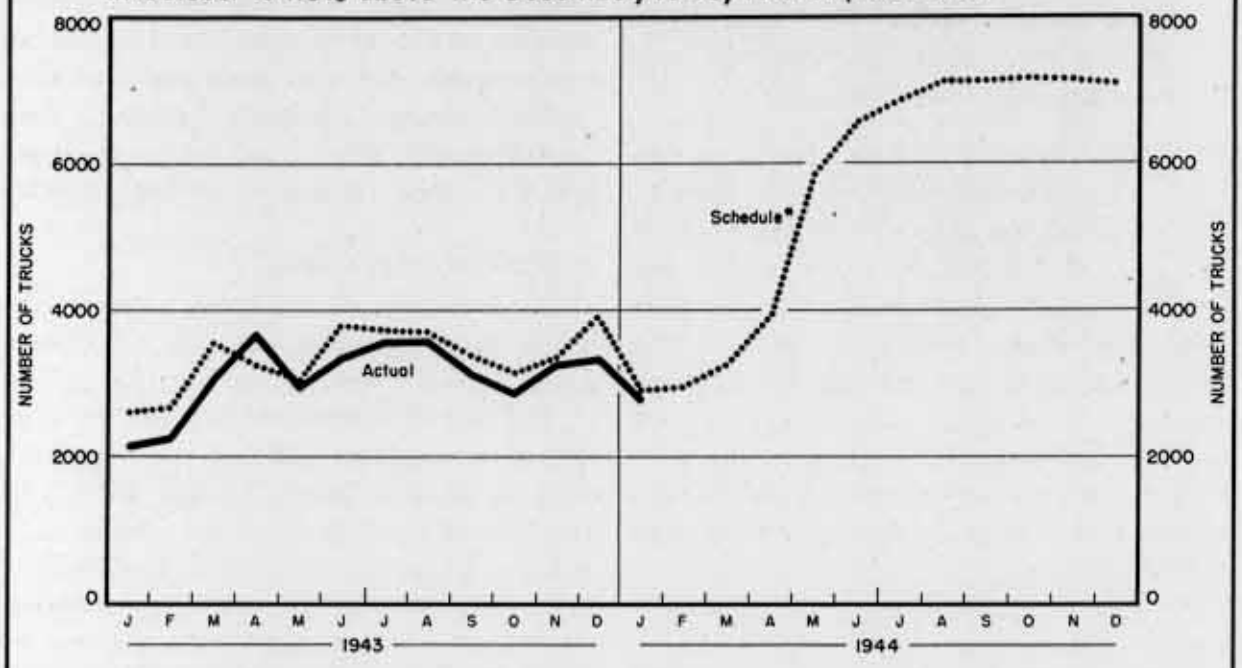
The balance, 15,700 heavy commercial-type trucks of more than 24,000 pounds gross vehicle weight, is for the Office of Defense Transportation, the Foreign Economic Administration, the War Production Board, Canada, Navy, ARCO, and the Corps of Engineers. These will carry six tons or more over good roads. Last year, 7,500 of these trucks were scheduled, but military demand was so great that only 1,600 could be delivered to commercial-type truck claimants. This year, however, the Army, Navy, ODT, FEA, etc. have agreed that if any cut is necessary it will be made across the board. ODT is the largest claimant. It is asking for 8,600. WPB is on the books for 1,460 off-highway trucks to be used for special purposes, such as mining and logging, viz.:

Claimants	Trucks Scheduled
ODT.....	8,600
WPB.....	1,460
ARCO.....	2,600
Navy.....	1,900
Engineers....	700
FEA.....	260
Canada.....	180
Total.....	15,700

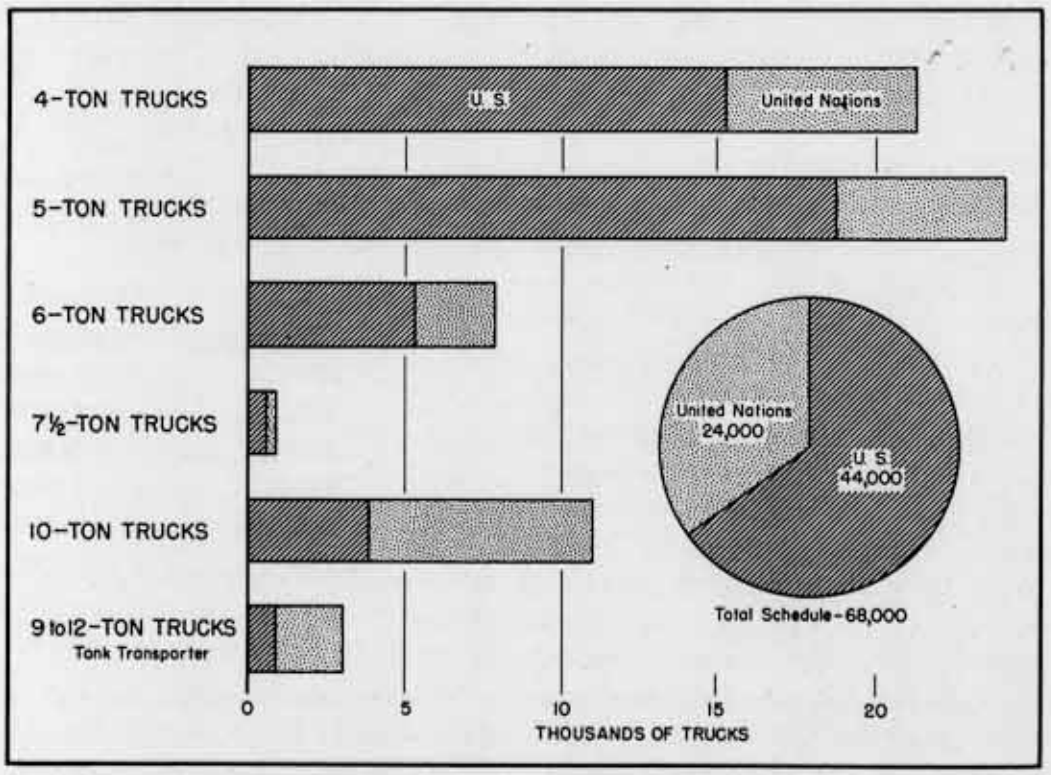
The main difficulty in meeting truck schedules is in prime components—anti-friction bearings, castings, and forgings. Practically every assembly on the truck, such as rear axles, transmis-

HEAVY DEMANDS FOR HEAVY-HEAVY TRUCKS

Army schedules for this year are 83% ahead of 1943's output; and the peak in October is 115% above the December, 1943, rate of production.



These are the 1944 Army schedules—by type—and what will be shipped to the Allies.



*First-of-month schedules through January, 1944. February 1 schedule thereafter.

WAR PROGRESS

sions, engines, etc., depends on some or all of these basic parts.

To speed up deliveries of essential components, a production scheduling system, under the direction of a recently organized Automotive Production Committee, was inaugurated at the beginning of the year. The object is to maximize the production of most needed types and sizes of axles, transmissions, engines, and carburetors. Production of most components is controlled by order L-1-e, engines by M-293. However, back of the components problems—as with many problems these days—is manpower.

KEY IS KEY JOBS

In the forgings industry (45,000 workers), many plants are operating on a two-shift basis because there aren't enough workers to make a third shift. The big shortage is in key jobs. One hammerman, for instance, requires the support of about nine less skilled workers. And one diesinker keeps about five hammermen going. Thus, if you lose one diesinker, 50 men are affected.

WPB is trying to get hammermen and diesinkers furloughed from the armed forces, as was done with nonferrous miners. To date, some 50 or 60 workers have been released, but at least 1,000 hammermen and 200 diesinkers are still needed. They will have to come either from the armed forces, or from upgrading of workers on the job. It takes years of training to turn out a good diesinker or hammerman. There isn't much of a problem keeping men on the job as the rate of pay is high—even higher than in shipbuilding—except for some of the unskilled operations.

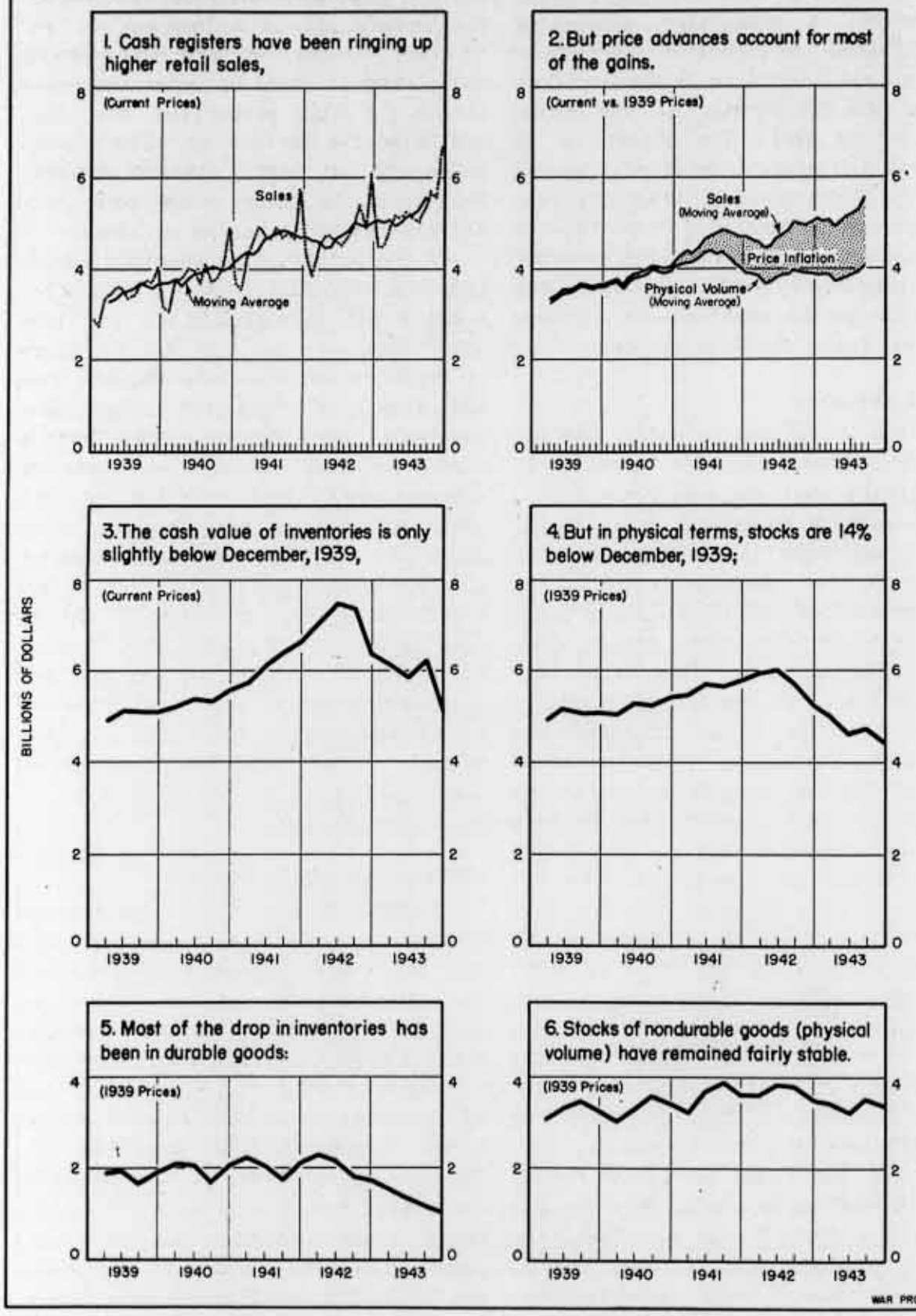
But in the foundries—which employ some 350,000 workers—not only is the loss to the armed forces large, but the pay is low, the work hot and dirty. Workers constantly shift to better-paying—and pleasanter—jobs. Recently, some of the wage difficulty has been straightened out by the War Labor Board, which granted permission to raise wages. But there still is a long way to go. Moreover, foundry workers must be young and strong to stand up under the heavy strain. A high proportion are 1As. And Selective Service is reluctant to defer any but highly trained workers. Because of the nature of the work, relatively few women can be utilized.

In the antifriction bearings industry, the main difficulty is that practically all the plants are in tight labor areas—groups I or II. And there is competition for workers between them and other more "romantic" industries—aircraft, for example. The Pratt & Whitney aircraft plant hires most of the newcomers coming into the Hartford area, despite the fact that its entry wages are about the same as in some of the nearby bearings plants (Fafnir, New Departure, and Marlin-Rockwell), and the working conditions are similar. Because women can be employed in the bearings plants—they constitute some 40%—employment has been rising. But not fast enough to meet requirements placed on the industry, which has a backlog of more than 10 months.

COMPETITION FOR COMPONENTS

Components competition also retards heavy-heavy truck output; landing craft have an overriding priority and have been getting first call on facilities used in the manufacture of bearings, brake liners, castings, etc., thus disrupting the orderly flow to the plants using these items in subcomponent assemblies, such as axles and transmissions. Essentially, however, if the manpower can be obtained, the program for heavy-heavy trucks ought to be met. For manpower will mean sufficient forgings, castings, and antifriction bearings to provide enough axles, engines, etc.

THIS IS CREEPING INFLATION



Lockland Delivers

Wright Cyclone plant has recovered from last summer's big slump, is near schedule, and will have excess capacity by end of year. May produce superbomber engines.

BACK IN THE SUMMER OF 1943, newspapers carried stories about the slump at Wright Aeronautical's Lockland, Ohio, plant. Deliveries of the R-2600B, 14-cylinder, 1,700hp Cyclone aircraft engine had dropped from 1,872 in March to a low of 267 in July, only 13% of schedule (chart, below). But since that time, the plant has come back.

LOOKING BACKWARD

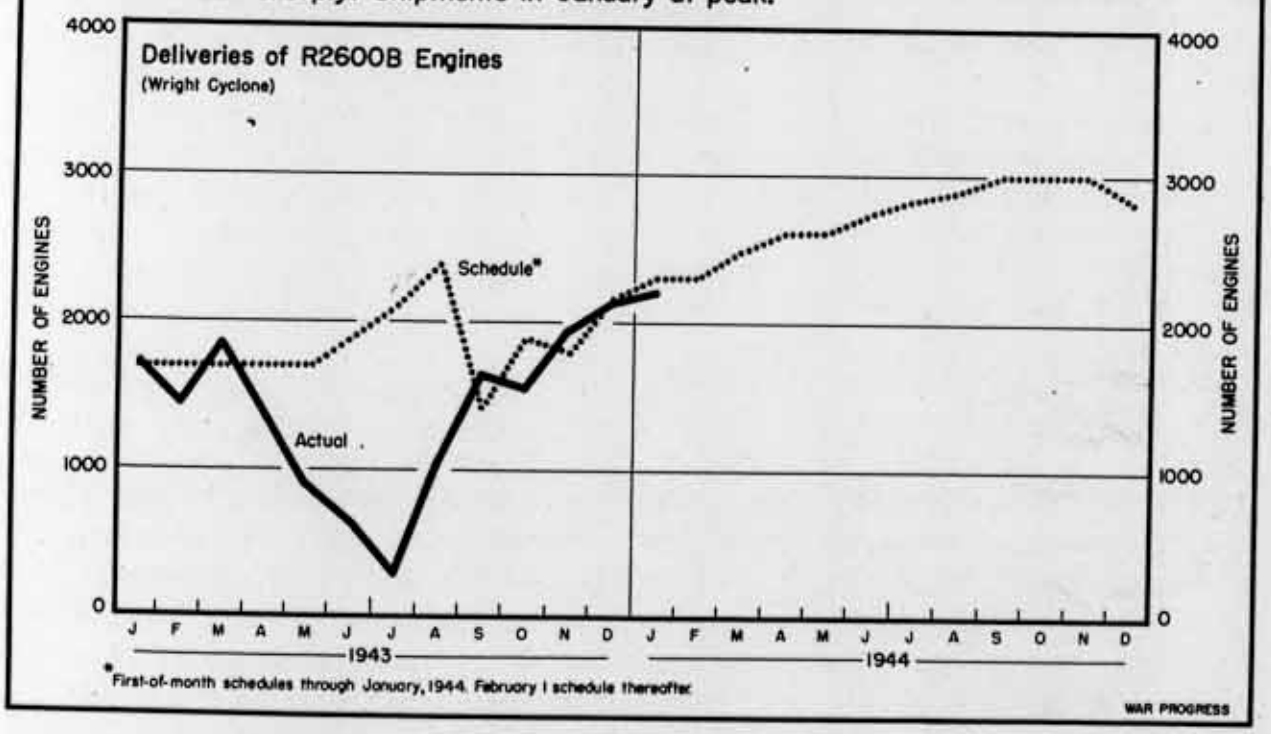
What happened at Lockland goes back to the spring of '43, when the Army uncovered lax inspection procedures. At about the same time, the Truman Committee began an investigation (WP-Aug28 '43,p5). A general tightening up was ordered. In addition to a rigid adherence to prescribed standards, that also meant reinspections. Result: shipments began to tumble in May:

	Shipments	% of First-of-Month Schedule
April..	1,375	81%
May....	884	52
June ..	624	34
July...	267	13

Beginning with August, the downtrend was reversed. As a matter of fact, ever since November, 1943, monthly shipments from the Lockland plant have pushed into new high ground. In January, for example, 2,213 Cyclones were delivered —not far from the 2,300 called for by

LOCKLAND COMING THROUGH

Since inspection difficulties early last summer, production of R2600B engines has risen sharply. Shipments in January at peak.



SELECTED MONTHLY STATISTICS

Production Index – Cost of Living – Hours and Earnings

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PRODUCTION INDEX-INDUSTRIAL (1935-39=100)†	238 p	239	247	241	223	98	111
Total manufactures	257 p	258	268	260	242	97	113
Durable	364 p	366	377	362	334	92	118
Nondurable	170 p	172	180	177	168	101	108
Minerals	133 p	131	131	140	119	103	102
COST OF LIVING-ALL ITEMS (1935-39=100)	124.1	124.4	124.2	123.9	120.7	99.7 e	100.6 e
Food	136.1	137.1	137.3	139.0	133.0	95.8	103.1
Other than food	118.1	118.1	117.6	116.3	114.3	101.7 e	99.3 e
AVERAGE WEEKLY EARNINGS (dollars)							
All manufacturing industries	44.68 p	45.32 p	44.86	43.25	40.27	25.23	n.a.
Durable goods	50.50 p	51.67 p	51.26	49.33	46.28	28.50	n.a.
Nondurable goods	35.61 p	35.73 p	35.18	34.29	32.08	22.43	n.a.
Bituminous coal mining	52.85 p	32.55 p	45.08	32.14	38.25	24.65	25.49
Metalliferous mining	44.04 p	44.10 p	45.19	44.42	41.13	30.25	29.43
AVERAGE HOURLY EARNINGS (cents)							
All manufacturing industries	99.5 p	99.6 p	98.8	95.9	90.7	65.2	n.a.
Durable goods	109.3 p	109.7 p	108.6	105.4	100.4	71.6	n.a.
Nondurable goods	83.2 p	82.9 p	82.4	80.3	76.2	59.5	n.a.
Bituminous coal mining	119.8 p	115.0 p	116.5	112.4	108.5	88.9	86.6
Metalliferous mining	99.3 p	99.6 p	99.7	98.2	93.1	73.7	68.6
AVERAGE HOURS PER WEEK							
All manufacturing industries	44.9 p	45.5 p	45.4	45.1	44.4	38.7	n.a.
Durable goods	46.2 p	47.1 p	47.2	46.8	46.1	39.8	n.a.
Nondurable goods	42.8 p	43.1 p	42.7	42.7	42.1	37.7	n.a.
Bituminous coal mining	44.6 p	28.6 p	38.8	28.4	35.7	28.1	29.1
Metalliferous mining	44.2 p	44.0 p	45.3	45.0	44.0	41.2	43.1

* Production Index, Cost of Living, January; Hours and Earnings, December. †Unadjusted. p Preliminary. e Estimated. n.a. Not available.

the first-of-the-month schedule. However, existing goals are considerably lower than earlier ones.

Lockland is the sole manufacturer of the R-2600B engine used in the B-25 Billy Mitchell, TBM Avenger, SB2C Helldiver, SB2A Buccaneer, PBM-3 Mariner, A-30 Baltimore, A-25 Army light bomber, A-20H Boston, and A-35 Vengeance. But the slump in engine output did not affect plane acceptances because (1) schedules for all of these models were reduced, and (2) a stockpile of 5,000 Cyclones had been built up by the end of March, 1943.

Wright's Lockland plant was designed to turn out 4,000 of the R-2600B engines per month by July, 1944. Successive cuts in the airplane and engine programs, however, have brought the peak down to 3,000, to be reached in September. After that the schedule drops. Thus the plant will have excess capacity during the latter part of this year and throughout 1945.

LOOKING FORWARD

One possibility is that Lockland will be brought into production of the R-3550 engine used in the B-29 Superfortress and the B-32 superbomber. This motor is now made by Wright Aeronautical at Paterson and Dodge at Chicago, but in view of the recent boost in the superbomber program (WP-Jan22'44,p6), more engine capacity will be needed.

PSF: WPB

The President

WAR PROGRESS

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February Raises Questions
Scorecard on Merchant Shipping

Number 182

March 11, 1944

Production Steady, Employment Drops

Munitions industries enter new phase, are no longer the tightening factor in the labor market. Inductions more important as plants dehoard. Airplanes point way.

WAR PRODUCTION in February—taking into account the 29-day month—was just about the same as in January and just about on schedule. Aircraft, as usual, dominated the show—up 4% (table, page 4).

But what was produced last month is not nearly so important as how many workers produced it. For three months now, employment in the munitions industries has been declining; yet the amount of munitions turned out has not decreased perceptibly. Here's the story:

Month	Munitions Production (billions)	Employment (millions)
Nov.	$5.6	9.7
Dec.	5.6	9.6
Jan.	5.5	9.5
Feb.	5.5*	9.4

*Adjusted for short month.

Admittedly, all the above figures are subject to revision. However, as they stand they clearly suggest a trend. In November it took about 1,730,000 men and women to produce $1,000,000,000 of munitions; today it takes only about 1,710,000.

NEW MODES IN MANPOWER

And the trend toward more efficient use of manpower is continuing. War plants are only beginning to dehoard workers, to get rid of the chronic absentees, the stallers, and the inefficient. The reason is that at last the scope of the entire program has become clearly delineated. Schedules are firmer than at any previous time; and for the most part, managements know just what they have ahead. Even in the rapidly expanding programs, such as aircraft, manufacturers—because of experience—can prefigure just what their manpower requirements will be.

Consequently, they don't have to overbid the market; they don't have to hold on to employees just in case they've made bad guesses. They are no longer guessing; they're estimating. And that's an important difference from six months ago. It's the difference between payroll hydration and dehydration, and it explains why in aircraft plants management-prompted layoffs and separations have gone up sharply in recent months.

THRICE-TOLD TALE

Manpower is apparently going through the typical war cycle. First it occurred in machine tools; then in materials, such as steel, copper, and aluminum; still later, in particular components. In materials, for example, companies wanted to be sure to have sufficient inventories on hand so as to keep assembly lines moving smoothly. That was, of course, while the War Production Board was still busy trying to divide up scarcity.

But now that materials are easier, companies frequently don't bother to use up their full allotments of materials. Consequently, the Requirements Committee has to overallot to deal with what is called "attrition"—the failure of orders to reach steel or brass mills. Purchasing agents, instead of worrying

where the next ton of steel is coming from, are permitting inventories to work down. Some personnel officers seem to be approaching that stage in manpower.

By no means, however, does the three-months' downtrend in employment in munitions industries imply that the country is over the manpower hump. In the first place, induction into the armed services continues to drain workers away from many plants; in the second place, production requirements—as currently outlined by the Army, Navy, Maritime Commission, and Aircraft Resources Control Office—still are rising, (chart, page 3).

TAKING RISES IN STRIDE

However, increased productivity per munitions worker may more than offset the increase in schedules. Some airplane plants, for instance, may manage to meet sharply rising production goals without increases in employment. Thus, the determining factor in the next few months is how rapidly workers are drawn from munitions plants to join the armed forces; though there's also the intangible factor of evaporation: workers quitting munitions plants for permanent jobs in peacetime industries, housewives leaving the labor market, etc. (WP-Feb 5'44,p2).

But one inference seems sound: Despite particular shortages—geographically (as in Los Angeles) and industrially (as in heavy-heavy truck components)—the munitions industries, themselves, are no longer the tightening factor in the labor market. As a whole, they are not expanding so rapidly as to make a constant draft on the labor supply. On the contrary.

Aircraft

Aircraft again scored the outstanding gain in munitions, with output of airframes, engines, propellers, gliders, spare parts, etc. running to $1,670,000,000—practically even with schedule. And these gains were scored in spite of a decline in employment in airframe plants.

Indeed, the labor force has gone down for two months in succession and, at the beginning of February, stood at some 928,000—or 2% below stated requirements. Yet airframe plants managed to beat schedule by 2% last month, turning out 8,760 planes with a record-breaking weight of 81,400,000 pounds.

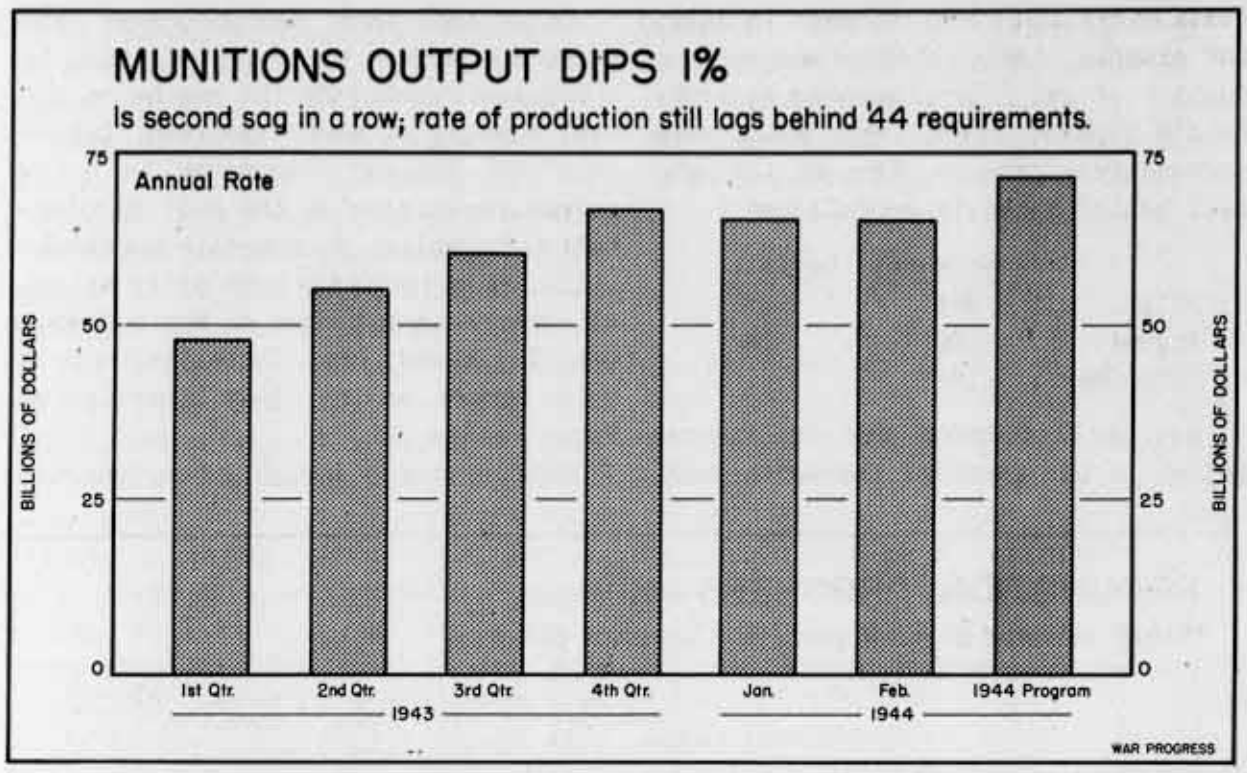
An important factor here is that plants are becoming more finical about whom they employ. Habitual absentees, hangers-on, grumblers, slow workers, and other generally less-efficient employees are being weeded out.

This is borne out statistically. Last August, plants were still cautious about dismissing workers and only about 8% of total separations were accounted for by layoffs and discharges; since that time, however, the monthly figure has risen sharply:

September...	9.5%
October.....	9.7
November.....	18.5
December.....	17.0
January.....	19.7

Reports from manufacturers indicate

IN THIS ISSUE:



that this weeding-out process is boosting morale and tightening efficiency. Even plants which still have peaks to attain are not hiring as freely as formerly. Schedules at North American, Kansas City, rise 45% between now and June; and last fall, the company was building up its work rolls by 10%-15% a month.

During the month of January, however, the labor force actually declined by 3%! And Kansas City is a comparatively easy (Group III) labor area, so it is not a case of help not being available. Parenthetically, the plant exceeded its February schedule of 190 Billy Mitchells by one plane, despite the fact that employment was still below stated requirements.

This trend toward greater labor efficiency is also reflected in the ability of most plants to effect design changes without interrupting assembly lines. Experience is counting: workers are better trained, management has greater control over production.

As an illustration, Martin at Baltimore met its schedule of 120 B-26 Marauders in February, despite the fact that it was shifting over to a new model —from the "B" to the "F." The Marauder is a notoriously tricky ship to fly, and the new model changes the angle of incidence of the wing so as to lower the landing speed, thus making it an easier plane to handle. Other changes last month affected the nose landing-gear mechanism, wing-tank bottom panels, deicer system, bombsight, and pilot's control column.

SMOOTHER SHIFTING OF GEARS

Indeed, two plants with design changes were actually ahead of schedule last month. Douglas at Santa Monica turned out 287 A-20 Bostons as against a goal of 275, while shifting from a "G" to a "J" model. And the formerly laggard Curtiss at Columbus came through with 168 Helldivers, versus a schedule of 128, and completed its changeover from the SB2C-1 model to the SB2C-3.

These instances are in decided con-

trast to events of last summer. In July, for example, design changes snagged production of the P-38 Lightning at Lockheed's Burbank plant, and goals were successively reduced. Even so, the model fell behind schedule as follows:

	Acceptances	Deviation
July.....	264	-27%
August.....	102	-73
September..	155	-1

Not until October did acceptances get up to the first-of-the-month mark.

Other important design-change setbacks last summer were: installation of a 2-stage Packard Merlin engine on the P-51 Mustang at North American, Inglewood and Dallas; changeover to a new turbosupercharger on the P-47 Thunderbolt at Republic, Farmingdale and Evansville; redesign of the B-25 Billy Mitchell as an attack bomber at North American, Inglewood; and installation of a chin turret on the B-24 Liberator at Ford, Willow Run.

Interestingly enough, when Consoli-

PRODUCTION PROGRESS – Preliminary

Value delivered or put in place – millions of dollars.

	February Preliminary	January Preliminary	% Change	February Schedule*	% Deviation Feb. Prelim. vs. Schedule
MUNITIONS AND WAR CONSTRUCTION	$5,700	$5,764	- 1%	$5,747	- 1%
TOTAL MUNITIONS	5,430	5,467	- 1	5,477	- 1
Aircraft	1,670	1,613	+ 4	1,674	nil
Total airframes, engines, propellers	1,263	1,227	+ 3	1,243	+ 2
Airplane spare parts	365	344	+ 6	387	- 6
Other aircraft and equipment (excl. commun.)	42	42	0	44	- 5
Ships (incl. maintenance)	1,160	1,179	- 2	1,201	- 3
Combatant	352	377	- 7	362	- 3
Landing vessels	160	156	+ 3	176	- 9
Cargo and supply	315	322	- 2	295	+ 7
All other	333	324	+ 3	368	-10
Guns and Fire Control	305	326	- 6	317	- 4
Small arms (under 20mm.)	69	75	- 8	70	- 1
Artillery, mortars, rocket launchers – ASF	60	64	- 6	61	- 2
Fire control and searchlights (excl. Radar)	55	61	-10	59	- 7
Naval guns and other	121	126	- 4	127	- 5
Ammunition	520	495	+ 5	498	+ 4
Small arms (under 20mm.)	78	82	- 5	80	- 3
Artillery, mortars, rocket launchers – ASF	168	165	+ 2	164	+ 2
Aerial bombs – ASF	79	65	+22	51	+55
Naval ammunition and other	195	183	+ 7	203	- 4
Combat and Motor Vehicles	395	442	-11	404	- 2
Combat vehicles	104	129	-19	110	- 5
Motor carriages for SP guns	31	44	-30	34	- 9
Automotive vehicles and tractors	260	269	- 3	260	0
Communication and Electronic Equipment	400	403	- 1	397	+ 1
Other Equipment and Supplies	980	1,009	- 3	986	- 1
WAR CONSTRUCTION (GOV'T. FINANCED)	270	297	- 7	270	†

* As of January 1, 1944 for Construction; as of February 1 for all others.
† Schedule used for preliminary.

dated Vultee at San Diego changed over to the chin turret a few months after Ford, assemblies actually increased. Of course, the San Diego plant was able to benefit from Ford's experience. But it is also significant that Consolidated Vultee at San Diego was in big-volume bomber production a full year before Ford and had that accumulated know-how to fall back on. To date, Consolidated at San Diego has built twice as many Liberators as Ford—4,200 against 2,100.

Despite the above-schedule showing last month, production problems continued at several individual plants. Acceptances of C-46 Commando transport planes at Curtiss, Buffalo, dropped further as the plant went to work on a whole new set of design changes (WP-Feb12'44,p3). It remains to be seen whether a new general manager and factory superintendent appointed last month at Curtiss, Buffalo, will be able to speed up the assembly line.

SOME BUGS NOT LICKED

Over at Douglas, Long Beach, acceptances of the A-26 Invader—the Army's ace attack bomber—again fell short of schedule because workers were still struggling with the fine points of milling this plane's spar cap. The Tulsa plant, which is still working toward its first A-26 acceptance, also reported troubles with the plane's landing gear and tail surface. The Invader is now in the "de-bugging" stage and interruptions of one kind or another are to be expected over the next few months.

Still suffering from lack of trained supervisory personnel, Douglas at Chicago made another poor showing against schedule on the C-54 Skymaster. During the month, two executives were transferred from Douglas, Santa Monica; reportedly, the Chicago plant now needs about 20 good lead men to set assemblies humming. Plans are still being developed to supply these trained workers from the Santa Monica plant (WP-Feb12'44,p4), but this poses another problem: The Douglas wage scale is lower than that of other war plants in the Chicago area and trained workers are almost invariably lost to higher-paying jobs.

But these holdups were sporadic rather than general. By and large, production was in high gear last month and the bulk of high-preference combat models came through. Superfortresses were an outstanding example; and so were Flying Fortresses and Liberators. In fact, it was again the heavy bomber that pushed airframe weight above schedule and into new high ground as well.

Army Ordnance

The ground army munitions program is a neat example of how difficult transitions can be. Overall production declined last month, but not exactly in accord with schedule.

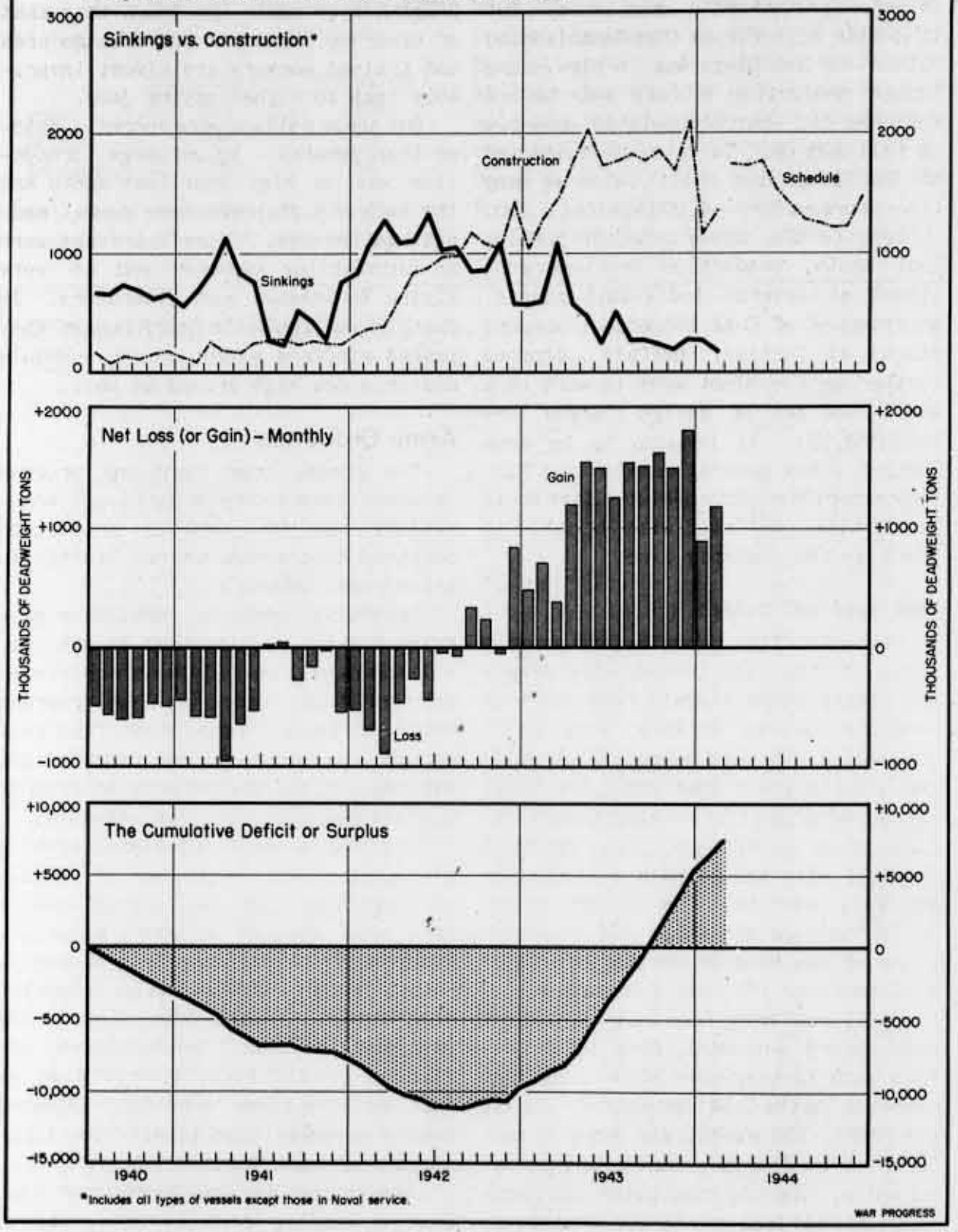
Generally speaking, declining programs did not decline fast enough, resulting in plus deviations from schedule. On the other hand, the few programs which still are rising did not rise fast enough. All told—pluses canceled the minuses and the ground army program as a whole was just about on schedule.

The Army's is an oft-stated problem with a new twist. In the case of rapidly accelerating programs, plants have a hard time keeping up with schedule. Heavy-heavy trucks have been a case in point, though February was an exception to this rule. In the case of declining programs, however, manufacturers are finding it difficult to cut down as fast as schedules are cut. Slowing down an assembly line is not like turning off a water tap.

Ammunition is a good example of this. Once a loading line is prepared, it

SCORECARD ON MERCHANT SHIPPING

Sinkings of United Nations vessels in February drop sharply; new construction rises 18%. And another million tons is added to the fleet.



isn't easy to change it. Total loadings amounted to $337,000,000, or 7% ahead of January and 12% ahead of the generally declining schedule. As a specific instance, larger-type general purpose bombs particularly outpaced the schedule: 73,000 tons to 39,000 tons. Aerial bombs as a whole ran 23% ahead of January and 55% above schedule. Similarly with antiaircraft shells, especially the 90mm. HE and 40mm. HE and AP. However, small arms ammunition dropped a bit more rapidly than planned (table, page 4). The same is true of small arms. Both the small arms and small arms ammunition programs have been cut severely, and manufacturers had been warned in advance of impending cuts. Guns and fire control, as a group, were just about on schedule—13% below January. However, within this category, fire control and searchlights dropped 40% from January, 8% below schedule.

HEAVY TRUCKS SPEEDING UP

Among the accelerating programs, heavy-heavy trucks met schedule for the first time in more than a year, production being up 3% over January. Nearly 3,000 were produced—about 200 more than in the preceding month. But the schedule rises much more steeply in the next three months; output must increase 96% over February to reach the May goal of nearly 6,000. Trucks of 2½ tons and under beat the February goal by 1%, but were 4% under January.

Tractors, as a group, maintained the January level of production but fell 7% behind the rising schedule. Here the failure was in high-speed types; crawlers surpassed January by 2%. Automotive vehicles on the whole were 4% behind January but 1% ahead of schedule.

Combat vehicles hit a 13-month low. The reason: only 508 medium M4 tanks were turned out, as against 590 scheduled. This compares with 2,300 produced last April. The poor showing is accounted for by a change in design; many are now mounting 76mm. guns and 105mm. howitzers instead of the old 75.

Motor carriages for self-propelled guns fell 30% behind January output and 9% below schedule; 33 Priests, mounting the 105mm. howitzer, were scheduled, but none was delivered. This mount had been out of the program since October.

Signal Equipment

Communication and electronic equipment ran 1% behind January production but, despite a lag in naval items, beat schedule for the first time on record—by 1%. The schedule, however, dropped slightly. Army signal equipment topped goals all along the line.

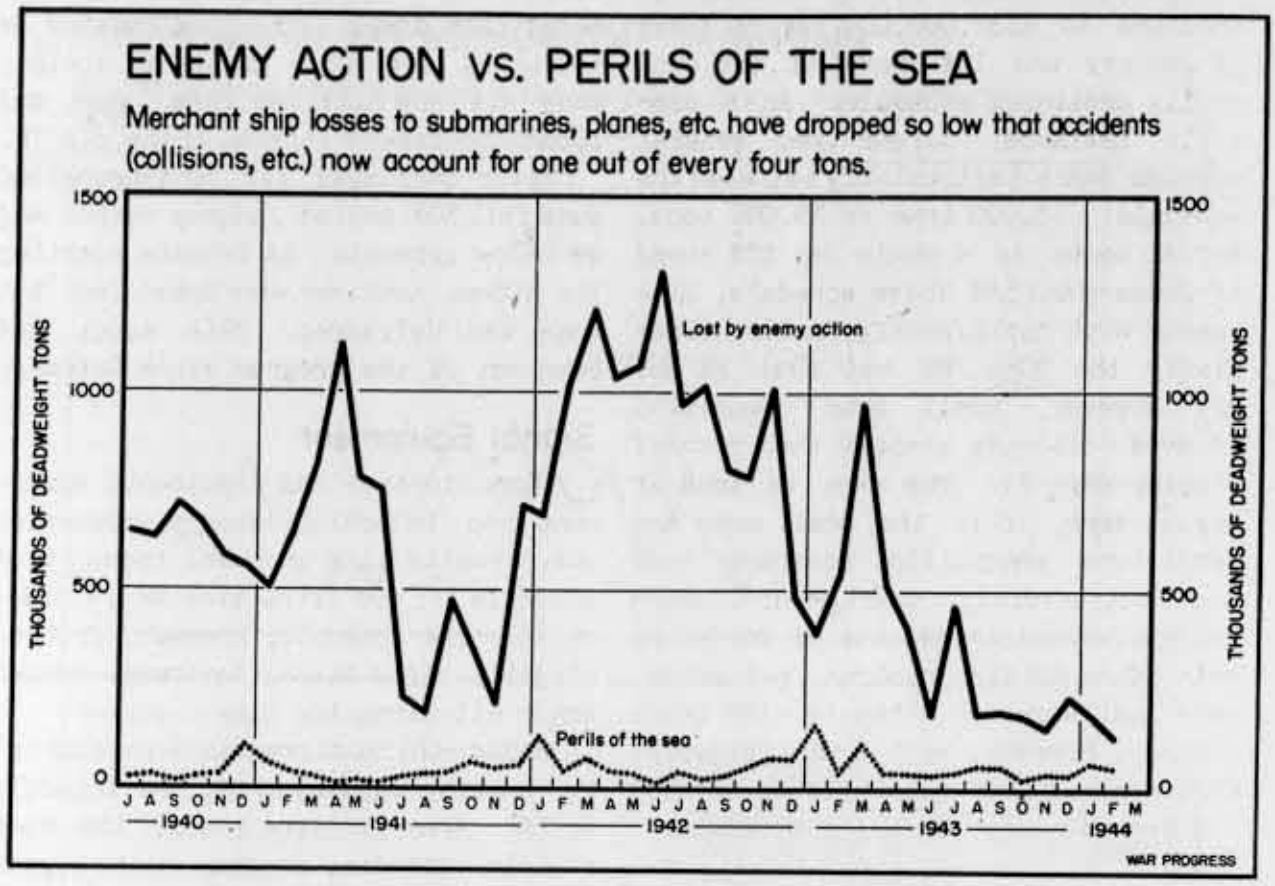
Radar—the "must program"—rose sharply, beating January by 8%, and schedule by 3%. Army airborne radar, the most rapidly expanding program in the signal equipment group, was 20% ahead of schedule, although production was 11% behind January. Here the schedules were cut to more feasible levels. One of the few airborne radar programs to fall far short of the goal was AN/APQ-5 bombing equipment—only 130 sets were delivered out of 194 scheduled.

Radio output was down 11% from January and 1% below the sharply declining schedule.

Merchant Ships

The Maritime Program has not yet recovered from the January slump. February deliveries of 1,382,000 deadweight tons (preliminary) were 170,000 tons above January but still 13% behind schedule, leaving a total deficit of 500,000 tons for the year so far.

Poorest showing was made in military types. Schedules called for one military transport, one combat loader, and



four oilers; only two oilers came through. Likewise the eight frigates delivered fell short of the goal of 12. However, the Maritime Commission completed on schedule four aircraft carrier escorts for the Navy.

Merchant ships—nonmilitary cargo and supply vessels—rose 219,000 deadweight tons over the January low to a total of 1,314,000 tons, still 9% off schedule. The 78 Liberty ships completed were eight fewer than called for; the 18 standard cargo types were one short. One Victory ship was also delivered—the first to come through—but three were expected. As with other new programs, production is slow in reaching full stride.

Naval Ships

Deliveries of Navy-built ships in February totaled only 206,000 displacement tons (preliminary)—22% behind both January and schedule. All major categories shared in the lag, but the all-important landing-vessel program missed the goal by the widest margin:

	Deliveries (000 tons)	% Change from Jan.	% Change from Sched.
All combatants..	81	-33%	-15%
Landing vessels.	78	-14	-28
Patrol & mine...	10	-29	-9
Aux. & all other	37	-5	-20
Total.....	206	-22%	-22%

Problem among landing vessels is the big LST (landing ship, tank), which was 51% off schedule, largely because of design changes (WP-Mar4'44,p1). All other types were on schedule except the smaller ones of less than 50 tons, which fell short by about 10%.

No big ships were slated for delivery

last month. The failure of combatants to make schedule (and the 15% deficit was unusual) was accounted for by (1) submarines, with only four completions instead of the eight called for, and (2) destroyer escorts, with 29 instead of 36. The falling off in DEs is hardly surprising; facilities and materials originally earmarked for them are being diverted to landing craft.

The Navy also delivered one new transport in February, as scheduled, but transport conversions were five ships behind.

More Ton-Miles in a Carload

Railroads have managed to make record hauls despite short rations of freight cars and locomotives. But now easier steel position permits building more equipment.

EVER SINCE the war started, the railroads have managed to handle a rising volume of traffic on less-than-asked-for additions to equipment. In 1942, the Office of Defense Transportation sought more than 150,000 freight cars, the carriers got 60,000; last year, 80,000 cars were asked for, only 29,000 were received (WP-Jan22'43,p6). And ton-mileage in both years increased sharply: 34% in 1942 over 1941; 14% in 1943 over 1942.

This year the story is more of the same, only less so. Freight traffic is expected to reach a new peak of 742,-000,000,000 ton-miles, but this is only 2% above 1943. The carriers will again get less new equipment than they need but will come closer; of the 80,000 freight cars requested by the ODT, 43,-500 have already been scheduled by the War Production Board, and the railroads are expected to order and get at least 17,000 more. At that, the Requirements Committee is willing to allot ODT enough steel to meet its request; materials—steel, for instance—are no longer the limiting factor. Rather, it's the manpower available to car builders and to manufacturers of component parts, such as brakes and couplings.

Meanwhile, the rail carriers have managed to get along by repairing and pressing into service all the usable equipment they could lay their hands on; 537,000 of the 1,750,000 freight cars now in service are of World War I vintage. Some idea of what has been done can be gleaned from the average of bad-order cars—freight cars in need of repairs. In 1939, for example, 11.3% of all freight cars were in unserviceable condition. The average steadily decreased, and in 1943 hit an all-time low of 2.4%. To make their equipment do, the carriers have speeded up the turn-around time, rerouted transcontinental traffic, improved signal systems and communications facilities, etc.

LOCOMOTIVES GOING STRONG

With locomotives the situation is somewhat better. The carriers got altogether 1,500 new ones in 1942 and 1943; in the five years before, they installed an average of 400 new units a year. This year they are down for 1,075 more. While not all the locomotives scheduled by WPB are on firm order, the railroads are expected to take all that are built. For example, orders have been placed for only 268 of the 446 standard 1,000hp diesel switchers scheduled for production; the railroads, however, are expected to place additional orders to take up the rest. On the other hand, they placed orders for about 150 heavy

diesels (5,400hp) for the long pulls; but scheduled capacity is only 139 and likely production may be as low as 125. Hence, unfilled orders for this type will run into 1945.

Main competitor with the railroads for transportation equipment has been the Army. It got more than a third of all freight cars produced in 1942 and 1943, and about half of all locomotives; this year it is due to get about 41,000 freight cars—close to half of those scheduled so far—and 2,900 locomotives, or more than two-thirds of the total number scheduled. The Army needs this rolling stock and motive power in North Africa, the Middle East, Italy, and other theaters of operations, as well as camps and depots at home. Included in its schedule for this year are 1,500 locomotives and 8,700 wide-gauge freight cars for Russia.

TRAINS CROSS THE SEAS

In addition, a few cars and locomotives have been allocated for export and other industrial purposes. Thus some 1,600 freight cars have been scheduled this year for lend-lease and for export; and 335 more are going to steel mills, mines, and industrial plants where rolling stock is required.

Altogether, the 1944 production schedule compares with 1942 and 1943 output as follows:

	1944	1943	1942
	Freight Cars		
Railroads	43,577	28,790	59,866
Army.....	41,113	42,820	9,241
All other	2,042	3,245	2,719
Total...	86,732	74,855	71,826
	Locomotives		
Railroads	1,075	830	705
Army.....	2,915	2,129	914
All other	247	592	976
Total...	4,237	3,551	2,595

So much for freight cars and locomotives. For new passenger equipment, the outlook for the carriers is not bright. Railroad passenger traffic, as well as freight volume, has been setting new high records. This year it is expected to jump at least 10% more than 1943 to a new high of 96,000,000,000 passenger-miles—more than three times the traffic of 1941 and almost double that of 1942.

PASSENGERS STILL SQUEEZED

Yet the domestic railroads have received no new passenger cars since 1942, when 377 were delivered. However, the pressure of military movements on regular passenger equipment has been eased substantially by 661 special troop cars built in 1943; it will be eased still further by 939 more scheduled for 1944.

But there won't be any new passenger equipment for the railroads in 1944. The ODT proposed resuming passenger-car production and asked for materials for the second quarter. However, it was felt that the 150 cars requested, compared with present inventory of about 38,000 units, could hardly make a measurable contribution to passenger-carrying capacity.

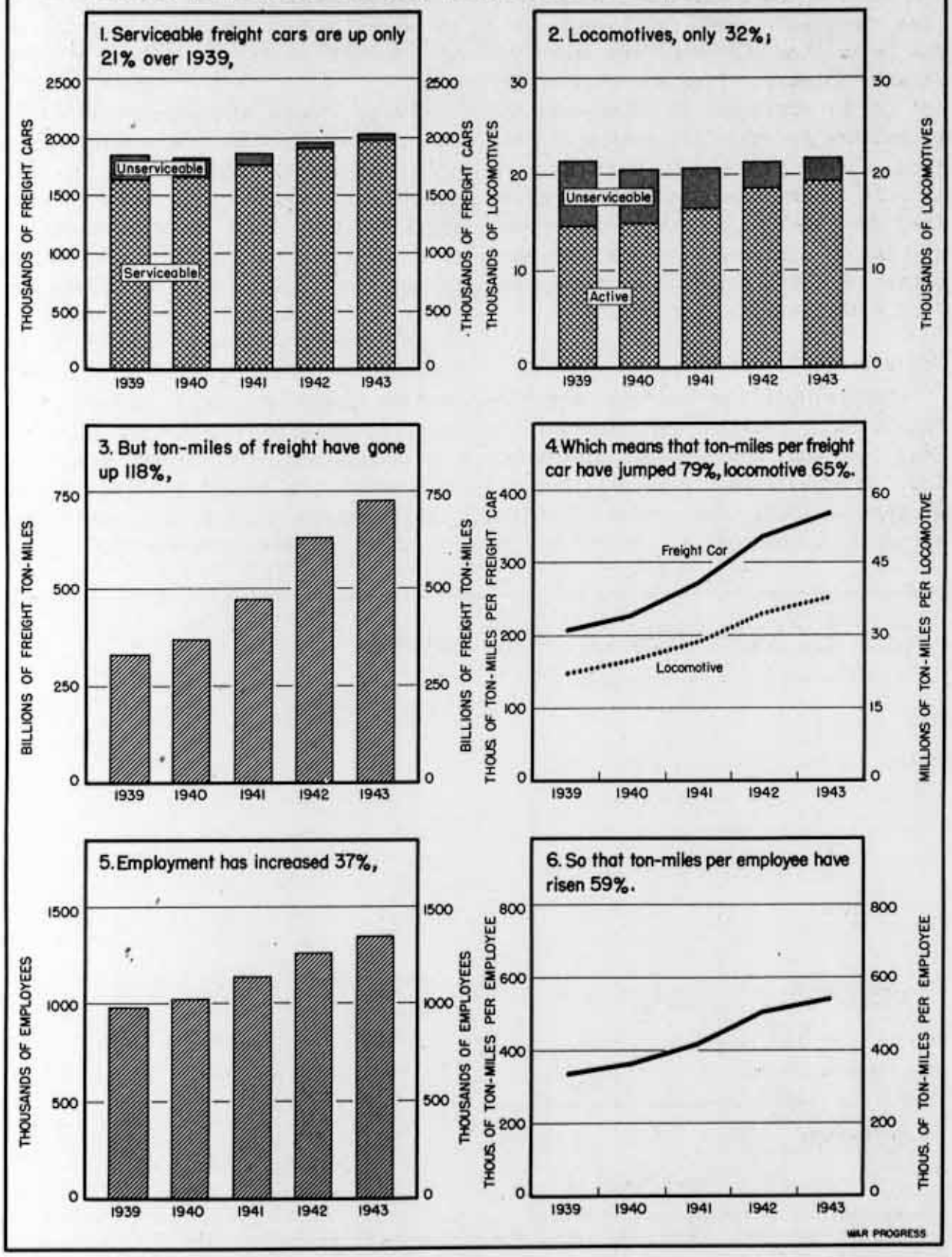
WEAR AND TEAR ON RAILS

The nation's network of railroad track has had unusual wear and tear, and the ODT has asked for 550,000 tons of rail a quarter—2,200,000 tons for the year, which would replace about 11,000 of the nation's 400,000 miles of double-rail track. In the late twenties, when ton-mileage was running only a little over half what it is today, rail replacement was almost 2,000,000 tons a year. So far this year, ODT has been allotted 515,000 tons of rail in the first quarter—a little less than it requested—but got its full 550,000 tons in the second.

Ordering of new equipment by the rail-

BEARERS OF THE FREIGHT

Railroads haul a record war load, though forced to skimp on new equipment.



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roads has been delayed by the recent transfer from the War and Navy Departments to the WPB of authority for granting wartime amortization. (Under wartime charge-off, rail equipment costs can be written off over five years instead of thirty.) Time was lost as WPB set up an organization to process applications for the five-year amortization. Formerly applicants had six months to file for wartime amortization after they had started constructing or acquiring new equipment, but now they must obtain a certificate of necessity before either building or buying.

THE OLD STORY: MANPOWER

Increasingly, the railroads are having trouble getting the manpower to keep their equipment—new and old—rolling. From a 13-year peak of 1,388,000 workers last July, employment had fallen steadily to 1,350,000 at the end of the year. Selective service has cut into the ranks of shop machinists, brakemen, dispatchers, and yard clerks; some 227,000 railroaders are now in the service and about 50,000 more are expected to be inducted in the first half of this year.

The railroads have already taken on 20,000 Mexicans for track maintenance and are asking for another 20,000. But the chief prospect of getting more workers lies in a joint management-labor-government recruiting campaign soon to be started. Slogan will be something like: "Get a railroad job and stick to it; railroading is war work." It is designed to attract (1) men released from war plants by cutbacks and contract cancellations; (2) more women (100,000 are now employed on railroads doing almost every job except manning locomotives); and (3) boys of high school age for track work during summer vacations.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program—Checks paid (millions of dollars)	1,899	1,471	1,844	1,731	1,516
War bond sales—E, F, G (millions of dollars)	396	439	870	208	152
Money in circulation (millions of dollars)	20,823	20,696	20,534	18,571	16,154
Wholesale prices (1926=100)					
All commodities	103.	103.6p	103.1p	102.8	102.9
Farm products	123.2p	124.2p	122.1	123.3	122.0
Foods	104.5	104.6	104.2	104.7	106.4
All other	98.3p	98.3p	98.0p	97.3	96.6
Petroleum:					
Total U.S. stocks* (thousands of barrels)	414,667	414,456	417,352	424,316	440,229
Total East Coasts stocks* (thousands of barrels)	54,961	54,103	56,762	58,048	45,046
Total tank cars to the East Coast	22,478	22,240	23,384	28,031	25,870
Bituminous coal production (thousands of shor' tons, daily average)	2,095p	2,065	2,138	2,022	2,113
Steel operations (% of capacity)	98.8	97.5	97.2	100.3	99.1
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,928	2,831	2,783	2,843	1,327
Gulf Coast ports	377	384	291	360	459
Pacific Coast ports	1,272	1,223	1,267	1,370	1,003
Department store sales (% change from a year ago)	+1	-10	+2	+1	+14

p. preliminary. *Excludes stocks owned by the military.

PSF: WPB

The President

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WAR PROGRESS

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A Look at Washing Machines

Cutting Down Paper Work

Number 183

March 18, 1944

Difficulties on the Road Back

Washing-machine industry a case in point: plants range from $500,000-a-year output to $15,000,000; make various munitions; are in tight and loose labor areas.

RECONVERSION is a problem in extrication: how to get civilian industries, now preponderantly engaged in war production, back into peacetime operation. The domestic laundry-equipment industry (mostly washing machines) illustrates the kinds of complications that are bound to come up.

A preliminary survey has been made of 20 plants which account for 88% of the industry's prewar output. The smallest plant is carrying on "almost as usual," making only replacement and repair parts, but the others are heavily engaged in war work. Total output of the group is running at the rate of $115,000,000 a year—more than double their 1939 production. And of this, over $100,000,000, or 90%, is in munitions.

Of the 20 plants, 13 are in tight (Group I and II) labor areas; and these account for annual production of about $90,000,000, or 77% of the total. The other seven, in easy labor areas (Group III and IV), account for $25,000,000. These, because of labor, seem closest to reconversion.

CANDIDATE FOR RECONVERSION

But backlogs vary from company to company. Unfilled orders for the industry as a whole have declined about 25% since last July. Six plants have backlogs of four months or less. And two of these, that are in loose labor areas, have backlogs of only three months—specifically, one in ammunition and one in guns and fire control. Since many gun and ammunition programs are declining, these plants might conceivably be released first from war work.

Thus companies in the washing-machine industry are in varying stages of pre-reconversion—some obviously will get out of war work sooner than others. This was realized by the industry itself when recently it proposed that companies be permitted to resume when, as, and if they can on the basis of specific quotas of prewar production. The idea is to permit late-comers to catch up with early-comers. However, the industry specifically suggested that new companies be barred until all companies were able to resume production.

ELECTION STILL POSTPONED

But shortage of components—especially fractional horsepower motors—precludes any resumption of washing-machine manufacture in the near future. Furthermore, merely because plants are in loose labor areas, it does not follow that they can resume when their war orders are cleaned up. Their suppliers may be located in tight labor areas. In addition, inductions into the armed forces have made it difficult to keep munitions plants fully manned, let alone free workers for civilian production.

However, one basic fact brought out by the survey of the washing-machine industry is how small is its production of any one munitions program. Its total munitions volume of $100,000,000, out of about $70,000,000,000 of munitions a year, is proof of that. Specifically, the industry makes less than 1% of aircraft, or guns, or ammunition. In theory,

therefore, a cutback of less than 1% in ammunition could virtually release five plants from war work, and release part of the capacity of five more; or an equally negligible cutback in guns and fire control might release some or all of the capacity of eight plants. And what is true of washing machines is pretty much true of most other consumers' durable goods industries—refrigerators and vacuum cleaners, for instance. The exception is the automobile industry, which has been making 20% of all aircraft engines, 20% of guns and mounts, 45% of combat vehicles, 10% of small-arms ammunition, etc.

WIDE RANGE OF CHOICES

Thus it would take a substantial cut in any one program to free even a small proportion of the automobile industry; but it would take only a small cut to free a fairly substantial proportion of one of the other consumers' durable goods industries. And that means that when cutbacks come in fairly large volume—say after the defeat of Germany—the War Production Board will have wide choices as to which durable goods resumption to authorize. Conceivably, a judicious arrangement of plant cutbacks could free most of the capacity of an entire industry, so that virtually all companies could start up simultaneously.

Actually, however, this will not be easy to arrange. For another basic fact emerging from the survey of the washing-machine industry is that most plants are engaged to some extent in two or more major war programs, and that all are making different kinds of munitions.

Thus a cutback in guns would free only a few plants, and not necessarily all of these making guns. And some plants may still be heavily engaged in vital aircraft programs; others may have to keep on producing a particular type of component; and still others may be located in manpower areas that are still tight. Moreover, most of the plants buy their components, and so couldn't resume production unless the plants making tubs, agitators, motors, etc. were simultaneously released from war work.

LINING UP THE FACTS

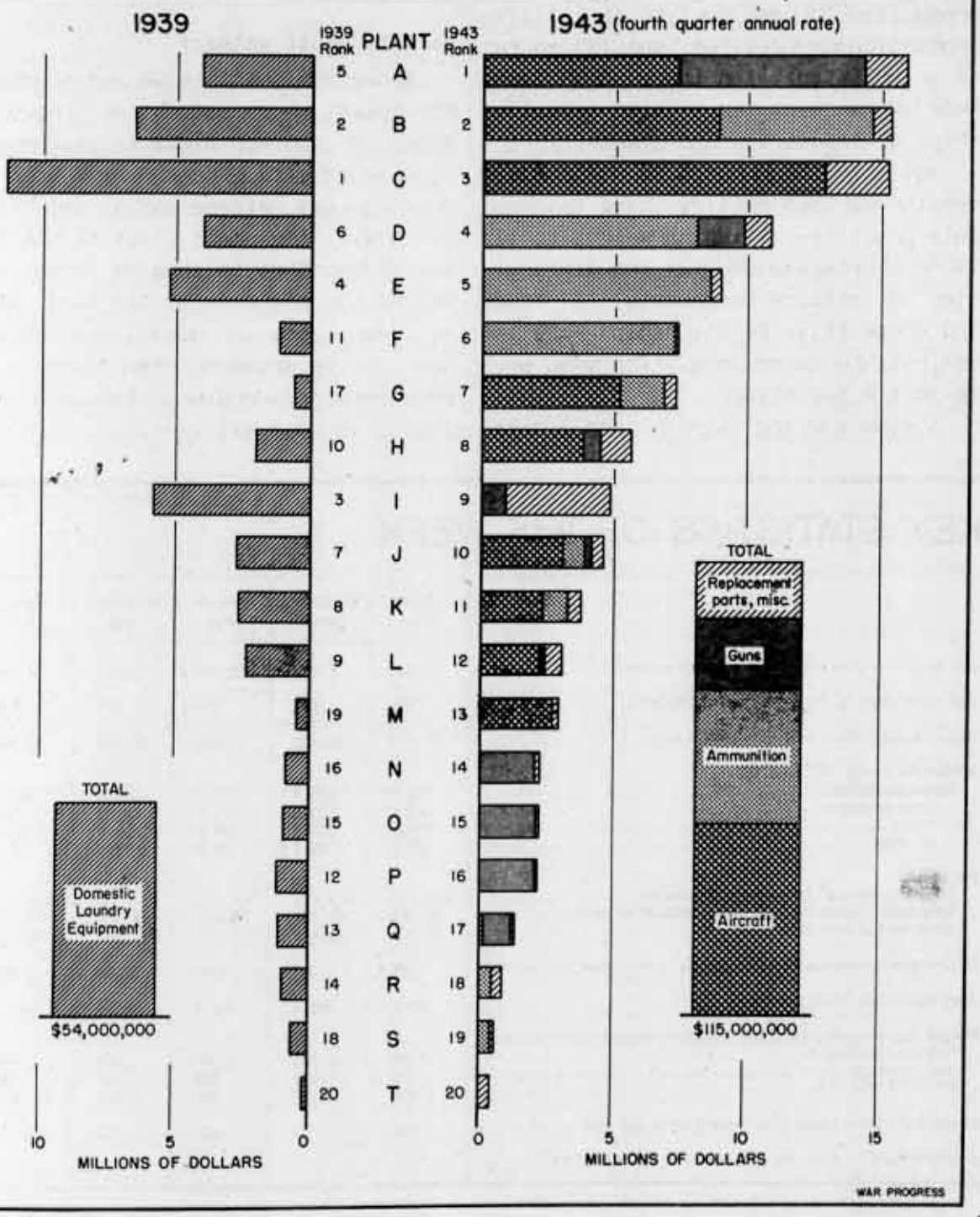
In the final analysis, resumption of civilian production will have to be dovetailed into program cutbacks on an industry-by-industry and plant-by-plant basis. To this end, as WAR PROGRESS noted last month (WP-Feb5'44,p12), the War Production Board would assemble data on various types of durable goods—producers' as well as consumers': business machines, textile machinery, other replacement machinery; also washing machines, vacuum cleaners, refrigerators, and—for much later consideration—passenger cars.

Then the job will be to build up a case history of each important manufacturer in each important industry. What did he produce in 1939? What is his capacity today? What are his war contracts? And are his plants in tight labor areas? How many persons does he employ? What critical components does he need? Who are his subsuppliers? Are

IN THIS ISSUE:

AN INKLING OF THE RECONVERSION JOB

U.S. laundry equipment industry has shifted all over the place. Now makes aircraft, guns, ammunition, etc., as well as replacement parts. Output has doubled since 1939—but with a difference; a plant of $600,000 prewar stature is up to $7,000,000 a year today; another shows a 17% drop.



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they in tight or easy labor areas? Are they tied up in war contracts?

With such a minute analysis, plant-by-plant and industry-by-industry, it will be possible—when the time is propitious—to try to match up munitions cutbacks with particular industries and particular companies so as to (1) reconvert without interfering with war production, (2) get the type of civilian production most desired, and (3) so far as is consistent with these objectives, take into account competitive relationships of industries and plants.

But matching up cutbacks with reconversion and then putting those matchups into practice—giving due weight to (1) labor shortage areas, (2) the difficulties of getting components, (3) trade and competitive relationships—are two entirely different jobs. The paper work is just a beginning.

A glance at the chart on page 3 makes the point clear. Note the tremendous changes that have occurred within the domestic laundry-equipment industry. Prewar relationships between plants have been turned topsy-turvy. The plant that ranked fifth in production is first today. Production of one plant has actually declined, of another has jumped 12 times.

BACK TO WHOSE NORMAL?

Therefore, will it be reasonable to ask a plant whose output has jumped far ahead of another plant to resume on a quota which sets it back several notches? Note also the extreme variations in output. Will the small plant at the bottom of the chart be treated in the same way as the big ones at the top? These are the types of questions that will have to be answered when planning for reconversion gets down to the hard problems of actual extrication.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars)	1,836	1,899	2,104	1,605	1,771
War bond sales - E, F, G (millions of dollars)	101	396	589	178	239
Money in circulation (millions of dollars)	20,963	20,823	20,586	18,740	16,205
Wholesale prices (1926=100)					
All commodities	103.4 p	103.4 p	103.1 p	102.8	103.2
Farm products	123.4 p	123.2 p	121.9	123.2	123.5
Foods	104.6	104.5	104.0	104.8	107.0
All other	98.2 p	98.3 p	98.1 p	97.4	96.6
Petroleum:					
Total U.S. stocks* (thousands of barrels)	415,187	414,667	415,516	423,110	437,369
Total East Coasts stocks* (thousands of barrels)	55,846	54,961	55,630	60,343	43,985
Movement of tank cars to the East	24,176	22,478	22,272	27,167	25,832
Bituminous coal production (thousands of short tons, daily average)	2,008 p	2,095	2,142	2,002	2,043
Steel operations (% of capacity)	99.1	98.8	97.7	99.6	99.3
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,934	2,928	2,788	2,678	1,440
Gulf Coast ports	444	377	310	340	351
Pacific Coast ports	1,454	1,272	1,182	1,438	970
Department store sales (% change from a year ago)	+11	+2	-21	+10	+3

p. preliminary *Excludes stocks owned by the military.

More Steel, Less Paper Work

It's no longer necessary to screen down to the ton once-critical metal, and trip through CMP mill for construction has been eliminated. Saves time, manpower.

THE WAR PRODUCTION BOARD is in a delicate position, as are all war agencies. It is trying to eliminate unnecessary controls, thus saving paper work and manpower within the agency as well as in industry. Yet it must not lose control over the main job: seeing that munitions production goes along on schedule.

Construction is a case in point. Steel is not so critical as it once was; building is far below its peak and still falling. Hence, controls are far less urgent than, say, a year ago. So a drastic change in construction-application procedure has been put into effect.

LONG TRIP THROUGH MILL

Until recently, it took an average of 22 days and plenty of pencil pushing for a contractor to get a building application through the WPB-CMP mill. These six major steps were involved:

1. Sending the application to the industry division sponsoring the project: General Industrial Equipment Division for a compressor plant, Government Division for a hospital, Chemicals Bureau for a penicillin plant, Tools Division for a roller-bearing facility, etc.

2. Transmitting a copy to the claimant agency—if the roller bearings, say, were destined for military trucks, it would go to the Army. The claimant agency then filled out form MC-118 committing the amount of controlled materials requested, and on form CMPL-224 authorized the issuance of the materials to the contractor.

3. Returning the case to the industry division, which then attached its own recommendation on form GA-229.

4. Sending the case to the Facilities Bureau for detailed analysis of essentiality, design, etc. and for stripping (cutting down specifications to base standards).

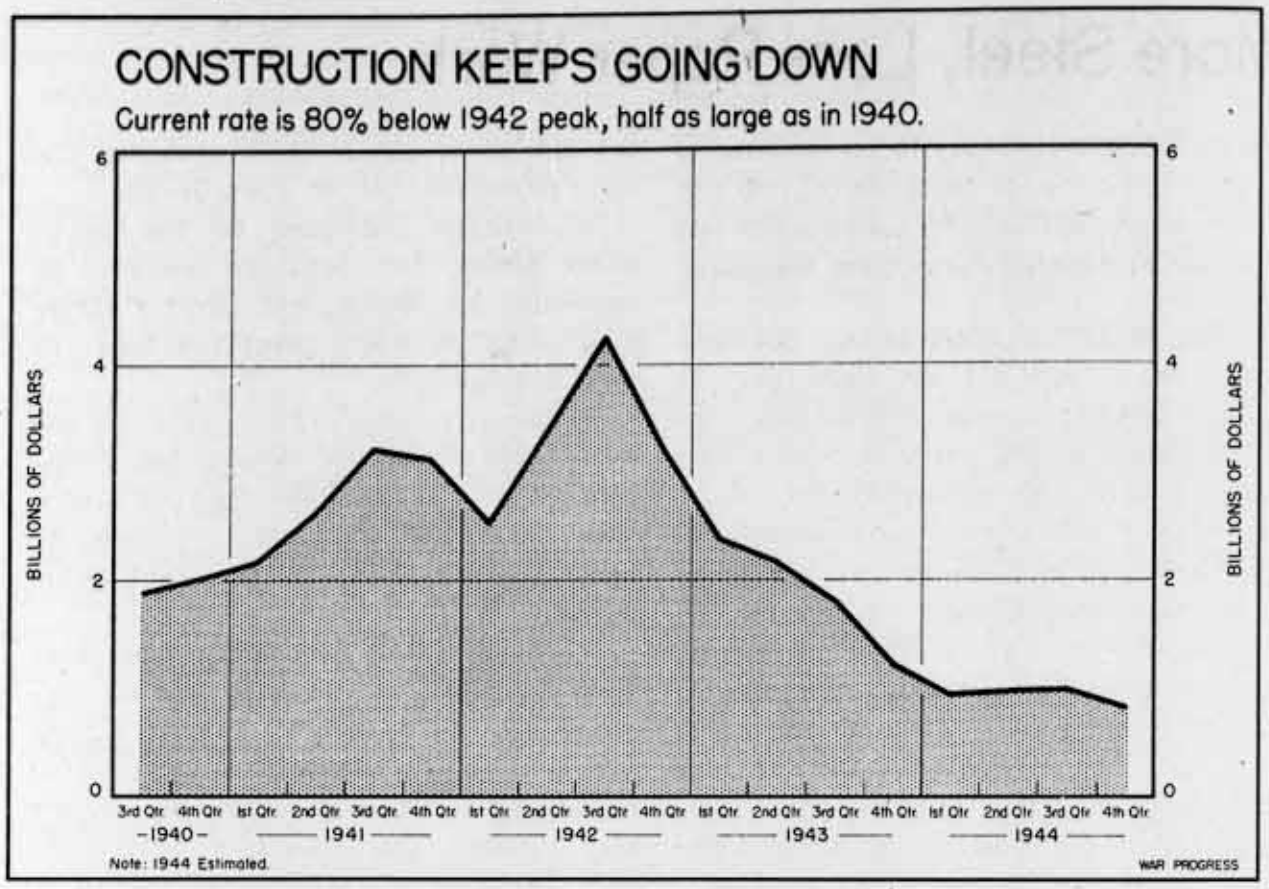
5. Sending the entire file to the Facilities Committee—which has final control over all new WPB construction—then returning the case, with recommendation attached, to the Facilities Bureau.

6. Mailing the contractor completed form CMPL-224, authorizing him to purchase materials and equipment; a copy also went to the claimant agency, which had to adjust its books for the difference between the amount of controlled material requested and the amount of material granted.

Today—since February 15, to be exact—the entire trip through CMP has been eliminated (steps 2, 3, and 6), and the process of screening and stripping (indicated in step 4) has been done away with. As a result, the overall processing time for a construction application has been cut an estimated 30% to 40%. And the staff of the Facilities Bureau alone has been reduced from about 400 to 250.

EASY BUT NOT FREE

Moreover, the contractor no longer has to submit a detailed list of the materials needed to complete a project. However, if he must use certain "prohibited items" such as sheet, strip, and plate steel; new lumber for concrete forms; zinc weather stripping; tin sprinkler-head fuses; copper flashings; extra-heavy pipe; and air conditioning, he is required to state them specifically, at



the same time justifying their use. And whether such currently tight items are given to the builder depends on the individual case. For example, the use of steel plate more than 3/16-inch thick in ramps is prohibited. But if the ramp is for a blast furnace, the heat and wear involved make it imperative to use ¼-inch or ⅜-inch plate.

SUPPLY UP, DEMAND DOWN

Two factors made the new procedure possible. Last year, metals started to ease up and the supply of steel, aluminum, zinc, etc. began to exceed requirements. Secondly, construction is a declining program. Compared with a peak of $4,254,000,000 in the third quarter of 1942, activity has dropped almost 80% to an estimated $931,000,000 in the current quarter; and the downturn is still going on (chart, above). An elaborate control system to check material-and-equipment leakages is no longer necessary.

Under the discarded procedure, a detailed list of materials was submitted with each application, and the amount of controlled material finally authorized was determined by screening and stripping individual projects. Thus, the amount of steel, copper, and aluminum given to the several claimant agencies for the construction programs was on an allocation basis—and involved substantial paper work and man-hours both for contractors and WPB. This has now been done away with.

Under the new method, WPB's Statistics Division makes an estimate of how much steel, copper, and aluminum is needed. In the past, these forecasts have been highly accurate. Then the estimated amount of controlled material required for all WPB-approved construction is set aside in a special reserve

for building contractors to draw on—in the same way that manufacturers have been getting their MRO (maintenance, repair, and operating) supplies.

SHIFT BACK TO STEEL

Builders, however, will be asked to file a report indicating their consumption of 40 key materials—this as against a former list of about 150. The purpose is to provide a check of actual consumption against the forecasts.

For the third quarter, the construction reserve under the jurisdiction of the Facilities Bureau has been estimated at 323,000 tons of finished carbon steel, This is still subject to approval of the Program Bureau. And that amount comes out of a total estimated supply of about 14,900,000 tons in that quarter.

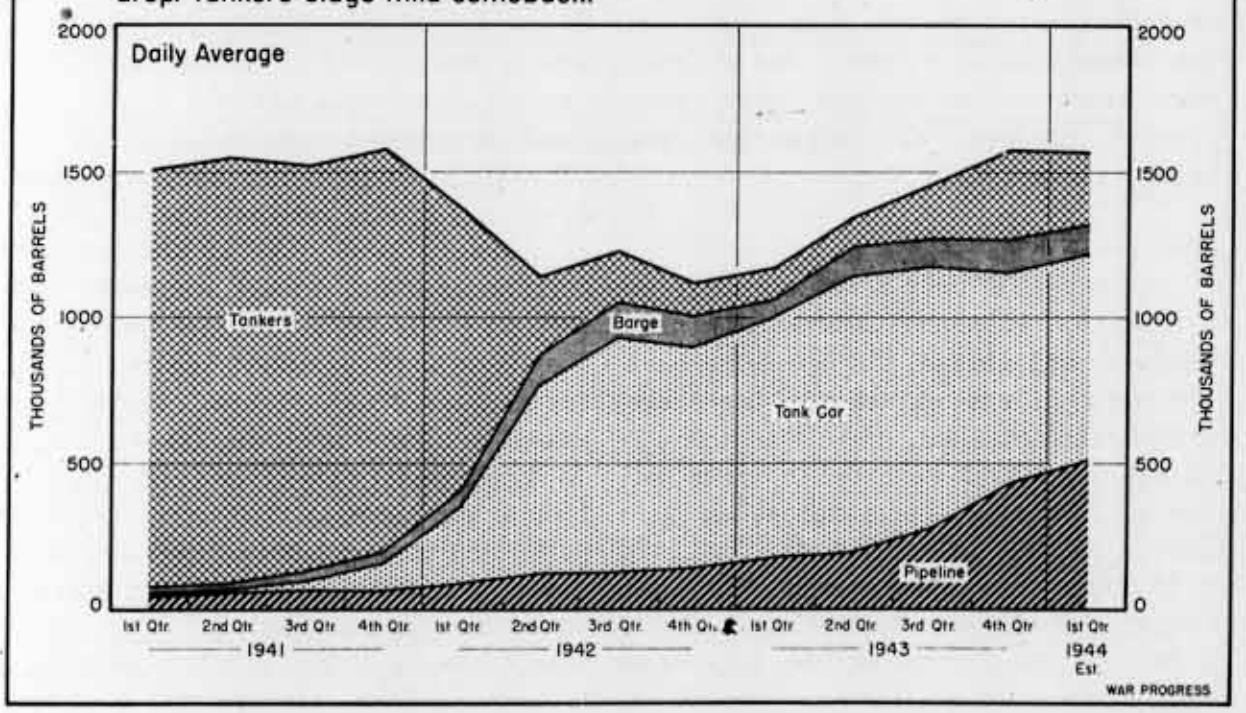
Builders will undoubtedly use increased amounts of metal, particularly steel; for they now can specify steel where they couldn't before—in duct work, window lintels, road reinforcing, etc. This is borne out by estimates for this year:

1944	Old Method	New Method	% Change
	(000 tons)		
First quarter...	265	285	+8%
Second quarter..	295	319	+8
Third quarter...	294	323	+10
Fourth quarter..	234	288	+23
Total.....	1,088	1,215	+12%

But some shift toward steel is desirable. Now that lumber is supercritical, steel can release wood in floor joists, roof construction, concrete forms, and so on. Also, the greater use of steel will make it possible to replace substitutes which are now either themselves scarce (hardboard, fiber conduit), or inferior (gypsum plank in place of steel roofing).

OIL FOR THE EAST COAST

Pipelines carry one-third as against one-thirtieth in 1941. Tank car shipments drop. Tankers stage mild comeback.



Shifting Emphasis in Stockpiling

Main objective is to hold reserves against disruption in production from accidents, strikes, etc. Shipping shortages, U-boat menace are of declining importance.

EVEN BEFORE PEARL HARBOR, the United States began building up reserves of critical materials. And today nearly 100 different commodities have been stockpiled. These include metals such as copper, zinc, lead, and aluminum; minerals such as diamonds, quartz crystals, mica, and sapphires; drugs, such as iodine, opium, ipecac, belladonna leaves, and quinine; chemicals, such as benzol and ethyl alcohol; textiles, such as burlap and cotton sheetings; fibers, such as hemp, jute, kapok, silk, and Egyptian and Sudan cotton; and such miscellany as crude rubber, asbestos, horsehair, and used silk hosiery.

Stockpile objectives have risen and fallen with the fortunes of war. At the outset, the need was to build up large stockpiles against all contingencies—especially with cargo space short, and the U-boat a major danger. But of late, many stockpile objectives have been lowered. Indeed, all objectives are being re-examined.

MOST GOALS NOT REACHED

In the case of only a few commodities—bismuth, belladonna leaves, aluminum, mercury, and iodine, for example—have the early large objectives been approached or attained. In some instances, objectives are not expected to be reached. The goal for silk, for example, is 50,000 to 100,000 bales, but so far only 9,600 are in stockpile—chiefly what remains of frozen stocks of Japanese silk. In tin, only 94,000 tons have been stockpiled against an objective of about twice that amount. But substitutes have been developed and uses cut back to an essential basis.

In some cases, current stockpiles are large compared with peacetime consumption. In industrial diamonds, for example, government stocks amount to 6,000,000 carats against 1939 consumption of 2,000,000; in quartz crystals, 818,000 pounds of radio grade against 1939 consumption of 67,000. However, bare statistics tend to oversimplify—and hence exaggerate—the potential postwar problem. The marketing of diamonds is strictly controlled; the postwar surplus will be readily susceptible to orderly control, even if some stocks are not held as a permanent military reserve against future emergencies. And for quartz crystals, the promised era of electronics holds possibilities of greatly expanded consumption.

NOT SO BIG AS THEY LOOK

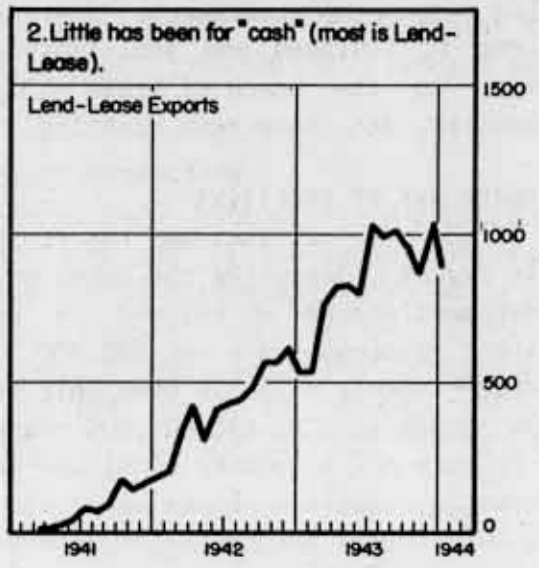
In most major commodities—aluminum is an exception—stockpiles are relatively small; for refined lead, only 190,000 short tons against a 1939 consumption of about 670,000; cadmium, 1,500,000 pounds against 5,400,000; nickel, 4,500,000 pounds against 75,000,000.

However, stockpiles in the hands of government do not in all instances show the true picture. In some materials, they have to be balanced against industry stocks. Take refined copper, for example. There are 255,000 short tons in government stockpile and 160,000 tons in the hands of industry, or about half 1939 consumption of 800,000 tons. Yet stocks in the hands of refiners are about as low as they have ever been—50,000 tons against 500,000 tons held by them in 1932, and 284,000 tons held

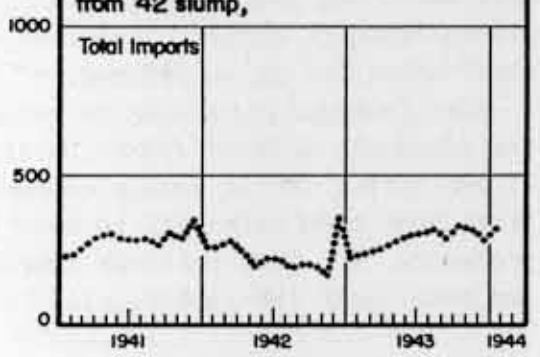
LEND-LEASE BREAKS A TRADE TRADITION

1. Though U.S. exports have risen sharply,

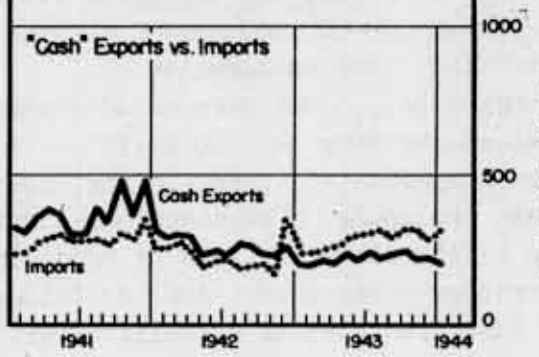
2. Little has been for "cash" (most is Lend-Lease).



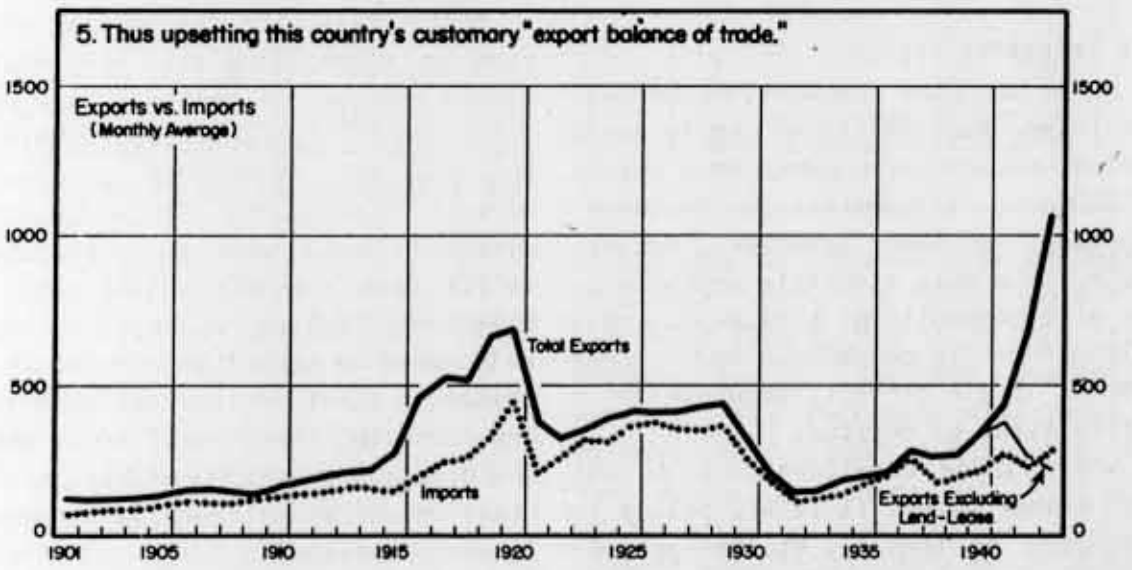
3. Imports have risen slowly, recovering from '42 slump,



4. And now exceed cash exports,



5. Thus upsetting this country's customary "export balance of trade."



in 1934. What this means is that supplies which would ordinarily be held as industry stocks (by refiners) are now being held by the government. However, stocks of finished and semi-finished shapes in the hands of brass mills, foundries, etc. have been dropping.

FIGURES MAY BE DECEIVING

In the case of aluminum, the stockpile figure is deceptive the other way. Government stocks of refined and reclaimed aluminum are about 232,500,000 pounds—roughly a little over half the 1939 consumption of 435,000,000 pounds of primary and secondary aluminum—and stocks in reduction plants about 150,000,000 pounds. But add in the material in the manufacturing pipeline, and in consumers' hands as inventory or processing materials, and supplies run up close to 2,000,000,000 pounds, or nearly five times 1939 consumption.

Originally, the purpose of government stockpiling was to build up reserves against all possible contingencies, including (1) sinkings, (2) shortage of shipping, (3) loss of producing territory to the enemy, and (4) failure of land transport as a result of military operations or port congestion.

NEW INSURANCE POLICY

Since then, the emphasis has changed. The prime purpose today is to guard against disruption in output as a result of accident, transportation failures, sabotage, or labor troubles. For example, this puts stockpile emphasis on one-site commodities: because more than half of domestic molybdenum output comes from a single deposit, sabotage or a strike might be serious.

Where these considerations do not give a clear guide, it is WPB policy to stockpile so that all stocks—government and industry—will meet (1) three months' requirements or (2) one year's requirements less anticipated North American output—whichever is higher. In general, this standard should scale down goals, many of which were set when enemy submarine warfare was taking a heavy toll of incoming shipping.

To this end, production has been cut back by deliberate action—as in aluminum; 15 pot lines (seven government owned and eight privately owned) have been shut down, and two more are expected to be closed down soon.

TRIMMING THE STOCKPILES

Sometimes stopping premium purchases will cut down production—as in mercury and tungsten; this may ultimately be done in chrome, beryllium, and tantalum ore. Moreover, premium payments may be discontinued on copper, lead, and zinc when output has to be reduced.

Also, surplus stocks may be released for resubstitution or expansion of civilian output. While some aluminum and zinc have been released, to date this procedure has been followed sparingly and cautiously (WP-Feb5'44,p1).

TAKING STOCK OF RISKS

Essentially, the determining criterion in stockpiling is: What will be a safe reserve to meet military needs and essential civilian requirements and yet will not overburden the postwar market? Stockpiling is an insurance measure. Risks have to be calculated to fit each commodity. And until the invasion of Europe, stockpiling policy is bound to be tentative and subject to change on short notice. And even after the invasion there will still remain the question whether to stockpile materials which are not readily obtainable in North America.

War Progress Notes...

DEFICIT IN CASH EXPORTS

U.S. EXPORTS have risen steadily during the war—as might be expected. In 1939, for instance, shipments abroad amounted to $3,200,000,000, but by 1943, largely because of lend-lease, they reached $12,700,000,000—nearly 300% ahead of 1939 and 55% above the peak after the first World War.

Imports have not risen so sharply. In 1939, they were $2,300,000,000 and by 1941 had risen to $3,300,000,000. But in 1942, enemy sinkings of merchant ships reduced the effective fleet, so that imports were forced back to $2,-700,000,000. Last year, however, they reached $3,400,000,000. This was one-third below the 1920 import peak. The wartime export-import picture follows:

	Total Exports	Imports	Export Excess
	(billions of dollars)		
1939....	$3.2	$2.3	$.9
1940....	4.0	2.6	1.4
1941....	5.1	3.3	1.8
1942....	8.0	2.7	5.3
1943....	12.7	3.4	9.3

In 1941, lend-lease accounted for 14% of all exports. In 1942, the proportion rose to 61%, and currently the figure is 81% (chart, page 9). If lend-lease shipments are excluded, last year's imports would exceed direct purchase exports:

	Exports (ex. L-L)	Imports	Export Excess
	(billions of dollars)		
1939.....	$3.2	$2.3	+$.9
1940.....	4.0	2.6	+1.4
1941.....	4.4	3.3	+1.1
1942.....	3.1	2.7	+.4
1943.....	2.6	3.4	-.8

This deficit is something which has not happened in nearly 60 years. And 1944 may repeat. In January, cash exports were $200,000,000, imports were $300,000,000.

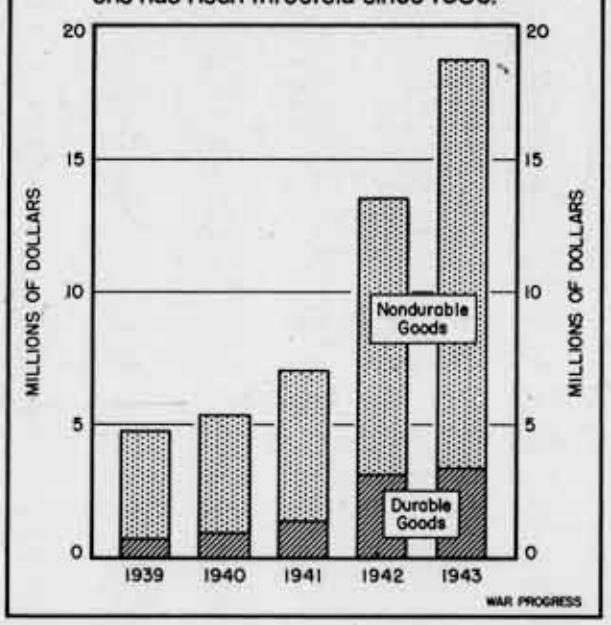
PRISON PRODUCTION

BACK IN 1934, Federal Prison Industries, Inc. was set up to provide prisoners with useful employment which would not unduly compete with private business. Now this corporation is paying dividends.

In 1943 sales to federal agencies amounted to $18,800,000, as against $4,800,000 in 1939—a rise of nearly 300%—and value of sales per worker increased from $1,500 to $5,300. Chief factors are (1) improved production methods, (2) increased efficiency of workers, (3) longer working hours (in some cases, prisoners put in as many as 60 hours a week), and (4) increased cost of materials. Many prison industries are operated on two shifts, and

BEHIND THE BARS

Value of manufactures in federal prisons has risen threefold since 1939.



SELECTED MONTHLY STATISTICS

Consumer Expenditures—Production—Labor Disputes

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
CONSUMER EXPENDITURES (million dollars)	9,122p	7,945	8,038	7,590	8,352	6,152	5,791
Goods	6,623p	5,501	5,592	5,140	5,976	4,220	3,938
Services	2,499p	2,444	2,446	2,451	2,376	1,932	1,853
FOOD PRODUCTION							
Dairy products (million pounds)							
Butter, creamery	105.4	s	s	s	123.1r	130.7	108.0
Cheese	61.2				61.9r	41.7	39.6
Evaporated milk	194.5				204.7	131.3	119.1
Meats - total (incl. lard, million pounds)	2,189.0				1,632.0	1,202.0	1,109.0
Beef and veal	630.7				523.0	425.6	469.6
Lamb and mutton	81.5				71.2	61.1	69.6
Pork, including lard	1,476.5				1,037.9	715.2	570.2
Lard	265.9				178.5	125.5	90.4
Poultry and eggs							
Eggs (millions)	4,436.0				3,800.0r	2,634.0	2,366.0
Poultry (receipts at 5 principal markets, million pounds)	30.7	s	s	s	28.5	23.5	23.1
PRODUCTION OF CLOTHING AND SHOES FOR CIVILIANS (1935-39=100)†							
Clothing and shoes combined	98	103	104	104	101	98	n.a.
Clothing	101	107	106	106	103	100	n.a.
Shoes	83p	88	93	94	94	92	n.a.
LABOR DISPUTES							
Number of strikes in progress	360p	350	330	410	225	323	271
Workers involved (thousands)	120p	267	510	193	100	72	214
Number of strikes beginning during month	330p	325	300	375	195	203	171
Workers involved (thousands)	110p	241	500	118	90	51	109
Man-days idle (thousands)	625p	1,715	2,825	690	450	513	2,720

* Consumer Expenditures, Production of Clothing & Shoes, December; All other, January. p Preliminary. s Seasonal influences invalidate month-to-month comparisons. r Revised. †Unadjusted. n.a. Not available.

some even on three. Altogether, about 3,500 inmates work in the shops, and last year the average pay was $200, based on hourly rates ranging from 6 to 15 cents, with overtime after 40 hours.

Nondurable goods—clothing, shoes, cotton fabrics, canned goods, etc.—constitute four-fifths of the output, but durable items are also being made.

Products include: parachutes for Weather Bureau instruments, made at Danbury, Conn.; bomb noses and other castings, at Chillicothe, O.; cargo nets and salvage of submarine net buoys for the Navy, at Alcatraz. Last year bomb dunnage racks and end stops, bomb fin assemblies were made at Lewisburg, Pa.; the cannery at McNeil Island, Wash., turned out 51,000 cases, and a new dehydrator is expected to produce 1,500 tons of potatoes annually for the Army.

The 1944 plans of the prison industries include continued war production and salvage and repair of war material.

TANKER TO TANK CAR TO PIPE

BEFORE PEARL HARBOR, tankers carried 95% of petroleum products to the East. Then the U-boat forced a shift to other methods. Tank car deliveries rose from 2% of the total in 1941 to 70% in the first half of 1943, then dropped to the current level of 45% (chart, page 7). Recently tankers have been coming up again—they now haul 16%—and pipelines have increased their proportion to 32%. Indeed, when all pipelines are completed, they will carry 60% of the total.

PSF: WPB

The President

WAR PROGRESS

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Canada Fills the Breaches

Number 184

March 25, 1944

Canada Fills the Breaches

Production is dictated by urgencies of U.K. and U.S., and Allies get 75% of output. Ground army items dominate program and cutbacks could mean early reconversion

ALTHOUGH one of the world's smaller countries (population, 12,000,000), Canada ranks sixth as a munitions maker, exceeded by the United States, Germany, Great Britain, Russia, and Japan—in approximately that order. But those countries have anywhere from four (Great Britain) to 14 (Russia) times Canada's population. Moreover, Canada is not a party to lend-lease; its dealings with the United States are on the barrelhead.

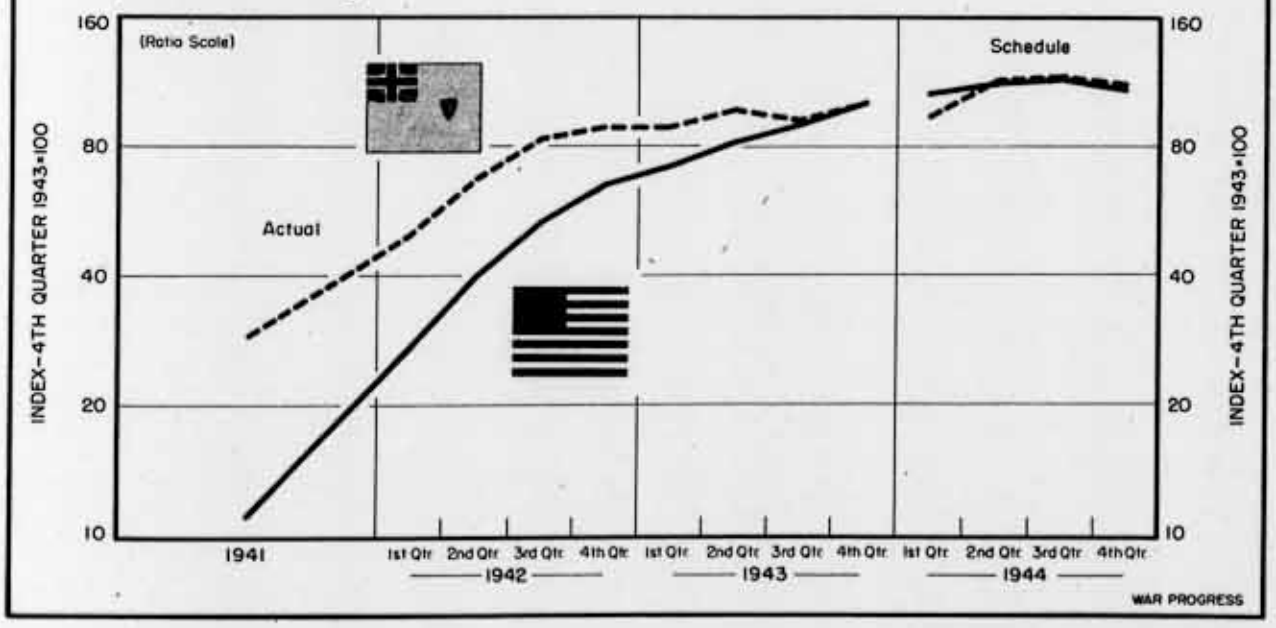
Canada is a specialty producer. Production is not across the board like that of the others. In a sense, Canada has sacrificed national preference to the urgencies of Great Britain and, to a lesser extent, of the United States. Thus Canada produces no rounded complement of planes, tanks, guns, ammunition, warships, and merchant ships. Its air force depends on this country and Great Britain for the bulk of its combat planes in operating theaters.

BUILDS PLANE INDUSTRY

Essentially, within its industrial aptitudes and limitations, the Dominion fills in the production gaps. Thus, during the early days of the German blitz on Great Britain, the air force training program for the entire British Empire was centered in Canada. Canadians labored overtime to create an airplane industry from scratch, turning out not only trainer planes but also Hurricane

PEAKING OUT

Both U.S. and Canadian munitions programs are now knocking against the production ceiling.



fighters—the defensive planes that along with the Spitfire prompted Prime Minister Churchill to say of the Royal Air Force, "Never in the field of human conflict was so much owed by so many to so few."

Then, when the British air strategy shifted from the defense to the offense, the Canadian aircraft program shifted accordingly. Today, Canadian plane builders are concentrating on long-range Mosquito fighters and bombers, and Lancaster bombers, and on Helldiver dive-bombers for the United States Navy. And aggregate value of aircraft output this year will nearly double 1943's. Nevertheless, aircraft production constitutes only a small proportion of Canada's finished munitions output—10% in 1943 and 17% in 1944, as against 25% and 33% in this country. Britain's proportion is about the same as that of the U.S.

NAVAL SCHEDULES DOUBLE

Today, Canada has cut its merchant shipbuilding program and is pushing landing craft—particularly the ramped cargo lighter for landing operations. More than 1,300 are scheduled for this year, as against 300 last year. Also, Canada is working on tank landing ships, somewhat larger than this country's model. Naval schedules all told, on the basis of deliveries, call for more than twice last year's total, and include one destroyer.

SMALL-VESSEL NAVY

In the early days of Canadian armament, two schools of thought promptly developed about the naval program. One held that Canada should build a balanced navy of cruisers, destroyers, etc. The other said no—the British and the U.S. have large, rounded navies; therefore, let us fit our skills into their needs. This school won.

As a result, Canada originally concentrated on convoy vessels, and has built more than 500 small, sturdy fighting ships, capable of standing North Atlantic seas, yet fast and maneuverable so as to be able to elude torpedoes and run down submarines. Most famous are the corvette and the frigate. Canada also has built numerous merchant ships (1,500,000 deadweight tons in 1943), the bulk of them of the 10,000-ton class.

STRESS GROUND MUNITIONS

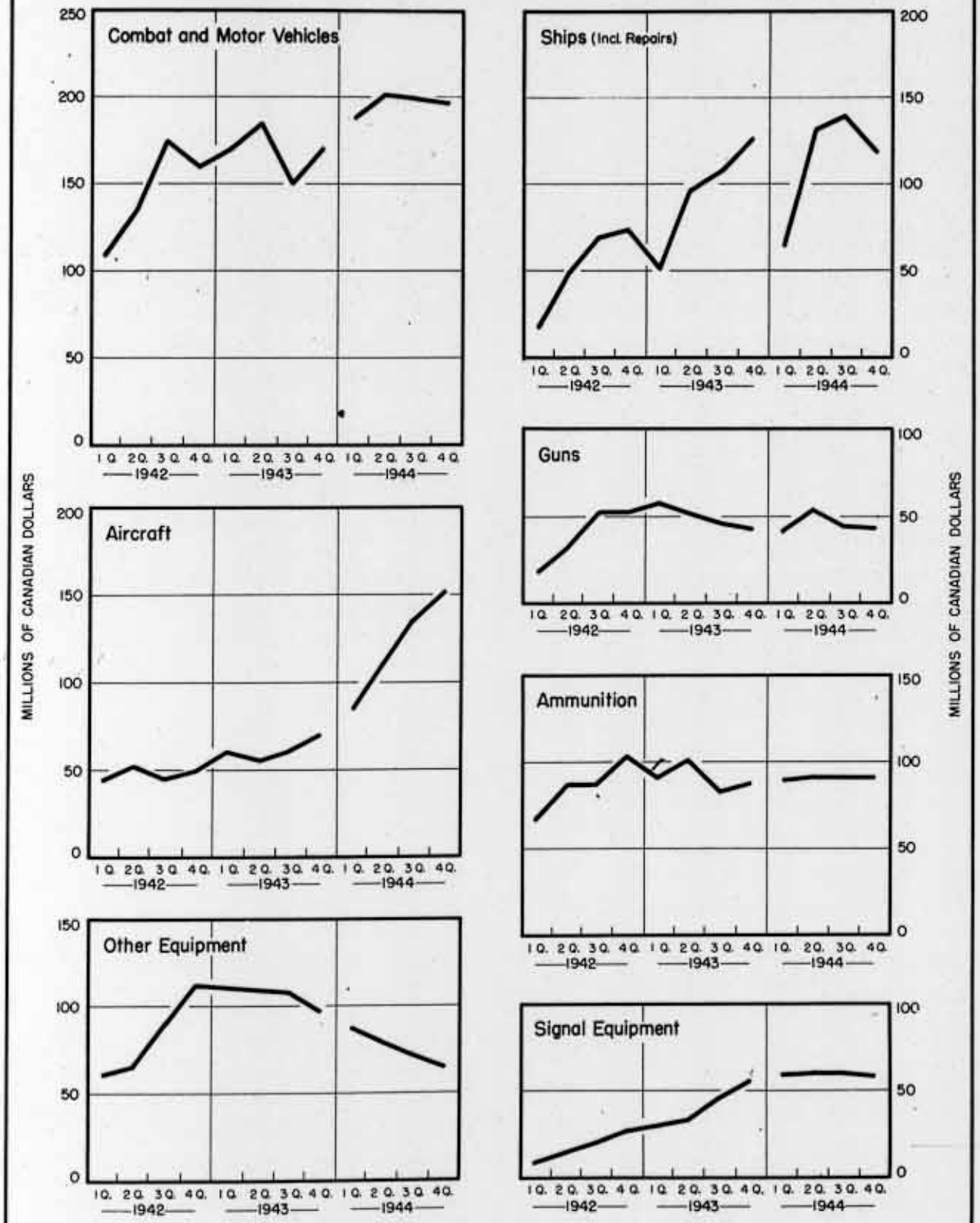
By far the greatest emphasis has been on ground-army munitions (chart, page 3)—though even here the program is not completely rounded. In peacetime, Canadian plants had built up capacity for motor vehicles and locomotives. When war came, it naturally followed that these same plants would turn to tanks, armored cars, personnel carriers, scout cars, and artillery tractors. Such vehicles constitute about one-fourth of Canadian munitions volume, as compared to some 7% in this country. And even this program—so dominant for Canada (chart, page 5)—has been subject to violent vicissitudes.

When the self-propelled gun became tactically more desirable than the tank,

IN THIS ISSUE:

'44 HIGHLIGHTS IN CANADIAN MUNITIONS OUTPUT

Aircraft production is rising sharply; combat, motor vehicles, ships, and signal equipment moderately; guns, ammunition hold steady. Other equipment (clothing, etc.) drops.



Note: Actual deliveries through 1943; schedules thereafter.

WAR PROGRESS

Canada cut out its tank production entirely, switched to SPs. That's in direct contrast with the United States. This country boosted its output of self-propelled gun carriages, cut its tank schedules—but continued making both. That's the difference between an across-the-board production program and a specialty program.

EXPEDITE EXPLOSIVES

Canada's ammunition, explosives, and chemicals industry had to be built up from the grass. Shortly after the invasion of Poland, Great Britain—fearing German bombings might destroy explosives plants—called on the Dominion to erect facilities. Canada had the requisite manpower, raw materials, and hydroelectric power. Moreover, experimental work had been carried on in the field of explosives, so there was industrial know-how. The plants were built during 1940 and 1941, but the crisis Britain prepared for never came. So a substantial percentage of Canadian production of ammonia was shipped to the U.S. before our explosives program got into full swing. Now much of the ammonium nitrate made in Canada goes to the United Nations as fertilizer.

GUNS FROM SCRATCH

Guns, too, were a start-from-scratch program. Canada did not have facilities for making a gun barrel in 1939 but it did have experience in metalworking. And big army and navy guns, antiaircraft guns, and small arms have been made. But the Canadian Army must depend on Britain or the United States for heavy tank guns, howitzers, and aircraft cannon. The biggest army gun Canada makes is the 25-pounder—similar to our 105mm. howitzer. However, larger guns are produced for the Navy.

Canada's war contribution cannot be reckoned entirely in finished munitions —which alongside this country's or Great Britain's would be small. Her mines produce large quantities of such basic metals as copper, lead, zinc, mercury—and, of course, nickel, one of the alloys most vital to the steel industry. And the U.S. has largely been dependent upon Canada for its supply of asbestos and newsprint. Likewise, Canada has had a large production of aluminum. Furthermore, the Dominion has been a major source of Britain's foodstuffs.

As in the United States, Canadian war production shows signs of reaching a peak. Canada's munitions production rose as sharply as this country's during the early years of the war and is destined to stabilize this year. However, schedules are slightly higher than the current rate of production.

INCREASED EFFICIENCY

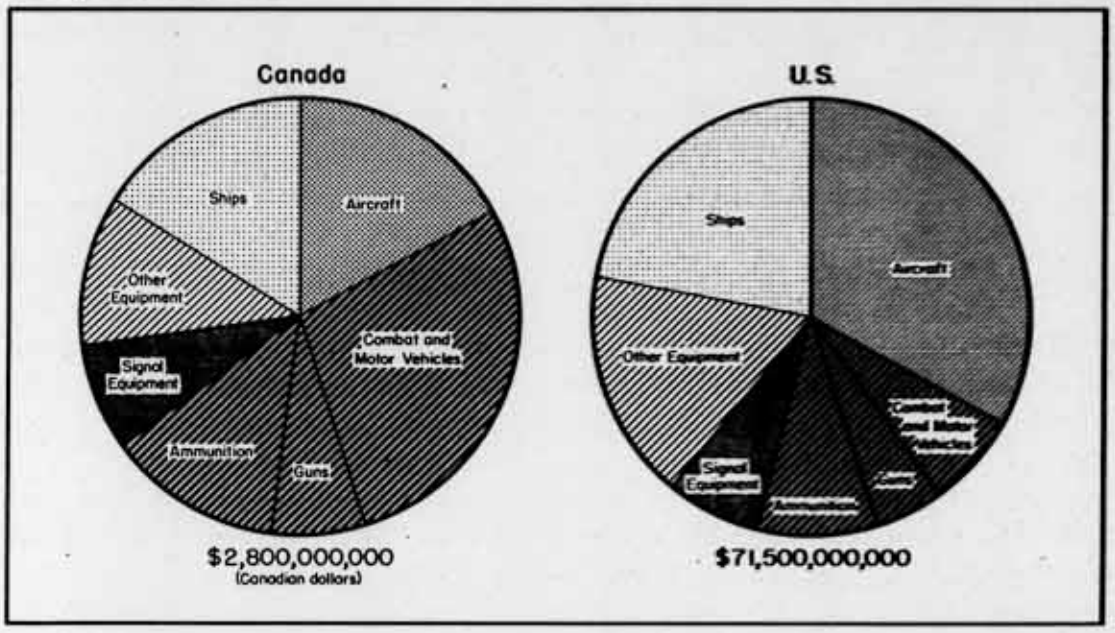
Yet a decline in the number of munitions workers is forecast for the first half of this year largely because of efficiency in production. Both workers and management have gained experience. Even so, manpower will be tight. The armed forces are still expanding and additional workers are needed for agriculture and logging. As might be expected, unemployment has been reduced virtually to nil, so it can't move into the gaps. Here's how the Canadian labor force has been utilized since 1941:

	June 1941	Jan. 1944	July 1944*
	(thousands)		
Armed forces.....	310	790	850
War industry.....	460	1,130	1,020
Civilian industry	2,480	2,410	2,380
Agriculture.....	1,100	880	1,000
Unemployed.....	90	40	50
Total.....	4,440	5,250	5,300

*Estimated.

CONTRAST IN '44 MUNITIONS PROGRAMS

Aircraft is 17% of Canadian total, 33% of U.S. Combat and motor vehicles 28% there, only 7% here.



WAR PROGRESS

In the United States, aircraft constitutes one-third of the 1944 munitions program, as against 17% in Canada. The ship proportions are closer—22% here, 16% there. Signal equipment makes up about the same percentage of the total, 7% vs. 8%. Ground army munitions are the big chunk in the Canadian program—constituting nearly one-half of total output, as against one-fifth in this country. Thus any further cutbacks in Anglo-American ground army requirements could free Canadian plants for fairly early reconversion.

Canada exports about 75% of her munitions to the United Nations. The U.S. takes 10% (formerly 19%); the bulk of the rest goes to the British. From that it is obvious that the decisions taken by Britain—and, less importantly, by this country—will powerfully influence the course of industrial production and employment in Canada from here on. Indeed, these decisions can in part predetermine Canada's reconversion program.

PRELUDE TO RECONVERSION

Suppose, as an instance, that as a result of the invasion of Europe, both Britain and the United States cut down on ground-army munitions requirements; and suppose also that they concluded to keep their own munitions plants going as much as possible. In that event, the axe would fall on Canadian orders—and ground-army munitions have been Canada's dominant war program.

Or, another course might be adopted. Suppose Britain and the U.S. decide to diminish production in their own plants and order as much from Canada as possible. If Canada agreed to take the business, that would have the effect of paving the way for reconversion in Great Britain and the United States, but would retard the Dominion's transition to peacetime pursuits.

A third possibility, of course, would be to prorate the cutbacks—straight across the board. But that is not en-

tirely feasible in Canada's case. Since its program is not rounded, what it makes it makes a lot of. So any cuts in particular items cut hard. Thus recently, when tactics demanded fewer field guns of the small sizes, Canada's output was dropped.

Because the programs of the United States, Great Britain, and Canada are intertwined, combined planning is of critical importance at this stage of the war effort. After military considerations—such as shipping and security—are taken into account, cutbacks ought to be so coordinated that economic dislocations on the road back toward civilian output are minimized.

In the meantime, Canada's Department

MARCH PLANE ACCEPTANCES MAY HIT 9,000

IF PLANE output lives up to its 20-day promise, this month's airframe weight should come close to the scheduled rise of 7% and the number of acceptances may hit 9,000 for the first time. In February, 8,760 planes were accepted and airframe weight rose 3%.

During the first 20 days, 5,555 planes came through, or 87 fewer than in the same period a month ago. But March has two more working days than February. Moreover, the drop was more than accounted for by noncombat models —transports, communications, trainers, and special purpose. Combat types alone were actually 68 planes ahead: 4,220 vs. 4,152. The airframe-weight gain was 2%.

Heavy bombers continue to lead the way. Superfortress acceptances totaled 32, as against 30 in the first 20 days of February; the full month's schedule calls for 64. And Flying Fortress-Liberator output rose 3% to 930 against the month's goal of 1,432.

Boeing at Seattle, with acceptances of 220 Flying Forts, was running 12% ahead of last month, and on its way to making a schedule of 350—the peak in its program. This compares with the record total of 270 in February and is being achieved by drawing down on subassemblies and shifting labor from parts and subassemblies to finished planes. Next month's schedule at Seattle returns to 270, remaining at that level until September, when it begins to drop to make way for Superfortress production.

At Curtiss, Buffalo, the prospect is that acceptances of the C-46 Commando transport will miss schedule by a wide margin once again. In the first 20 days, only 19 were turned out, as compared with 20 in the same period last month. The March schedule calls for 70. The A-26 Invader is still running into trouble at Douglas, Long Beach, and may miss the month's mark of 11; only three came through in the first 20 days, as against seven in the like period in February.

Following flight tests since January, the first RB-1—a stainless steel, 2-engined medium transport—was accepted at Budd, Philadelphia. This plane is roughly as large as the DC-3 commercial transport, whose Army version is known as the C-47 Skytrain (and Skytrooper).

Aside from heavy bombers, the following important models seem to be headed for on-schedule performances: A-20 Boston, SB2C Helldiver, P-38 Lightning, P-51 Mustang, P-47 Thunderbolt, and F6F Hellcat.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program – Checks paid (millions of dollars)	1,878	1,836	1,653	1,727	1,374
War bond sales – E, F, G (millions of dollars)	161	101	676	299	185
Money in circulation (millions of dollars)	21,006	20,963	20,610	18,773	16,115
Wholesale prices (1926=100)					
All commodities	103.6p	103.4p	103.3p	102.9	103.0
Farm products	124.5p	123.4p	122.8p	123.6	122.4
Foods	104.6	104.6	104.1	104.5	107.1
All other	98.2p	98.2p	98.2p	97.4	96.6
Petroleum:					
Total U.S. stocks* (thousands of barrels)	414,225	415,187	414,480	423,824	439,393
Total East Coast stocks* (thousands of barrels)	54,751	55,846	55,067	60,135	43,668
Movement of tank cars to the East	23,907	24,176	23,631	26,646	26,390
Bituminous coal production (thousands of short tons, daily average)	2,035p	2,008	2,158	2,031	2,087
Steel operations (% of capacity)	99.2	99.1	97.7	100.6	99.1
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,091	2,934	2,540	2,628	1,637
Gulf Coast ports	388	444	358	396	393
Pacific Coast ports	1,462	1,454	1,348	1,439	960
Department store sales (% change from a year ago)	+17	+11	-9	+17	-2

p. preliminary *Excludes stocks owned by the military.

of Munitions and Supply has seen its way clear to ease restrictions on the use of a few materials—especially scrap aluminum and certain types of steel. As in this country, the idea is to relax limitations on materials to obtain better products, save man-hours, or to obtain certain types of civilian products urgently needed (WP-Feb5'44,p3).

WASHING MACHINES NEAR

Production of the so-called nuisance items—kitchen enamelware, bobby pins, safety pins, pails, and household sundries—is being expanded through increased releases of steel, provided this does not interfere with war production. But the only important program launched to date is one calling for 18,000 washing machines. No production period has been set. Prewar annual output ran to 110,000. Object is to relieve the strain on commercial laundries. About 6,000 were made late last year from parts on hand. An electric flatiron program also is about to get under way. Other programs under study are ranges, stoves, space heaters, nickel or silver flatware from scrap.

HOW FAST BACK?

How far and how fast Canada can move on the road back depends essentially on the course of the war and British and American munitions orders. For manpower is an overall limiting factor on how much can be produced. If Canada gets fewer war orders or decides to take fewer war orders, then reconversion can be speeded up accordingly. On the other hand, since munitions schedules rise, the prospects of large-scale resumption of civilian output is about as here—around the invasion corner.

Chemical Change

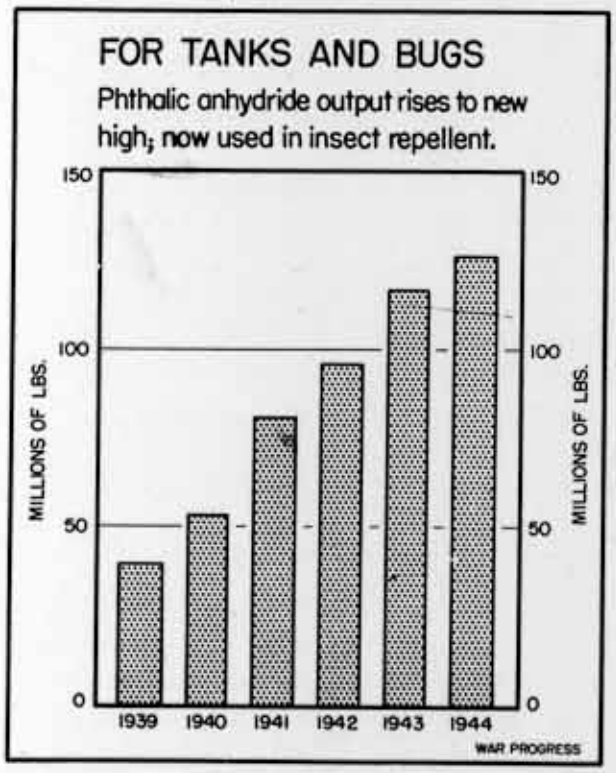
Insect repellent developed by Army creates such a big demand for phthalic anhydride that, despite increased supply, military programs for 1944 must be revised.

LAST YEAR phthalic anhydride—one of most widely used aromatic organic acids—was just another critical chemical. Through complete allocation, the Chemicals Bureau managed to stretch the supply of 116,000,000 pounds over all requirements.

This year's supply will be 8% higher, or 125,600,000 pounds. Yet phthalic anhydride has become so tight that the Army, Navy, and Maritime Commission must consider changes in paint and varnish specifications to insure deliveries of tanks, trucks, ships, planes, and other military items.

Cause of it all is a new Army insect repellent. It's dimethyl phthalate (methanol plus phthalic anhydride) and is used in pure form or as a mixture of 60% dimethyl phthalate and 20% each of two other repellents used by the services: alpha-alpha-dimethyl-alpha-carbobutoxy-gamma-dihydropyrone (Indalone, for short), and 2-Ethyl-Hexanediol-1,3.

Already, millions of two-ounce bottles are on their way to the armed forces overseas. Each bottle is made with a shaker top which releases the newly developed insect repellent one drop at a time. Each man shakes about 12 drops into one hand, rubs his hands together and then applies a thin layer of the repellent to all areas of exposed skin, as well as clothing where insects are biting through. In tropical climates, one application is good for two to four hours; in temperate climates, as many as 24 hours.

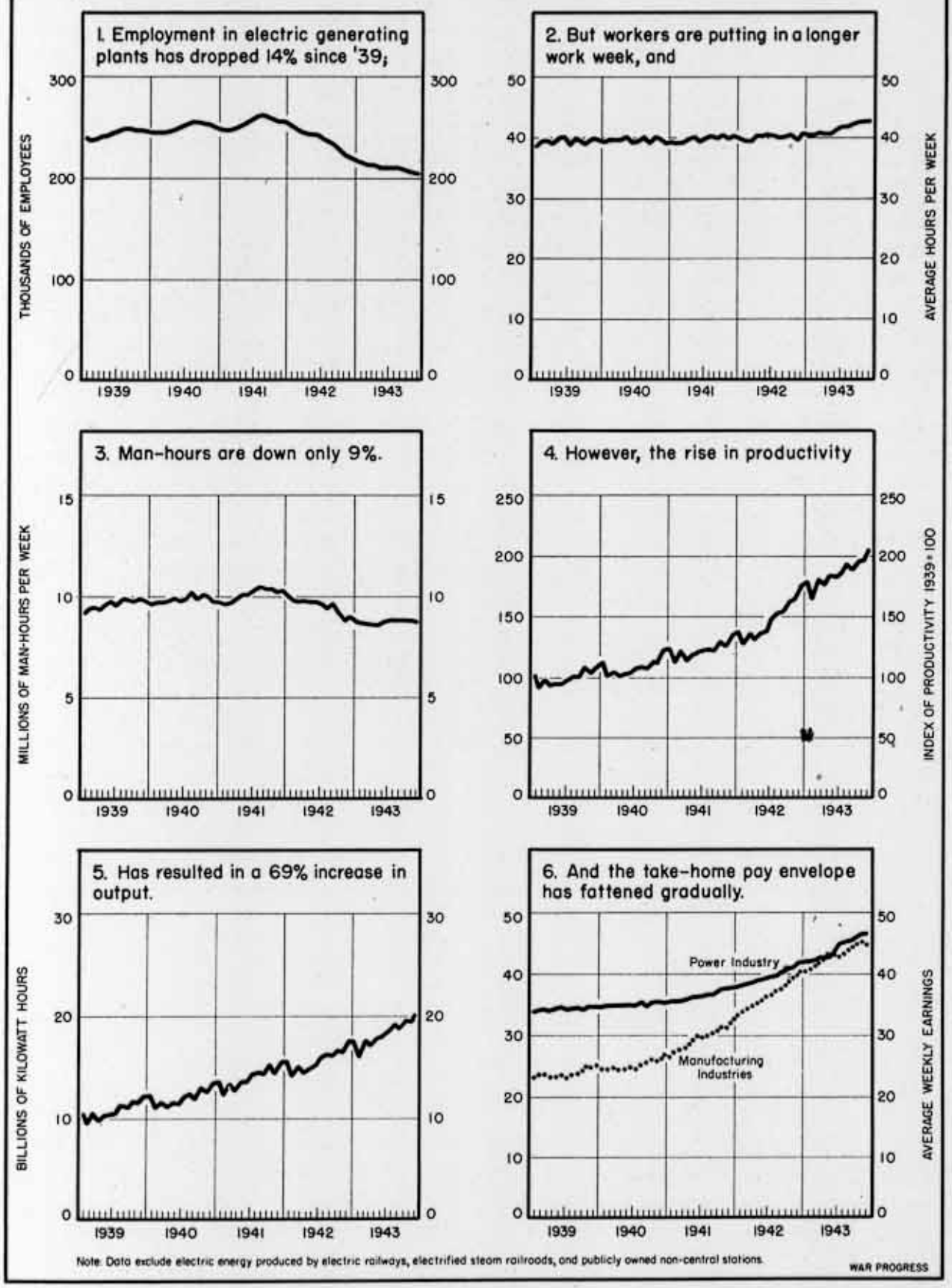


REPELS MOSQUITOES

The new product is effective against nearly all kinds of insects, particularly chiggers and the malaria-spreading mosquito, and will require about 24,000,000 pounds of phthalic anhydride this year—nearly one-fifth of the supply. That cuts into its use in resins for surface-coating railway cars, tanks, trucks, ships, aircraft, and industrial machinery; in plasticizers for various plastics and cable and wire coverings; and in dye intermediates for Army and Navy equipment.

Production of phthalic anhydride has more than tripled since the war (chart, left). Back in 1939, output ran to about 40,000,000 pounds and went into primary products such as resins, plasticizers and esters, dyes and intermediates, food preservatives, oil demulsifiers, cellophane. And as war production mounted, it was a case of more phthalic anhydride for more resins, plasticizers, dyes, etc., but with this difference: resins for surface coatings went into tanks instead of refrigera-

MORE POWER TO THE MUNITIONS INDUSTRIES



Note: Data exclude electric energy produced by electric railways, electrified steam railroads, and publicly owned non-central stations.

WAR PROGRESS

tors, plasticizers wound up in smokeless powder instead of costume jewelry, dyes ended up in a marine's jungle camouflage at the expense of fashion.

ARMED SERVICES GET 90%.

By 1943, about 80% of all phthalic anhydride was going into items used by the armed services. This year, the Army-Navy share rises to an estimated 90%. And in the drive to scrape up enough of the chemical for the services' new insect repellent, many civilian applications have been scratched from the list —cellulose acetate combs, buttons, brushes, plumbing equipment, etc.

As a result, in contrast to last year, the amount of phthalic anhydride allocated to plasticizers and esters—which includes requirements for the new insectifuge—will exceed that going to resins:

Primary product	1943	1944
Plasticizers & esters...	42.0%	48.1%
Resins.....	42.6	37.8
Dyes & intermediates....	8.7	10.2
Foods & drugs.....	3.0	2.3
Petroleum products.....	.4	.4
Natural rubber.....	.2	.2
Cellophane.....	.2	.2
Misc. (inc. foreign)....	2.9	.8
Total.....	100.0%	100.0%

One effect of the recent rush to divert phthalic anhydride to the new insectifuge is that about 150 military contracts for finished paint—involving some 3,000,000 pounds of alkyd resins—have been pushed back three to four months. And manufacturers of tanks, trucks, planes, ships, guns, and other military items have been forced to draw on resin inventories for the first time.

Early this month, the War Production Board launched a new construction program to provide at least 12,000,000 pounds of new phthalic anhydride capacity. And two weeks ago, in a move to speed production, the priority rating on a previously authorized 8,000,000-pound expansion was stepped up from AA-3 to AA-1. Most of the new capacity won't be available until next year.

Engine Trouble

Wright Cyclone production at Lockland drops abruptly; February deliveries are lowest since July. Double-Wasp output at Ford, Dearborn, fails to step up as planned.

JUST WHEN it appeared that production difficulties had been overcome (WP-Mar 4'44,p11), a new slump took place at Wright's Lockland, Ohio, plant. Deliveries of the R-2600B, 14-cylinder, 1,700hp Cyclone aircraft engine, which had been rising steadily since last November, dropped abruptly from 2,213 in January to 1,012 in February. This was 56% below schedule, as compared to 4% in January. Shipments were lower than at any time since last July's widely publicized slump:

	Deliveries	% of First-of-month Schedule
July.....	267	13%
August...	1,058	44
September	1,659	118
October..	1,554	82
November.	1,962	109
December.	2,137	99
January..	2,213	96
February.	1,012	44

The letdown at Lockland was concentrated in the second week of February, when none was delivered. Toward the end of the month, the plant was operating at scheduled levels, and March deliveries ought to be up again.

Another problem plant is Ford, Dearborn, working on the R-2800 "Double Wasp" 1-stage, 18-cylinder, 2000hp aircraft engine (also made by Pratt and

Whitney) used in the Commando, Invader, Thunderbolt, Marauder, and Ventura. Deliveries have failed to step up as planned, and schedules have been set back repeatedly. For example, as of September, the February goal was 2,300. Recently this was reduced to 1,750, yet only 1,628 engines were delivered. In January, 1,598 engines were shipped, against the 1,950 scheduled. During the last six months of 1943, production remained on a plateau and only this year has it shown signs of a lift:

	Deliveries	First-of-month Schedule
July.....	1,206	1,260
August...	1,241	1,350
September	1,389	1,440
October..	1,289	1,600
November.	1,209	1,750
December.	1,259	1,950
January..	1,598	1,950
February.	1,628	1,750

Ford has been in production since October, 1941, and is now scheduled to get up to 3,100 by the middle of 1945.

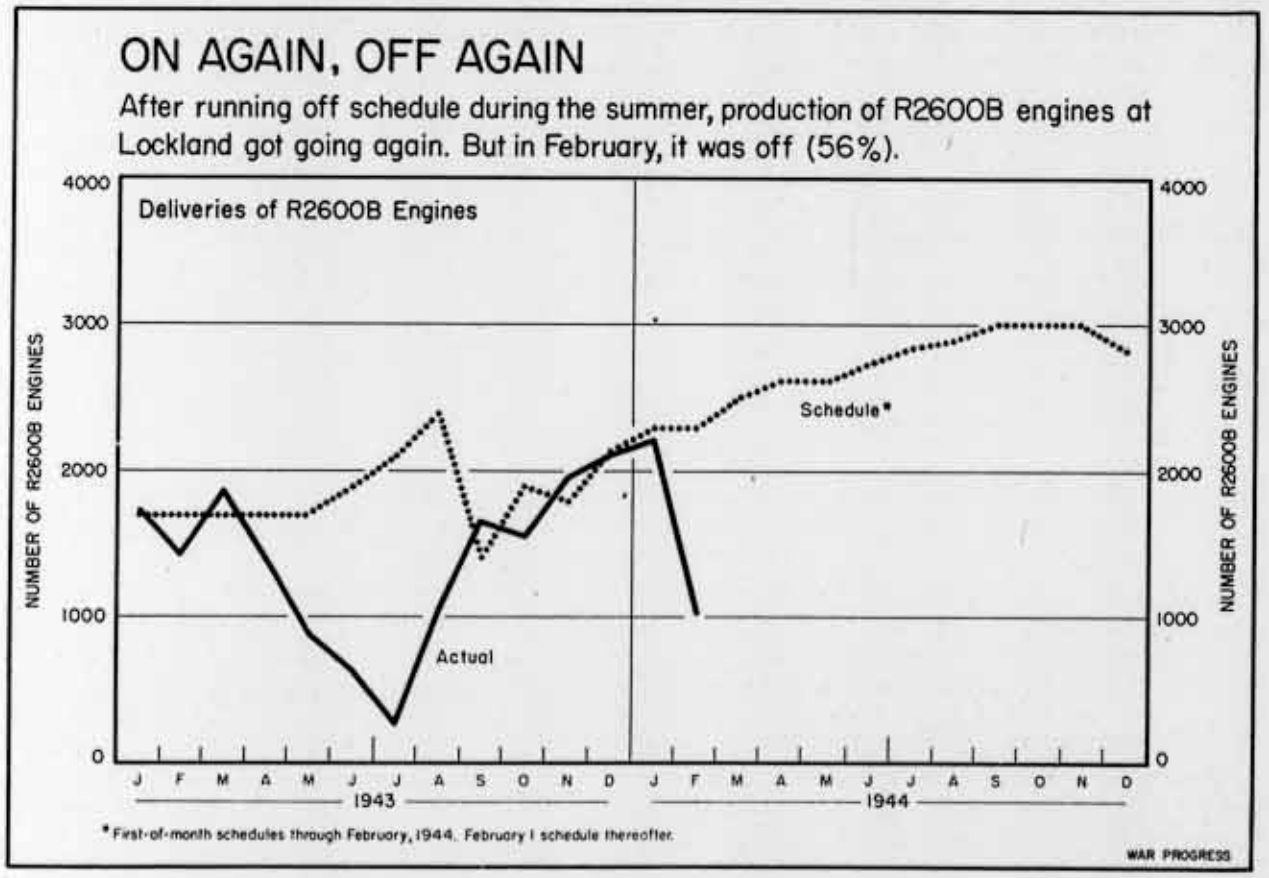
REPORTS ON REPORTS

Views on News

The American people want background facts about foreign affairs so that they can make their own interpretations of the news, according to *The Public Asks for Foreign Information* (restricted; pp. 19). They complain, in general, about the "unreliability" of the news they receive and resent particularly the delay and timing of releases. People cited, as a case in point, the reports on Japanese treatment of prisoners. (Office of War Information, Bureau of Special Services)

Ups and Downs in Shipyards

Estimated Labor Requirements for the Shipbuilding Industry (confidential,



SELECTED MONTHLY STATISTICS

Cost of Living-Labor Force-Employment-Labor Turnover

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
COST OF LIVING-ALL ITEMS (1935-39=100)	123.7	124.1	124.4	123.4	121.0	99.3e	101.0e
Food	134.5	136.1	137.1	137.2	133.6	94.8	103.6
Other than food	118.0	117.7r	117.7r	115.8r	114.1r	101.7e	99.7e
LABOR FORCE-TOTAL (millions)	51.1	51.5	51.9	55.4p	53.2p	n.a.	n.a.
Employment	50.2	50.4	51.0	54.2p	51.7p		
Male	34.0	34.0	34.2	36.5p	35.7p		
Female	16.2	16.4	16.8	17.7p	16.0p		
Unemployment	.9	1.1	.9	1.2p	1.5p	n.a.	n.a.
NONAGRIC. EMPLOYMENT-TOTAL (thousands)	37,047p	37,257p	38,485	38,245	37,958	28,524	n.a.
Manufacturing-Total	15,731p	15,827	16,078	16,245	15,851	9,671	
Durable Goods	9,533p	9,607	9,743r	9,666	9,305	4,197	
Nondurable Goods	6,198p	6,220	6,335r	6,579	6,546	5,474	
Government	5,781p	5,791p	6,055	5,771	5,837	3,940	
Other	15,535p	15,639	16,352	16,229	16,270	14,913	n.a.
LABOR TURNOVER IN MFG. INDUSTRIES† (rate per hundred employees)							
All manufacturing							
Accessions	6.37p	5.19	6.62	7.83	8.28	4.09	4.60
Separations-Total	6.66p	6.55	6.37	7.56	7.11	3.19	3.38
Quits	4.58p	4.38	4.46	5.61	4.45	0.85	1.27
Military Separations	0.53p	0.50	0.52	0.69	1.26	n.a.	n.a.
Aircraft							
Quits	4.31p	3.86	4.22	5.22	3.86	0.72	1.83
Military Separations	0.62p	0.48	0.52	0.73	1.70	n.a.	n.a.
Shipbuilding							
Quits	6.20p	5.93	5.35	6.91	6.98	0.50	0.84
Military Separations	0.81p	0.76	0.80	1.07	1.80	n.a.	n.a.

* Cost of Living, Labor Force, Nonagric. Employment, February; Labor Turnover, January. e Estimated. r Revised. p Preliminary. n.a. Not available. †Rates beginning 1943 refer to all employees rather than to wage earners only and are not strictly comparable with earlier data.

pp. 67) reports that the industry must not only maintain its present labor force and efficiency but recruit over 100,000 more employees in order to meet requirements for the first half of 1944. Employment probably will decline after June, 1944, unless a new program is started. The value of all naval and cargo vessels under contract on November 30, 1943, was $16,275,000,000—approximately 12% greater than the value of contracts in force as of April 30, 1943. (U.S. Department of Labor, Bureau of Labor Statistics)

Mixing Old and New

The demand for cigarettes in 1943 exceeded all previous records, and further gains are in the offing for this year, according to *Tobacco* (confidential; pp. 14). Because of low stocks, cigarette manufacturers may have to supplement properly aged tobacco (two or three years) with leaf aged only one year. Despite record-breaking demands, cigar output dropped from 6,205,800,000 in 1942 to 5,222,500,000 in 1943. Faced with increased production costs, cigar manufacturers are limiting the output of low-priced cigars, concentrating more on high-priced products.
(Department of Commerce, Bureau of Foreign and Domestic Commerce)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

PSF: WPB

The President

I

WAR PROGRESS

Confidential

Disclosure Punishable Under Espionage Act

Inventories Are the Payoff—Getting Our Bearings—G.I. Relief for Europe

Number 185 **April 1, 1944**

Less to a Claim Than Meets the Eye

Though canceled munitions contracts might run to $70,000,000,000, that total will shrink when companies put in their bills. Inventories are the payoff.

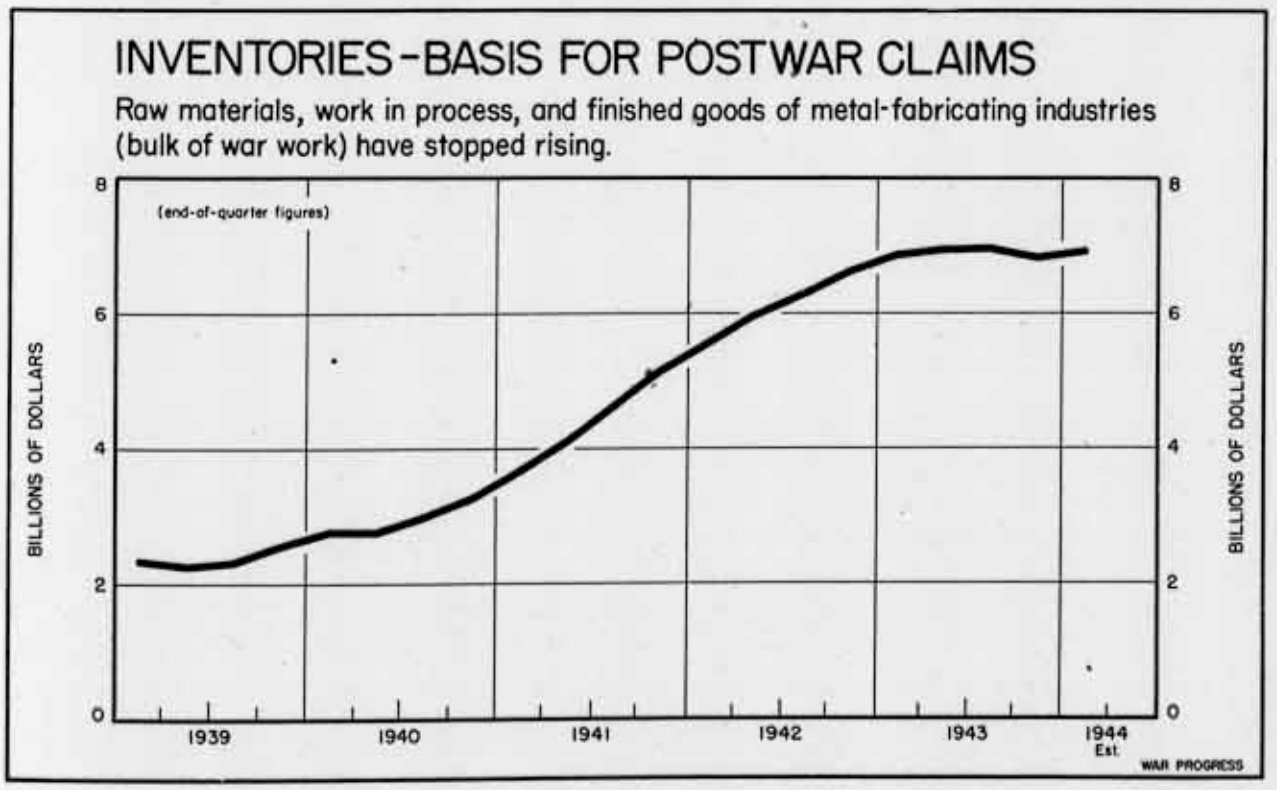
IF THE WAR ended suddenly, most of the $70,000,000,000 in uncompleted munitions contracts outstanding would be canceled. But these cancellations would not necessarily materialize as claims against the government. They are largely bookkeeping sums, which would quickly disappear from company books. They are "future" deliveries, which won't be made.

Obviously, claims would have to rest on work actually done. A company which had just been awarded a continuation contract would be unable to build up a very large bill against the government if it had not (1) laid in any special tools or dies, or (2) built up large inventories, or (3) gone to special engineering or other expense on that contract.

The amount of claims that can be built up against undelivered munitions is strictly limited. (Battleships, cruisers, and carriers are the exception rather than the rule because of their long construction period.) And cash settlements against canceled contracts may not come to much more than $2,500,000,000. Indeed, if prepayments are taken into account, the total may not be that high.

CONTRAST TO LAST WAR

After all, this is a government-financed war. Virtually all of the new munitions plants and shipyards have been built with government money. Not so last time. Private enterprise built up industrial facilities in contemplation of



expending war business. Then, when the war suddenly ended and contracts were canceled, claims were put in for the cost of these war-born installations. This involved large claims against canceled contracts, as well as litigation.

Admittedly, that aforementioned $2,500,000,000 estimate of settlements is rough and subject to error. However, it is based on a simple and direct assumption that inventories are the payoff.

If plants have stocks of raw materials, goods in process, and finished items when contracts are canceled, then they obviously will have claims against the government for those stocks. And this applies to subcontractors as well as prime contractors.

A CLUE TO THE FUTURE

Of course, inventories are always changing. During the early days of the war effort, they were constantly rising along with expanding war production. Today, however, with war production close to its ceiling, inventories are not apt to get much larger. They should—when cutbacks start on a large scale—get smaller. But the current position is a clue.

According to the Department of Commerce, inventories in the metal-fabricating industries—electrical machinery, transportation equipment, nonferrous products, hardware, etc.—amount to $6,900,000,000. In addition, inventories of fabricating divisions of primary metal producers such as Anaconda, Alcoa, and U.S. Steel, might amount to another $300,000,000. In all, then, current inventories in these industries—which account for more than 90% of all supply contracts awarded—tote up to $7,200,000,000.

SHRINKAGE IN INVENTORIES

About $1,000,000,000 of this inventory is for the manufacture of industrial products for civilian use: generators, boilers, locomotives, truck engines, plumbing, railway cars, bus bodies, food containers, and so on. Another $800,000,000 might be in finished items which will be paid for at contract value by the government. That will bring the indicated materials and work-in-process inventory of metal-working munitions industries down to $5,400,000,000.

But not all that is privately owned. About one-third belongs to the government under cost-plus contracts. That leaves private inventories at $3,600,000,000.

All of this $3,600,000,000, however, will not be presented as claims. Industry will want some of the raw material inventory for civilian production; similarly with a portion of the goods in process. Approximately $1,400,000,000 may be bought from the government on this account. The government's liability would therefore be reduced further—to $2,200,000,000.

ADD ALLOWANCES

To this figure must be added something to take care of allowances—profit on uncompleted work, special engineering costs, protection of property, cost

IN THIS ISSUE:

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,524	1,578	1,471	1,380	1,308
War bond sales-E, F, G (millions of dollars)	170	161	439	886	204
Money in circulation (millions of dollars)	20,934	21,006	20,696	18,714	16,065
Wholesale prices (1926=100)					
All commodities	103.7 p	103.6 p	103.6 p	102.9	103.3
Farm products	124.6 p	124.5 p	124.2 p	123.8	124.2
Foods	104.5	104.6	104.6	104.9	107.6
All other	98.3 p	98.2 p	98.3 p	97.4	96.6
Petroleum:					
Total U.S. stocks* (thousands of barrels)	411,983	414,225	414,456	423,485	439,410
Total East Coast stocks* (thousands of barrels)	55,874	54,751	54,103	59,907	43,528
Movement of tank cars to the East	24,597	23,907	22,240	23,979	26,181
Bituminous coal production (thousands of short tons, daily average)	1,987 p	2,035	2,065	2,008	2,046
Steel operations (% of capacity)	99.1	99.2	97.5	100.8	99.5
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,979	3,091	2,831	2,678	1,643
Gulf Coast ports	456	388	384	368	362
Pacific Coast ports	1,493	1,462	1,223	1,448	939
Department store sales (% change from a year ago)	+17	+17	-10	+2	-2

p. preliminary *Excludes stocks owned by the military.

of leasehold terminations, unamortized cost of jigs, dies, and specially designed equipment, etc. That is likely to run at least as high as $300,000,000. And that brings the potential contract-termination bill to $2,500,000,000.

Small though it may appear, this figure is definitely overstated. The Army, Navy, and Maritime Commission have made substantial advances and progress payments to manufacturers to finance advance purchases and payrolls and generally to assure the uninterrupted production of war goods. In the final analysis, these advances will be balanced off against claims.

COST-PLUS vs. LUMP-SUM

There may be an offset if procurement agencies shift further from cost-plus to lump-sum contracts. Then the proportion of privately owned inventories (figured in this computation as two-thirds) would rise. As a corollary, the inventory account subject to settlement would also rise. But the outside total would seem to be about $3,500,000,000. And that assumes that virtually all contracts are lump sum.

The $2,500,000,000 of potential termination claims is no indication of the property-disposal problem faced by the government. When the war ends, the government will own substantial quantities of war material both here and abroad, much of it in the form of merchantable goods—clothes, food, shoes, trucks, electrical equipment, construction machinery, farm equipment, components of every description. And these will amount to much more than the value of inventories in the hands of companies with lump-sum contracts.

But the evidence seems clear that contractors' claims do not loom as a major postwar financial problem.

Bearings: From Pinheads to Five Tons

With 30,000 different types and sizes, job is to get them to the tight place at the right time. New programs—heavy trucks, landing craft—pose problems.

LAST YEAR antifriction-bearing makers set a record; they turned out 325,000,000 bearings, closed their schedule books with orders for 265,000,000 more, and started 1944 with new orders pouring in for 22,000,000 bearings a month. The reason: practically everything that revolves—an engine or motor shaft, a propeller, a battleship's gun turret—rides on ball or roller bearings.

The U.S. military machine—aircraft, ships, tanks, trucks, radar, etc.—certainly takes the bulk (some say 90%) of all bearings produced. Close to one-half goes into aircraft alone; a Flying Fortress takes 3,300 bearings in its engines, motors, gun turrets, landing gear, propellers, etc. Then too, industrial machines and railroad locomotives and rolling stock require bearings.

FOUR TIMES '39

That's why bearing production from 1939 through 1943 almost quadrupled; output rose 50% in 1940, 62% in the next year, 42% the next; but because of manpower and alloy-steel shortages, only 10% in 1943 over 1942. Here's the record:

1939....	$ 94,800,000
1940....	143,100,000
1941....	231,525,000
1942....	328,152,000
1943....	360,116,000

Today, backlogs have passed their peak and producers are just beginning to catch up with demand. Even so, getting output of bearings in types and sizes and in quantities required by all the programs—landing craft, trucks, ships, signal equipment, farm machinery, locomotives, etc.—is a No. 1 production and distribution problem. You not only have to manufacture bearings, but have to get them to the right plant at the right time.

MEDIUMS ARE TIGHT

Particularly tight are the medium-sized bearings—the bulk item of peacetime—used in automobiles, integral horsepower motors, farm machinery and equipment, etc. The general run of munitions made little call on these sizes, and many facilities for making them have been idle. But today, because of expansion in landing craft and trucks, demand has risen sharply and facilities are being brought back into operation as fast as materials and manpower permit.

Major difficulty is that it is not feasible to estimate requirements in advance. A bearing is a component of a component; for example, it is only one of many parts of an electric motor that winds up in a pump that goes into a tank, battleship, or plane. It is way down in the contractor, subcontractor, sub-subcontractor line. To calculate bearing requirements would mean going all the way down that line: through the prime contractor—of naval ships, for instance—to the subcontractors, and sub-subcontractors for turbines, guns, gun turrets, motors, pumps, drive shafts, magnetos, etc.

In all, some 30,000 different types and sizes of bearings are required, and 5,000 are in common demand. (A typical ball bearing consists of balls, inner and outer rings—called races—between which the balls roll, and a cage or re-

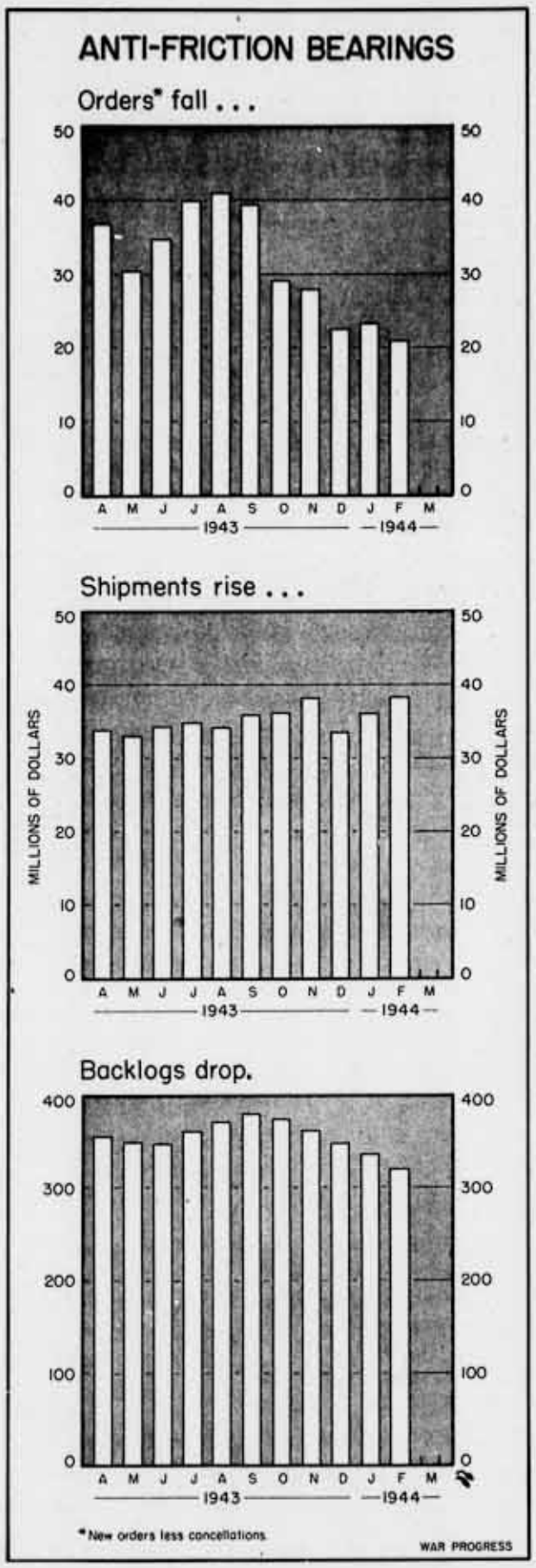
tainer which keeps the balls properly spaced; a roller bearing uses rollers instead of balls.) The smallest bearing—a tenth of an inch in diameter and with three pinhead-sized balls—goes into delicate aircraft instruments; a 10-foot roller bearing weighing five tons goes into a steel rolling mill.

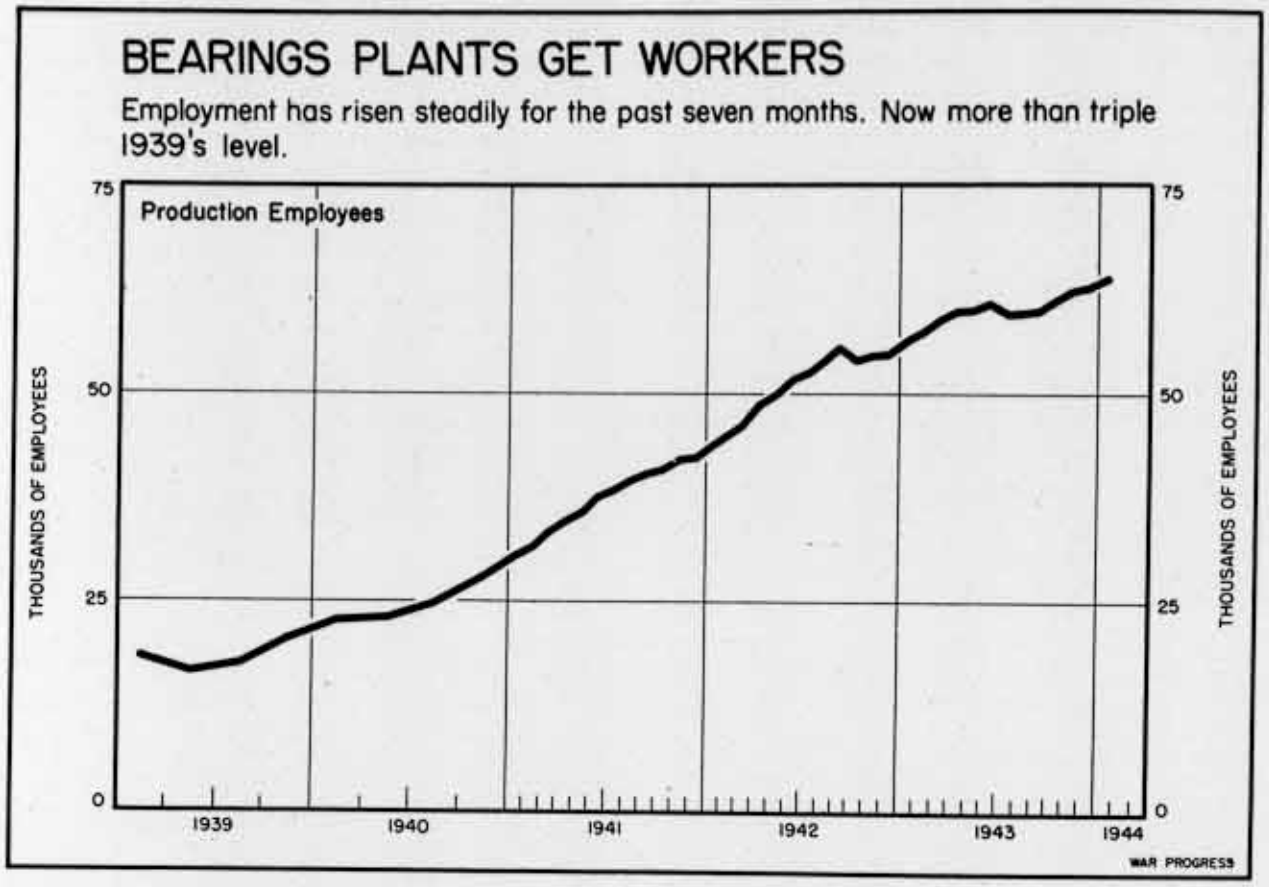
ORDER-BOOK BUSINESS

And requirements for types and sizes are constantly varying. Engineering changes or modifications in design of tanks, planes, engines, etc. often call for types and sizes built to new specifications. Also, changes in programs play hob with requirements; when tanks were cut back, the demand for a wide variety of types and sizes for engines, wheels, pumps, motors, etc. suddenly dropped. But this was offset by a stepup in the landing-craft program calling for other types and sizes. Thus bearing producers—often with no advance notice—must constantly switch production from one set of facilities to another. Therefore individual producers depend on actual orders as the most practical measure of requirements. It's an order-book business. After getting an order, the plant usually takes at least 90 days to start making its deliveries.

Bearings vary so widely in types and sizes that overall WPB production scheduling has been deemed unfeasible. Instead, producers themselves plan their production. As orders come in, bearing makers build up schedules for each particular size and type so as to make promised deliveries.

Distributing bearings to consumers in the amounts required is another phase of the problem. Here the WPB has had to control deliveries. About 65% of the bearings are requested by 175 companies of the industrial status of General





Motors, Chrysler, Bethlehem Steel, Curtiss-Wright, Consolidated Aircraft, etc. Each of these companies reports to WPB's Tools Division on its production schedule of finished and semifinished munitions (engines, motors, planes, etc.) and the bearings it requires in particularly large numbers to meet the schedule. The company also discloses bearings inventories; if these are not excessive, the company is authorized to accept delivery of bearings as per its schedule. In this way, WPB prevents large users from building up excessive stocks. Inventories of lesser users—taking the other 35% of output—are kept down by the 60-day inventory rule.

WPB has taken other steps to ease the bearing situation. (1) It allowed International Harvester, Jack & Heintz, and other companies to set up facilities to produce bearings for their own products. (2) It concentrated production of odd-run bearings (those in relatively small demand) in a few plants; this has meant longer runs by a few makers instead of many short runs by many producers. (3) By agreement with the Army, Navy, Aircraft Resources Control Office, and other claimants, it concentrated all expediting of orders in the Tools Division. This prevents an expediter from one claimant from going into a bearings plant with a high priority rating and upsetting another claimant's production program, thus cutting into overall output. (4) It got claimants to review bearing inventories, to cut orders for spares where stocks were large.

ECONOMY IN SPARES

Concurrent spares—that is, extra bearings which are shipped along with the product—have added to the high economic cost in distribution. As an instance: a pump, with its spare bearings,

is shipped to another manufacturer who installs the motor and also attaches extra motor bearings; then pump and motor, with spares for both, go to the producer of a subassembly which winds up in a plane some months later. In the meantime, the motor- and pump-bearing spares have been immobilized for the entire period.

Last December WPB met this problem by ordering a 50% reduction in shipments of concurrent spares for three months. This has since been extended to June 1. Thus a manufacturer who was shipping eight spares with a pump would today only ship four.

Finally, there's manpower; 65% of bearings production is concentrated in critical or serious labor shortage areas —Connecticut and Ohio industrial centers, Detroit, and Philadelphia. Major plants have boosted employment from 18,200 early in 1939 to a peak of over 63,000 today. Even so, nine producers who account for 85% of the output need 2,000 more workers. In the Connecticut Valley alone, where producers account for 65% of all ball-bearing output, 1,000 men and women are still needed.

Bearing makers have saved manpower in their own forging shops by slicing bearing rings from steel tubing instead of forging them from bar. Swinging heavy, 12-foot hot steel bars into a forging machine is a job for husky young men—the kind the Army and Navy want and

SELECTED MONTHLY STATISTICS

Production – Labor Disputes

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PRODUCTION INDEX-INDUSTRIAL (1935-39=100)†	239p	239	239	245	229	100	115
Total Manufactures	258p	258	258	264r	248	99	117
Durable	366p	366	366	367	342	95	125
Nondurable	171p	171	172	180	171	103	111
Minerals	136p	133	131	140	125	102	107
FOOD PRODUCTION							
Dairy products (million pounds)							
Butter, creamery	107.8e	s	s	s	122.0	124.6	103.0
Cheese	60.3e				60.4	41.2	39.0
Evaporated milk	211.2				210.3	139.7	126.5
Meats-Total (incl. lard, million pounds)	2,021.0				1,380.0	927.0	903.0
Beef and veal	585.0				489.7	368.1	384.8
Lamb and mutton	64.2				63.4	58.4	54.2
Pork, incl. lard	1,372.2				826.7	500.8	464.3
Lard	259.1				137.3	85.9	72.3
Poultry and eggs							
Eggs (millions)	5,346.0				4,604.0r	3,124.0	2,901.0
Poultry (receipts at 5 principal markets, million pounds)	23.0	s	s	s	19.0	16.9	17.3
PRODUCTION OF CLOTHING AND SHOES FOR CIVILIANS (1935-39=100)†							
Clothing and shoes combined	107	97r	103	102	111	103	n.a.
Clothing	111	101	107	104	114	103	n.a.
Shoes	88p	83	88	94	101	105	n.a.
LABOR DISPUTES							
Number of strikes in progress	370p	360	350	370	240	343	350
Workers involved (thousands)	130p	120	267	115	48	88	226
Number of strikes beginning during month	330p	330	325	335	210	204	211
Workers involved (thousands)	115p	110	241	105	42	68	99
Man-days idle (thousands)	470p	625	715	355	140r	553	1,491

*Production Index, Food Production, Labor Disputes, February; Production of Clothing & Shoes, January. †Unadjusted. pPreliminary. r Revised. e Estimated. s Seasonal influences invalidate month-to-month comparisons. n.a. Not available.

are taking. Although the Army has furloughed about 50 forgemen and other key workers back into the plants since bearings became critical, chances of getting more out are slim, and chances of more young men being drafted are great.

Yet one fact there's no getting away from. Largely through recruitment of women, major bearings facilities have managed to increase their production employment by over 1,000 workers since November.

And unfilled orders today are down from the September, 1943, peak of $380,000,000 to $320,000,000—the lowest in more than a year. This is still more than eight months' output at current production levels; however, the backlog includes orders for some bearings not required until 1943.

G.I. Relief for Liberated Europe

Army's plans must be broad and tentative; depend on extent of scorching, completeness of German collapse, time of year, etc. Needs vary country by country.

ITALY HAS PROVIDED a foretaste of what a job it is to take care of civilians in an occupied country. Occupation of a foreign land is an adventure in the unexpected. You cannot know—despite copious reports from intelligence officers and inside agents—just what the occupied territory will be like when you get there. The retreating armies help to determine that; also your own cannon. So plans must necessarily be broad, comprehensive, yet tentative and susceptible to quick readjustment, constant improvisation.

Administering to Europe's civilian needs will be an Army responsibility for the first six months, more or less. After that, if it seems feasible, civilian agencies may move in. And already a start toward measuring the task is being made: drawing up a minimum list of the hundreds of items of food, clothing, fuel, medical and sanitary supplies, etc. that will be needed. Food rations will be simple, nourishing. Main items are wheat (which will constitute about three-fourths of the total tonnage), cheese, evaporated milk, lard, dried beans and peas, canned fish and beef, meat and vegetable stew, dehydrated soup, oatmeal, sugar, coffee, peanut butter, and salt.

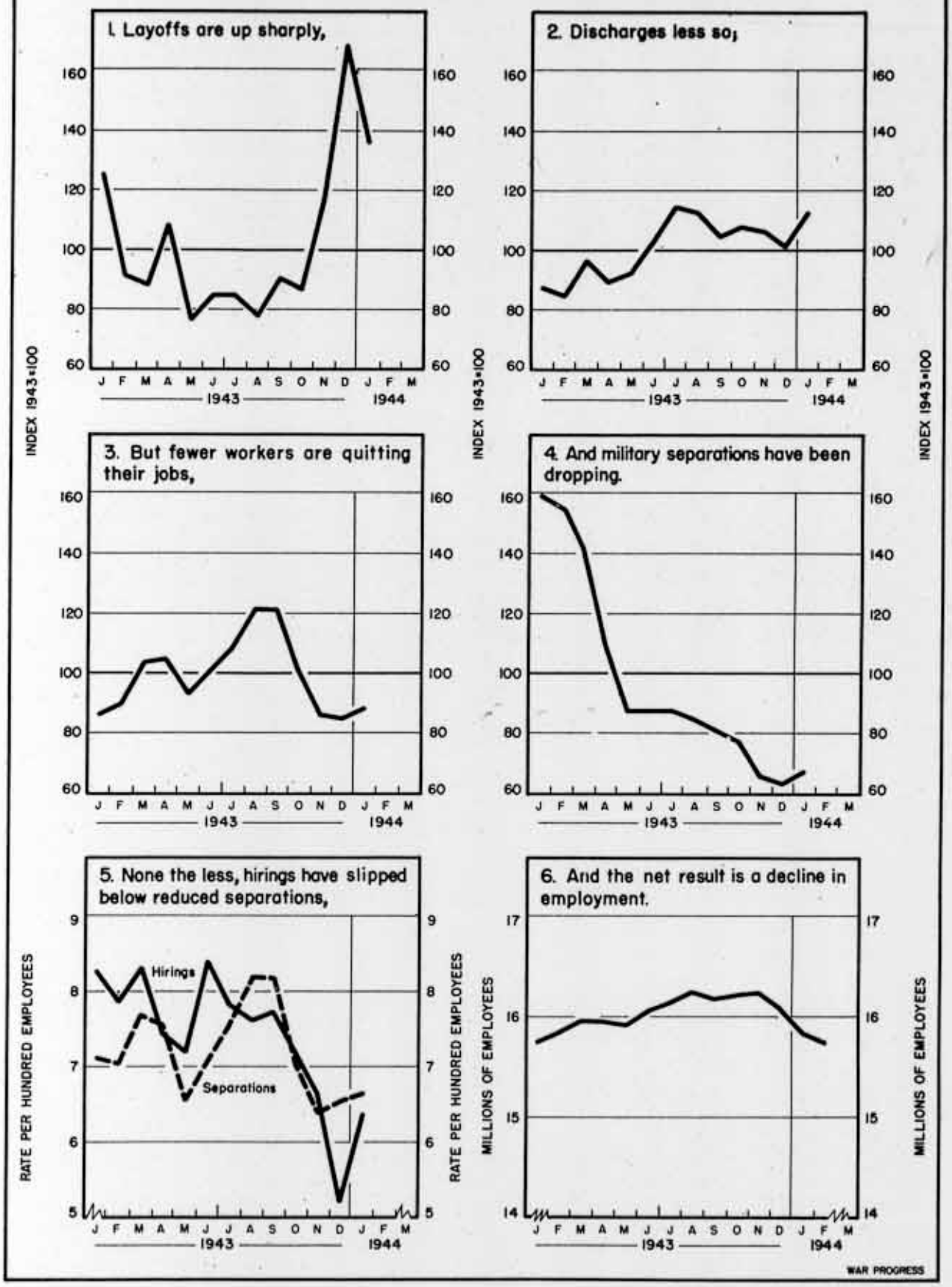
Shipping facilities permitting, the Army will help liberated people to help themselves, thus getting them off relief. This calls for supplies for the rehabilitation of agriculture: seeds, fertilizers, pesticides, veterinary supplies (these alone include over a hundred items), binder twine, and agricultural machinery — tractors, ploughs, mowers, cultivators, seed drills, sugar beet lifters, potato spinners, etc. Also it calls for raw materials and engineering supplies to rebuild public utility, transportation, textile, food-processing, and other essential industries.

TIMETABLE ESTIMATES

With this goes the job of estimating the minimum requirements of each country for each of the different items. Needs vary widely. Thus Denmark will probably need considerable coal but relatively little food; Poland, a great deal of food, clothing, and drugs, but little oil and coal; Greece, everything.

A further complication is the necessity of drawing up different estimates based on different possibilities. It makes some difference whether a country

EMPLOYMENT POINTERS (MANUFACTURING)



is liberated early in the year, before crops are planted, or late, after harvest. It makes a basic difference whether Germany collapses suddenly and completely or gives ground slowly, scorching the earth in retreat—destroying public utilities, transportation systems, heavy industry. The Germans may even destroy textile and food-processing plants, villages and barns to complicate the Allies' supply problems.

COUNTRY-BY-COUNTRY BASIS

To provide some measure of the quantities likely to be involved, programs are being built up on a country-by-country basis. One has already been about completed; it makes the most favorable assumption—a complete German collapse without scorching, occurring early in the year. On that basis total minimum import requirements for six months for all Europe (excluding the U.K., Russia, and neutrals) to be brought in from sources other than North Africa or the Middle East are set at approximately 2,250,000 metric tons.

This estimate assumes a maximum use of all European supplies, with the widest possible redistribution between as well as within countries. Scorching might easily double these requirements, especially for food and medical supplies. Likewise estimates assuming a surrender late rather than early in the year would involve some changes: presumably a reduction in food requirements but an increase in fertilizers for the next year's crop, an increase in coal for the oncoming winter, etc.

The machinery to procure and ship supplies has been set up. The central planning agency is the Combined Civil Affairs Committee, acting under authority of the Combined Chiefs of Staff, made up of representatives of the British and American war departments, with a supply subcommittee to draw up estimates. To implement the American share of the program, the Army has set up the U.S. Procurement Committee, on which the Foreign Economic Administration and the Department of State are also represented.

As part of its military operations, the Army is responsible for the financing and procurement of food, fuel, and medical and sanitary supplies; FEA for clothing and rehabilitation materials. The State Department will advise on foreign policy. The Army will also consult War Food Administration, War Shipping Administration, the War Production Board, and other agencies regarding feasibility.

The shares to be provided by the U.S. and U.K. have yet to be determined. But meanwhile a start has been made toward procurement, even though strategic requirements and lack of storage space do not permit the accumulation of large stocks.

5,000,000 PEOPLE, 42 DAYS

Even before the formation of the Combined Civil Affairs Committee last summer, the British began storing supplies for civilian relief in the operational areas in Northwest Europe. For example, they have in depots or on order enough rations and drugs and dressings to take care of 5,000,000 people for 42 days. (The rations consist of biscuits, preserved meat, condensed milk, dried beans and peas, and vitaminized chocolate for children and pregnant women.) Similarly they have ordered hospital equipment for over 7,000,000 people, clothing for 20,000,000, antigas respirators for 1,400,000 key workers, etc. Even some farm machinery is being produced for rehabilitation purposes.

The FEA procurement program is also under way. In cooperation with the Army, for example, it is conducting a salvage

program to restyle old uniforms, convert old blankets into mittens and scarves, teach war prisoners to salvage clothing of various kinds. As far as possible, its policy will be to purchase surplus or secondhand materials and "distress stocks," such as cheap shoes, which are a drug on the market. More difficult, however, will be the procurement of such critical items as farm machinery, now in great demand for domestic use.

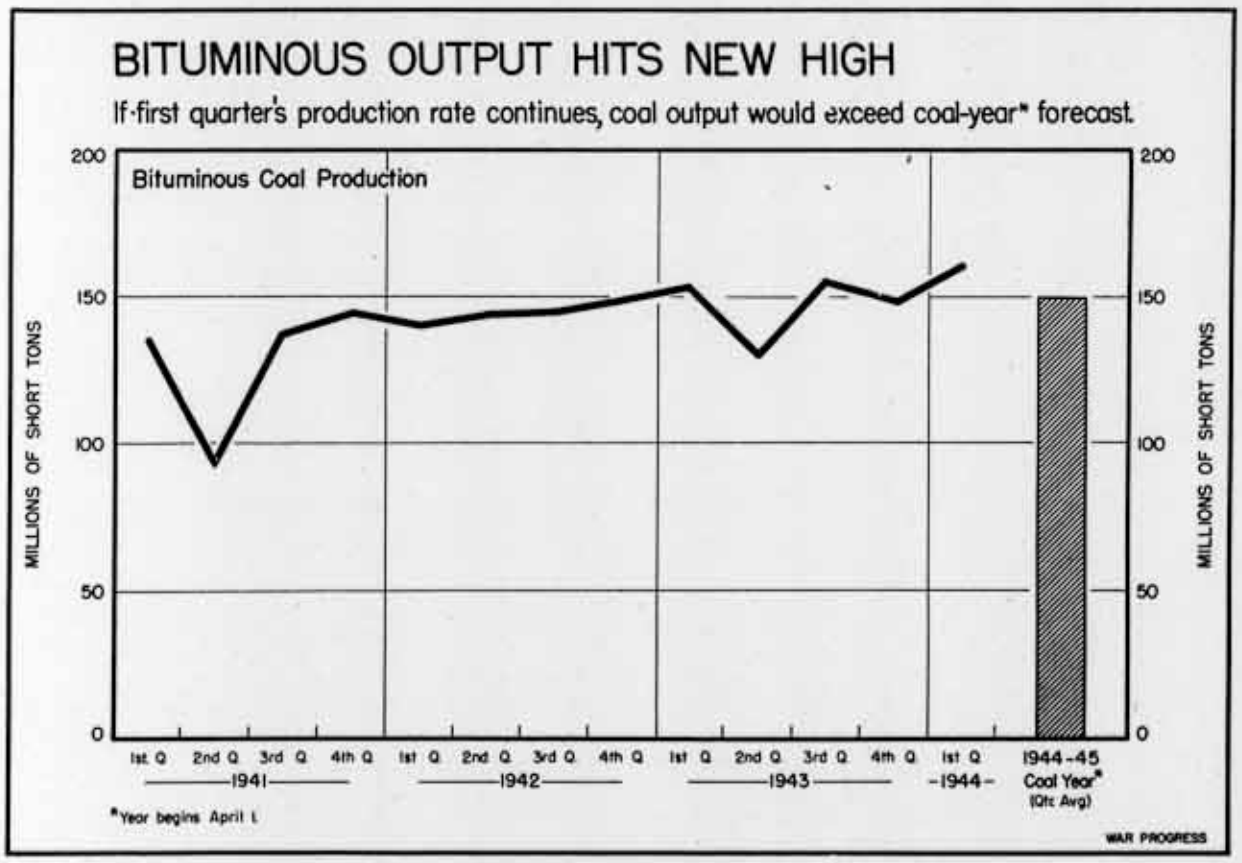
Meanwhile FEA is also initiating procurement on behalf of the United Nations Relief and Rehabilitation Administration, which will take over the relief and rehabilitation program if, when the Army moves out, it is invited to do so by local governments. In countries which are quickly conquered and left behind, the Army may turn over responsibilities to civilian agencies before six months are up; in others it may stay on the job longer. The six-month period was established more or less arbitrarily for planning purposes.

The total cost of relief and rehabilitation is not so great as is commonly imagined. The U.S. share in the first six-month program will run under $1,000,000,000—unless the Germans completely devastate Europe; the U.S. contribution to UNRRA (which includes relief in the Orient) has been set at $1,350,000,000. This adds up to less than the $2,600,000,000 that the U.S. spent for continental Europe after the last war, and represents less than 3% of our yearly war bill at current rates.

War Progress Notes

UNITED NATIONS COAL

COAL is a United Nations problem because labor is a problem both here and in Great Britain. If the U.S. coal-production goal of 66[illegible],000,000 short tons is to be realized in the coal year begin-



ning April 1, then the work roster must average 433,000. At present, 444,000 are employed—but the trend has been downward. Moreover, there are 25,000 coal miners in the crucial Selective Service age range—21 to 26.

In Great Britain, the problem is even worse. Current employment in the mines is 702,000; but that must be raised to 720,000 if the British quota—236,000,000 short tons—is to be met. (British mines, with 60% more workers, produce less than two-fifths as much coal as U.S. mines.)

And neither the U.S. nor the U.K. manpower quotas allow for strikes, which have beset the industry. The recent British strike, for instance, cost 700,000 tons.

Even if those labor quotas are realized, a 28,000,000-ton deficit—3%—impends. The statistics follow:

Requirements and Supply	Coal Year Apr.'44-Mar.'45 (millions short tons)
Requirements:	
U.S. domestic....	653
U.K. domestic....	221
Export.....	63
Total.....	937
Production:	
U.S.	662
U.K.	236
Other sources....	6
Total.....	904
From inventories..	5
Deficit.....	28

Canada is scheduled to get two-fifths of the combined coal exports—27,000,000 tons. Northwest Europe (in the event of invasion and occupation) comes next, with 19,000,000 tons. Southern Europe (mostly Italy) is third on the list.

Minor shadings in U.S. consumption would almost make up the deficit. Current plans are:

1. To get dealers to limit distribution to minimum requirements of householders after consideration of inventories. Household and small commercial stocks might yield up to 10,000,000 tons of coal.

2. To cut down wasteful use of electricity. Coal supplies about half of the fuel used in producing electric energy.

3. To increase efficiency in use of coal furnaces.

Attempts are also being made to increase output in South Africa, India, U.S., and U.K. In the U.K., $13,500,000 is going into installation of underground machinery. Other equipment will be used to increase strip mining.

LABOR TURNOVER

LAST YEAR was a seller's market for labor, but it became less so as the months rolled by. In November, factory employment started turning down. Fewer workers quit their jobs, and more were laid off (chart, page 9). Where in the first 10 months 10 workers quit for every one laid off, from November through January the ratio dropped to five to one.

In aircraft (excluding engines) the change started in September; over 50 workers quit for every one laid off; in the four months since, the ratio was nine to one. In shipbuilding the change was not so sharp as in aircraft; 12 times as many quits as layoffs through September, nine times as many since.

In industries suffering sharp cutbacks—small arms ammunition, for instance—a complete reversal has occurred. Small arms ammunition quits were four times as great as layoffs through the first 10 months. Since then, layoffs are double quits. Moreover, the quit rate is still high—workers are trying to get out before the layoffs hit them.

PSF: WPB

The President

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WAR PROGRESS

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Disclosure Punishable Under Espionage Act

Minding Our L and M Orders

Where Do War Workers Go?

Scorecard on Merchant Shipping

Number 186

April 8, 1944

Clearing Out L and M Underbrush

Control orders are being overhauled as step toward reconversion. In recent months 400 amendments have been made; about 70% are relaxations, chiefly in metals.

DURING the last four months, a start has been made on overhauling the War Production Board's complex structure of L and M orders. More than 400 changes have been made (not counting mere clarifications).

Of these, 278 amendments represent relaxations; 111, tightenings of controls: 38 orders were revoked, 21 new ones created. And last month the trend toward relaxation was sharply accelerated:

	Controls	
	Relaxed	Tightened
December..	56	30
January...	62	27
February..	55	31
March.....	105	23
Total....	278	111

All this doesn't add up to reconversion; the ruling aim is not to expand civilian production. But it does represent a preparation for reconversion by (1) adjusting L and M orders to the changed situation in materials, and (2) simplifying and streamlining the whole mechanism of controls.

STEEL BELLWETHER

The materials involved in these relaxations have been chiefly metals, in particular steel, iron, aluminum, zinc, and some copper. The M order controlling mercury has been revoked entirely. But steel has been the bellwether. It figures in about 60 of the amendments permitting the re-use or increased use of metal in some 100 products (page 3).

Nevertheless there remain sharp limits to these relaxations. Only a few permit increased production of consumers' goods, and these are based on specific programs approved by the Requirements Committee—after conclusive demonstration that they would not interfere with war production. Examples are bedsprings, bathtubs, electric ranges, electric flatirons, baby carriages, enamelware, and house trailers.

SOME ORDERS TIGHTENED

Moreover, recent modifications also point to increasing stringency in some basic materials, especially lumber, wood pulp, and paper. Further restrictions have been placed on the use of black walnut, southern yellow pine, and hardwoods, and on various end products: containerboard, furniture, paper towels, books, magazines, etc.

In addition, spot shortages keep cropping up among the thousands of miscellaneous products. Controls have had to be tightened on certain specialized items such as wire screen cloth, automatic sprinkler heads in fire-sprinkler systems, wood-boring bits, and various chemicals—benzaldehyde, tetrachloride, trichlorethylene, etc. Other common products recently put under closer control include glue, box veneer, manila fiber, and molasses (needed for alcohol).

The many amendments to L and M orders are not a break with WPB's conservation policy but a continuation of it. Usually the relaxations in usage controls involve a resubstitution of materials. And there are three objectives in re-

substitution: (1) a saving of manpower, (2) a saving of critical materials, and (3) a more durable or serviceable product, which in turn will save additional manpower and materials in repairs and replacements. Manpower is the ruling consideration: ordinarily no resubstitution will be allowed if it requires more labor.

STEEL FOR WOOD

Thus order L-142 was amended to permit the use of thicker-gauge steel in fireproof doors and so eliminate wood cores. This will take 25,000 additional tons of carbon steel, save 2,600,000 board feet of lumber. Furthermore, labor will be saved in both the construction and the installation of the doors.

Again, L-22 was amended to allow the unrestricted use of cast-iron inner liners for furnace replacements, and the use of carbon steel in place of cast iron in feed doors. The inner liners will require 3,500 tons of cast iron but will call for less labor in furnace repairs; the doors will take 3,000 tons of steel but save as much cast iron and give much better service. At the same time, a further amendment proposing relaxations in the production of furnace accessories was turned down because it would call for additional labor.

Another important objective, however, is to eliminate orders that save little material but consume a lot of time and paper. Order L-170-a, for example, has been revoked to permit the use of copper for bushing backings and fuel lines in farm machinery. Steel tubing took twice as long to work, yielded a definitely inferior product, and resulted in constant appeals. These had to be reviewed and usually were granted; 150,000 pounds of copper were released on appeal. So revoking the order was simply an acknowledgment of the facts.

DISCARDING DEADWOOD

Likewise many recent amendments have exempted small quantities from allocation orders—for example, requests for less than 25 pounds of finely ground corundum a month. Such requirements ordinarily add up to only a fraction of the total supply but may involve 90% of the paper work.

Other amendments have simply cut out the inevitable accumulation of deadwood. Thus the ban has been lifted on the use of metal for ferrules and binding in brooms. The order had outlived its purpose—especially since the real shortage now is in broom corn.

STEPPINGSTONE

This leads to the ultimate objective of the overhauling, which is to line up all the L and M orders, get the whole system of controls in shape for the time when large-scale relaxations will be not only possible but necessary. For the system was perforce built up piecemeal by a series of emergency measures, not from a set of blueprints; and by now it's a vast tangle of overlapping orders.

Magnesium, for instance, is in easy supply; restrictions conceivably might

IN THIS ISSUE:

be lifted at some future date. But that requires preparation; 65 separate orders, which control magnesium directly and indirectly, must be amended. For instance, L-30-d specifies that no metal at all can be used for funnels, toothbrush holders, soap dishes, and a long list of other gadgets. Similarly aluminum is restricted by 88 orders, other metals by uncounted numbers.

The trouble is that two systems of classification have been used interchangeably but not consistently. Sometimes restrictions may be in end-product orders, sometimes in raw-materials orders, sometimes partly in one and partly in

THE OLD ORDERS CHANGE, YIELDING PLACE TO NEW

HARDLY a day goes by without some modification of an L and M order. Sometimes the modification tightens control—as in lumber, pulp, and certain chemicals.

But most of the recent amendments have been relaxations, and of these, many permit resubstitution. Thus steel may now be used instead of wood in baby carriages; aluminum instead of cast iron in burner heads for domestic cooking appliances; zinc and alloy steel instead of carbon steel in pen nibs. Relaxations do not usually mean more products for civilians, but they do mean better products.

Here is a partial, though representative, list of products helped along by relaxations during the last four months:

Aluminum pressure canners
Antifriction bearings
Automotive replacement parts
Automotive valves
Axes
Baby carriages
Barbed wire
Buttons for work clothing
Caskets & burial shipping vaults
Cast-iron soil pipe
Collapsible tubes
Cutlery
Domestic cooking appliances
Electric fuses
Electric wiring devices
Farm machinery
Fire protection equipment
Flags
Flatware & hollow ware
Furniture springs
General-purpose & industrial thermometers
Hand forks
Hand shovels
Heavy forged tools
Incandescent lighting fixtures
Jewelry
Loose-leaf metal parts
Lubrication equipment
Luggage
Metal doors
Nonmechanical pencils
Oxyacetylene apparatus
Pen nibs
Photo & projection equipment
Pliers
Power trucks
Printing ink
Rectifiers
Refrigeration condenser units
Rotary files
Saws
Scales & balances
Scrapers
Sun glasses
Truck mixers
Warm-air furnaces
Wrenches

the other. Thus steel is controlled by end-product orders as well as by M-126.

Classifying all restrictions by end product would be simpler for businessmen; a manufacturer could then find under one order all the regulations governing his product. But centering restrictions in raw-materials orders would be simpler from a reconversion standpoint; then if WPB wanted to relax controls on magnesium or steel it could see all steel and magnesium restrictions at a glance, and wouldn't have to alter a long list of end-product orders.

As it is, however, manufacturers don't know where to look, or when they've found something, can't be sure that they've found everything.

What Happens to Released War Workers?

Checkup on former employees of a New York State plant gives an indication of (1) drift to nonwar jobs and (2) tendency of women to leave labor market.

WHAT HAPPENS to war workers when a program shift or program cutback takes away their jobs?

Do they automatically go into other munitions work?

Do they tend to filter back into less essential employment?

Do the women return to homemaking after their stint at munitions making?

The War Production Board would like to know; so would the Army, Navy, and War Manpower Commission. For the answers to these questions will help determine future policy on manpower, materials, components, and facilities.

The presumption is that plant layoffs result in some evaporation of the labor force—homemakers return to the kitchen, workers go back to civilian employment, particularly jobs with a peacetime future. At the same time, however, it is expected that when workers in a tight manpower area are released, they will gravitate toward labor-starved, high-paying war plants.

If it were possible to trace what happened to the thousands of war workers already released from war jobs, statistics could substitute for opinion. But that kind of information just hasn't been compiled. However, there is a shred of such statistical evidence to go by. It comes from a tight New York State labor area, where a former typewriter manufacturer's contract for machine guns ran out late last year and 300 workers were released.

QUESTIONNAIRE IS CLUE

During March, the company mailed a questionnaire to every third person laid off; 60 of the 100 queries were returned —hardly sufficient evidence to warrant a sure-footed conclusion (chart, page 5). But the results are interesting:

2 were in the Navy
11 (ten women) had left the labor market
14 (eight women) were still looking for work
33 had found jobs

But of those 33, only 13 had gone into war work. The remaining 20 had returned to nonwar work and to different types of jobs. For example, a milling-machine operator was now a waitress, a worker on the assembly line was now an information clerk in a department store, an inspector was now a chef, and a mechanical filer was now polishing china (complete list, page 6).

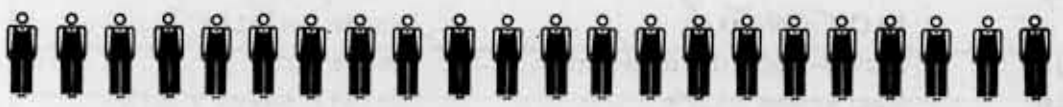
About half of these 20 persons landed

EVAPORATION OF WAR WORKERS – AN INDICATION

Late last year, a New York war factory gave notice to 300 workers following the loss of a contract. Several months later, to discover what had happened (Had they gone into other war plants, into the home, into nonwar jobs?), 100 questionnaires were sent to a group of these former employees. Sixty replied—

38 WOMEN

22 MEN



HERE'S THEIR STORY:

13 FOUND WAR JOBS

2 JOINED THE NAVY

20 FOUND NONWAR JOBS

14 WERE STILL LOOKING FOR JOBS

11 WERE NOT LOOKING

WAR PROGRESS

OUT OF THE WAR PLANT INTO . . .

HERE is a job-by-job summary of how 20 workers in an upstate munitions factory shifted out of war work when the plant released a group of 300 workers:

Sex	*War Job*	*New Job*
Male	Milling-machine operator	Handyman
Female	" " "	Waitress
Female	Plater	Elevator operator
Male	Mechanical filing	Movie attendant
Female	" "	Marker, tailor shop
Female	" "	Waitress
Female	" "	Face polisher, china
Female	" "	Inspector, china
Male	Inspector	Chef
Male	"	Sign painter
Female	"	Shipping clerk, dresses
Male	Lathe Operator	House painter
Female	Screw-machine operator	Secretary
Female	Storeroom clerk	Retail sales clerk
Female	Assembler	Inform. clerk, depart. store
Male	"	Baker
Female	"	"Nonessential"
Female	"	Truck gardener
Female	Clerk	Typist, baking-soda firm
Male	Shipping	Truck driver, furniture store

their current jobs either immediately or within a week. But the remainder were out of work—whether by design or not—for two, six, eight, and even 12 weeks. Meanwhile, the company that laid them off is now making typewriters for military and essential civilian uses and is seeking trained manpower. The questionnaire, incidentally, helped the company to recruit. Some of the workers volunteered the information that they'd like to return to the plant.

A CHALLENGE

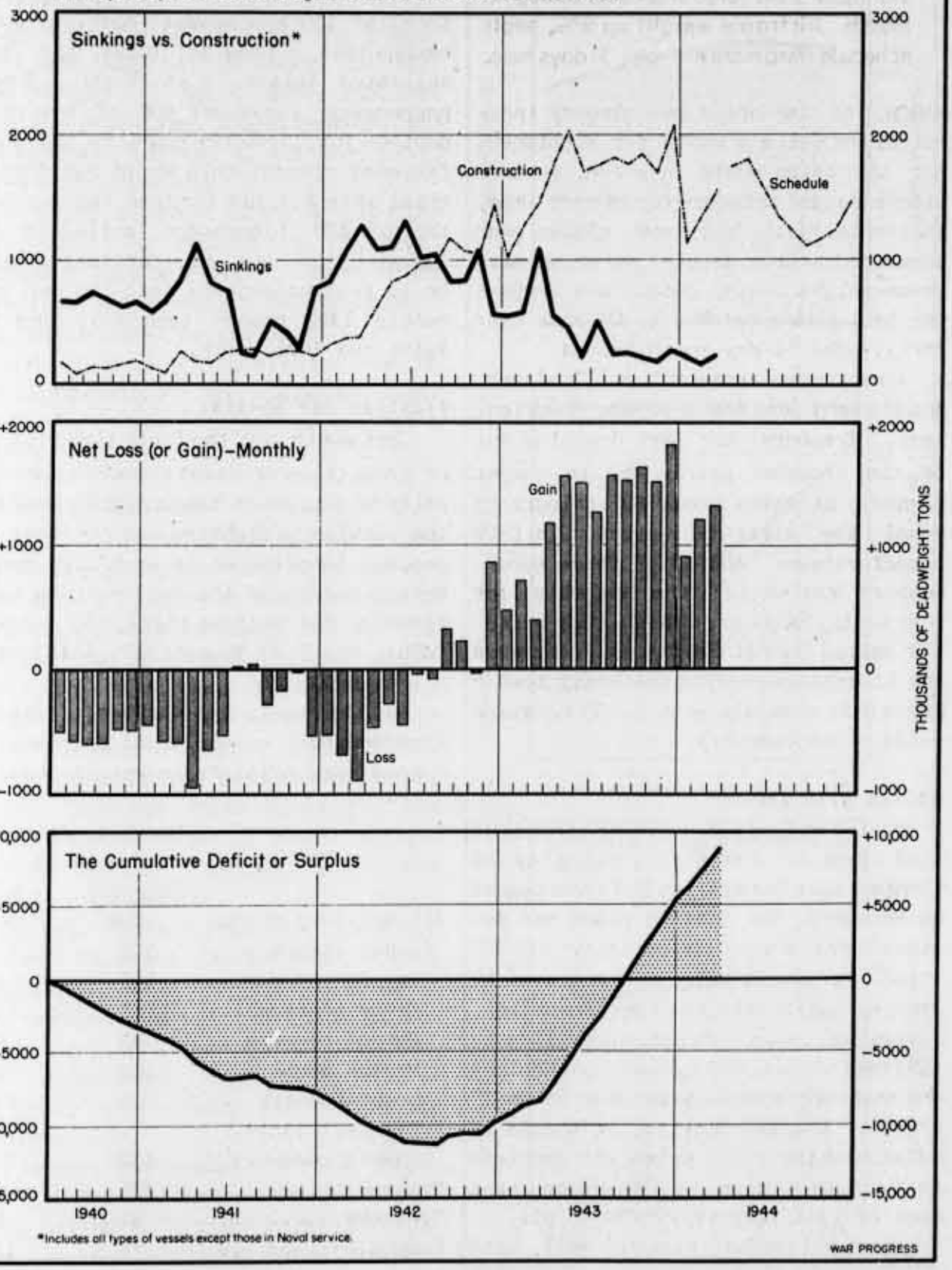
The aforementioned material is admittedly rough, and its scope too limited for a definite conclusion. But for critical war production areas where contracts expire, are terminated, or switched, it confirms the assumption that evaporation takes place, and civilian services expand.

Another point might be made. We do not know what happened to the 40 workers who did not answer the questionnaires. It may be reasonable to assume, however, that a large proportion of them got jobs, possibly in war plants, and couldn't be bothered answering a questionnaire.

But this is not getting away from the fact that the data are a challenge to develop better control over manpower released from war plants. This requires advance information from the military services on which plants are likely to lay off workers. That would enable plant employment offices and personnel from the United States Employment Service to direct released workers to war jobs of comparable skills and thus forestall some evaporation.

SCORECARD ON MERCHANT SHIPPING

Sinkings of United Nations vessels in March up sharply, but construction rises 12%.
And 1,300,000 deadweight tons are added to the fleet.



*Includes all types of vessels except those in Naval service.

WAR PROGRESS

Four New Planes Make Debut

Jet-propelled fighter, two patrol bombers, stainless-steel cargo ship come through in March. Airframe weight up 9%, beats schedule third month in row; 31 days help.

MARCH, as the press has already indicated, was quite a month for airplanes. For the third month in a row, production exceeded schedule (by 2% each time, incidentally): four new planes made their production debuts; and on an airframe-weight basis, output was up 9%—the best gain since May's 10% rise over April. The 31-day month helped.

Acceptances reached 9,117 planes, and this may just about be the numerical peak. Trainers are fast dropping out of the program, giving way to combat planes. It takes about 20 trainers to equal the airframe weight of a B-29 Superfortress. And 60 of these superbombers rolled off the assembly line last month, another new high. The schedule called for 64; but Flying Fortresses and Liberators carried the heavy bomber group over schedule with 1,508 accepted —13% above February.

BOEING HITS JACKPOT

Boeing at Seattle overshot its scheduled peak of 350 Flying Forts by 12 planes—that, as against 289 acceptances in February. The Seattle plant was designed for a monthly capacity of 270 Forts. The March bulge was achieved by drawing down on stocks of subassemblies, diverting labor from subassemblies to finished planes, and by pushing machines and manpower beyond the point of "normal" effort. Boeing, Seattle, it should be added, was the plant which was consistently bogged down by labor shortages most of last year (WP-Oct30'43,p1).

Ford, Willow Run, also did well, with a new high of 309 Liberators accepted. In addition, Ford delivered a record total of 130 knockdowns (complete subassemblies) to Douglas, Tulsa, and Consolidated Vultee, Fort Worth. These knockdowns represent 80% of the production job, hence are equal to 104 more finished planes; this would run Ford's total up to 413, not far from the monthly top of 437 Liberators called for in August. From here out, Ford's job will be to feed knockdowns into its own assembly line rather than ship them to Tulsa and Fort Worth.

FIGHTERS TOP BOMBERS

Last month, for the first time, fighter production exceeded bombers—numerically of course—3,535 to 3,429. Indeed, the showing in fighters was the best on record. Acceptances of such high-preference models as the P-51 Mustang (482 planes), F6F Hellcat (512), F4U Corsair (478), and P-47 Thunderbolt (648) were all at new highs.

As the table below shows, fighters exceeded both schedule and February by a good margin (airframe-weight basis):

	March Acceptances as % of	
	February	W-9
All military planes	109%	102%
Combat planes.....	109	104
Superbombers.....	105	94
Heavy bombers....	113	105
Patrol bombers...	92	87
Medium bombers...	108	106
Light bombers....	101	101
Fighters (incl. naval reconn.)..	110	105
Transports.....	121	96
Trainers.....	92	88
Communications.....	77	114

March was outstanding for new planes:

At Bell, Buffalo, the P-59 jet-propelled fighter—christened the Airacomet—made its bow; three were accepted as per schedule.

At Consolidated Vultee, San Diego, a new land-based patrol bomber, the PB4Y, came through; it has a longer fuselage than its prototype, the Liberator, and has a single instead of a double tail. Three were scheduled.

A third newcomer also went to the Navy, the PV-2 Ventura at Lockheed, Burbank. This is a larger, longer-range version of the PV Ventura patrol bomber. One came through as scheduled.

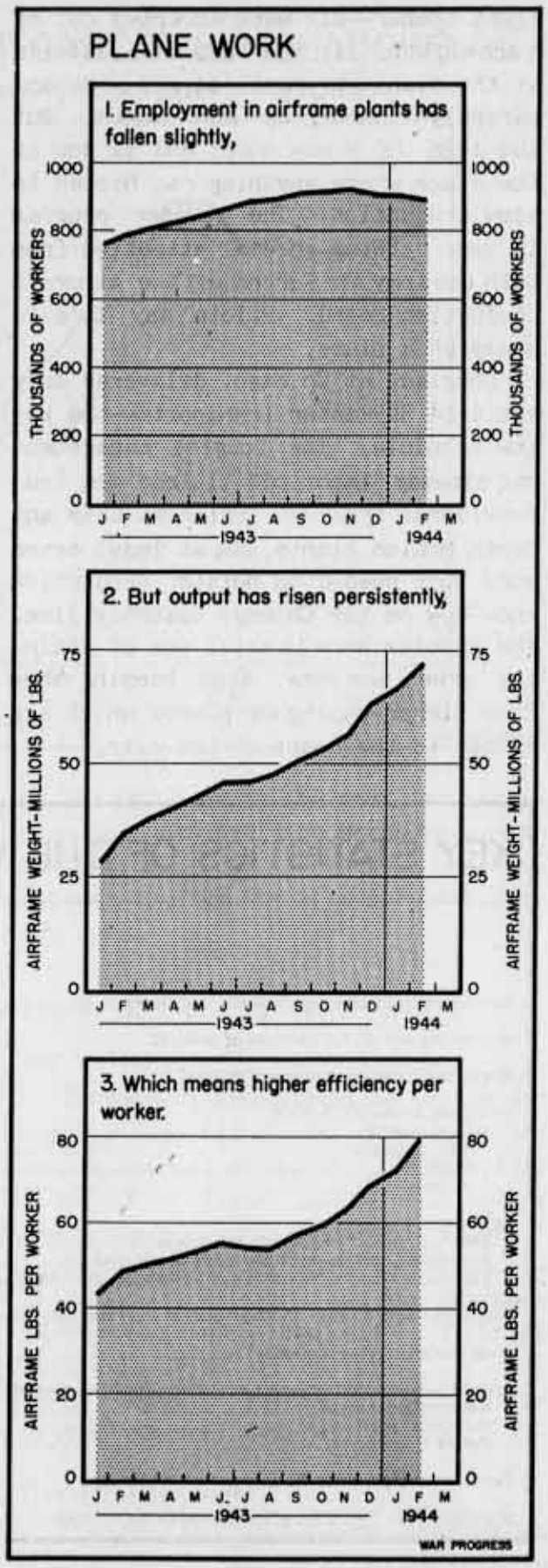
And at Budd, Philadelphia, one of the long-awaited RB stainless-steel cargo planes was accepted as against a schedule of four.

OUT OF THE DOLDRUMS

Curtiss, Buffalo, snapped out of the doldrums last month. Not only did acceptances of 71 C-46 Commando transports more than double February, but for the second time in 15 months, a first-of-the-month schedule was exceeded—by one plane. Moreover, the plant cleaned up a big backlog of spares requirements. By reorganizing the production-control system, the new plant management has already licked some 10 "must" modifications on the Commando. But others remain to be tackled.

Largely because supervisory personnel were returned to the P-40 Warhawk production line after pinch-hitting on the Commando, Curtiss was able to reverse the P-40's three-month toboggan. March acceptances toted up to 283, or 17% ahead of February and 13% better than the plan.

However, March wasn't free of "problem" plants. Douglas, Long Beach, was still trying to hit the right combination on the 2-engined, A-26 Invader



light bomber—six were accepted out of a schedule of 11. Spar-cap difficulties at the plant (WP-Mar11'44,p5) were apparently cleared up last month. But the A-26 is a new model and is now at the stage where anything can happen to slow production. The Invader program is now getting special attention from both the Army Air Forces and the Aircraft Production Board. Pilots say it's a honey of a plane.

Douglas, at Chicago, delivered only six C-54 Skymaster transports—63% below schedule. The Douglas management has already "imported" 11 lead men (supervisors) from the Oklahoma City and Santa Monica plants, but at least seven more are needed to bolster production know-how on the Chicago assembly line. The problem here is still one of training green workers, then keeping them from higher-paying war plants which are closer to the heart of the city.

LSTs Still Lagging

Only 28 delivered against a schedule of 51. As a result the landing craft program as a whole was 31% short of goal. Nearly all other types were on the nose.

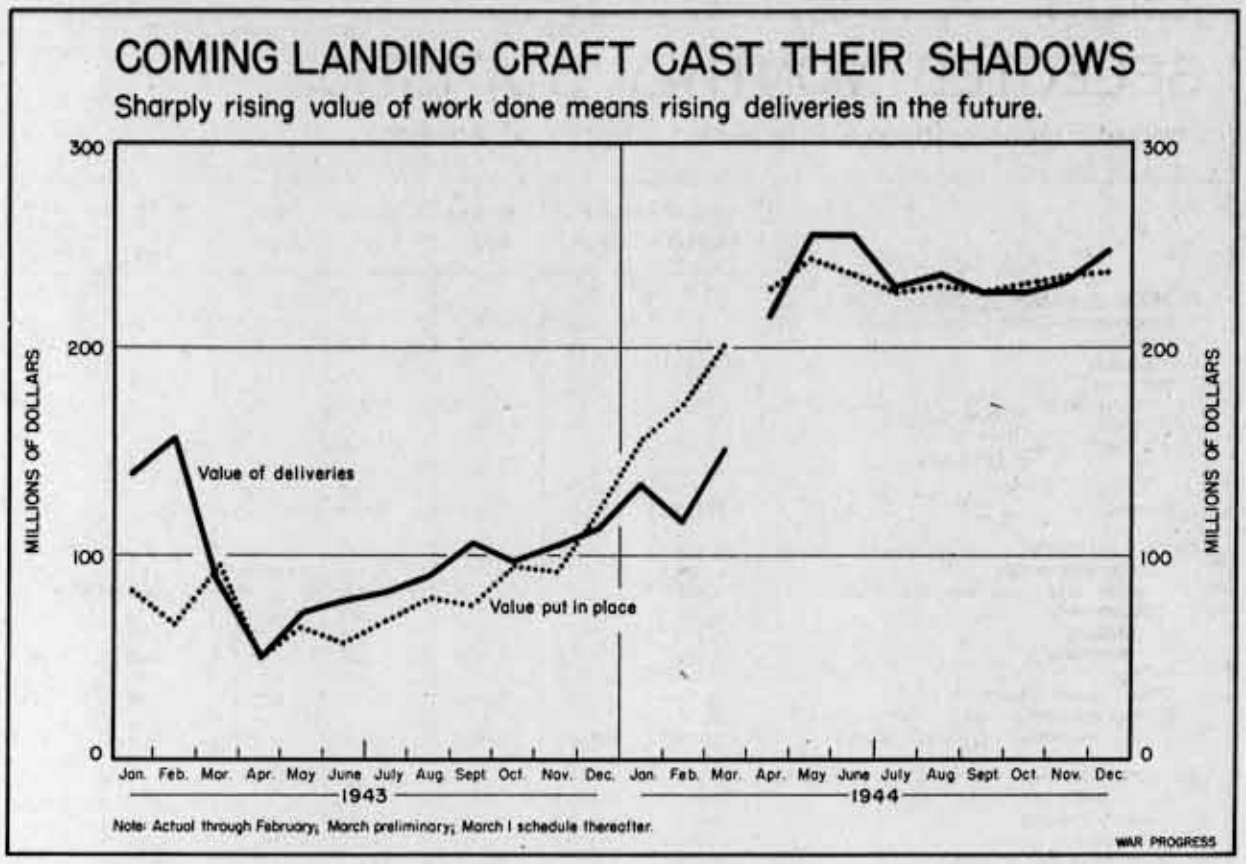
THE OVERRIDING PRIORITY given the landing vessel program four months ago has not yet carried it over the top. Deliveries in March at 97,000 displacement tons (preliminary), though 26% above February, were not much above the January total of 90,000 tons. Moreover, they fell 31% short of the first-of-the-month schedule, which called for 141,000 tons. Again the shortage was almost entirely in the important tank landing ships—28 completed, as against 51 scheduled. All other types except the smallest ones were about on schedule.

The LSTs have been running into various difficulties, including design

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program—Checks paid (millions of dollars)	1,594	1,524	1,899	1,640	1,611
War bond sales—E, F, G (millions of dollars)	239	170	396	712	201
Money in circulation (millions of dollars)	21,037	20,934	20,823	18,818	16,250
Wholesale prices (1926=100)					
All commodities	103.6p	103.7p	103.4p	103.0	103.4
Farm products	123.9p	124.6p	123.2p	123.6	124.7
Foods	104.2	104.5	104.5	105.0	107.8
All other	98.3p	98.3p	98.3p	97.5	96.7
Petroleum:					
Total U.S. stocks* (thousands of barrels)	413,022	411,983	414,667	422,676	438,392
Total East Coast stocks* (thousands of barrels)	55,844	55,874	54,961	60,751	43,874
East Coast receipts (thousands of barrels, daily average)	1,750	1,791	1,628	1,537	1,130
Bituminous coal production (thousands of short tons, daily average)	1,988p	1,987	2,095	2,017	2,100
Steel operations (% of capacity)	99.5	99.1	98.8	100.8	99.6
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,457	2,979	2,928	2,719	1,713
Gulf Coast ports	452	456	377	384	363
Pacific Coast ports	1,365	1,493	1,272	1,454	1,045
Department store sales (% change from a year ago)	+31	+17	+2	-5	-7

p. preliminary *excludes stocks owned by the military.



changes and shortages in components and manpower. Moreover, current deliveries are as yet coming mostly from relatively small inland yards. Big coastal yards —still building DEs—are just beginning to get under way.

The lag behind schedule was not unexpected, since the March 1 program was inflated by the carryover of deficits from the previous four months. Indeed, Admiral Robinson forecast only 79,000 tons, including 22 LSTs.

750,000-TON GOAL

The Navy is still shooting at the goal—set after the Quebec conference—of 750,000 tons of landing vessels for the seven-month period from November through May. But though the program is gaining momentum fast—as is indicated by the value of work put in place (chart, above) it now seems unlikely that the goal will be reached by May 31. To come up to it would require the completion of 346,000 tons in the next two months —an 80% jump over the March rate—including 141 LSTs. However, the Navy expects to make the goal for LSTs during June.

REPORTS ON REPORTS

Jap Tactics

Because of heavy demands by the occupying Japanese forces for both food and industrial products, the civilian standard of living in the Philippines has dropped sharply, according to *Philippine Islands: Industry and Commerce* (restricted; pp. 89). Yet the Japanese have tried to encourage self-sufficiency, particularly in agriculture.
(Army Service Forces, Office of the Provost Marshal General)

Transportation Soars

Freight and passengers carried on U.S. railways hit an all-time peak in

SELECTED MONTHLY STATISTICS

Federal Finance - Income Payments*- Hours and Earnings

	Latest Month**	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
FEDERAL FINANCE (GENERAL FUND)							
Expenditures - Total (billion dollars)	8.5	7.9	7.6	7.5	7.4	.8	.8
War	7.7	7.5	7.1	7.0	6.7	.1	-
Nonwar	.8	.3	.4	.6	.6	.7	.8
Revenues - Total	6.6	2.5	2.7	5.4	5.2	.7	1.0
Income taxes	5.9	1.7	1.7	4.8	4.7	.5	.7
Other	.7	.8	1.0	.7	.5	.2	.3
War bond sales	.7	2.8	1.7	1.9	.9	-	-
"E"	.6	2.1	1.1	1.4	.7	-	-
"F" and "G"	.1	.7	.6	.5	.2	-	-
Net debt	168.1	164.0	158.4	140.2	111.3	36.6	32.9
INCOME PAYMENTS - TOTAL (million dollars)	12,344p	12,408	13,398	11,681	10,636	5,319	5,459
Salaries and wages	9,025p	8,892	8,967	8,460	7,888	3,641	3,709
Comm., distr., and serv. industries	6,944p	6,815	6,932	6,719	6,188	2,934	3,072
Government	2,081p	2,077	2,035	1,741	1,685	525	476
Military	1,119p	1,115	1,048	925	778	35	30
Nonmilitary	962p	962	987	816	907	490	446
Other	-	-	-	-	15	182	161
Other income payments	3,319p	3,516	4,431	3,221	2,748	1,678	1,750
Income payments, annual rate (adjusted for seasonal, billion dollars)	154.8p	151.9	149.7	144.5	135.9	68.7	71.7
AVERAGE HOURLY EARNINGS (cents)							
All manufacturing industries	100.1p	99.5p	99.6	96.3	91.9	63.2	n.a.
Durable goods	109.9p	109.3p	109.7	106.0	101.7	69.6	n.a.
Nondurable goods	83.7p	83.2p	82.4	80.6	76.8	58.3	n.a.
Bituminous coal mining	119.6p	118.8p	114.4	115.0	108.5	88.4	79.4
Metalliferous mining	99.2p	99.3p	99.7	98.6	94.1	68.9	64.5
AVERAGE HOURS PER WEEK							
All manufacturing industries	45.1p	44.8p	45.5	44.4	44.2	36.7	n.a.
Durable goods	46.6p	46.2p	47.1	46.0	45.9	36.4	n.a.
Nondurable goods	42.9p	42.8p	42.7	42.2	41.8	37.0	n.a.
Bituminous coal mining	43.5p	44.2p	28.4	37.1	34.7	26.5	30.6
Metalliferous mining	43.9p	44.2p	44.0	43.7	43.3	40.4	43.2

* Entire series revised. ** Federal Finance, March; Income Payments, February; Hours and Earnings, January.
p Preliminary. n.a. Not available.

1943—revenue ton-miles rose 14% above 1942 and revenue passenger miles 63%, according to *Domestic Transportation* (confidential; pp. 16). Inland waterways are expected to exceed their 1943 tonnage, but motor carriers continue to face increased manpower and equipment difficulties while trying to keep pace with a steady rise in operating costs. (Department of Commerce, Bureau of Foreign and Domestic Commerce)

Let's Look at the Fats

Exports of fats and oils (largely through lend-lease) rose 43% above imports in 1943, according to *Fats and Oils* (confidential; pp. 48). Domestic consumption in 1943 dropped 4% below 1942, and stocks of the primary fats and oils reached 2,142,000,000 pounds at the end of 1943—6% greater than in 1942. But wartime demands and the probable rehabilitation needs in Europe during the coming year may tend to keep prices near ceiling levels. (Department of Commerce, Bureau of Foreign and Domestic Commerce)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

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The President

WAR PROGRESS

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Up-and-Down Standstill in Production

Textile Troubles

Number 191

May 13, 1944

Four-Month Standstill in Production

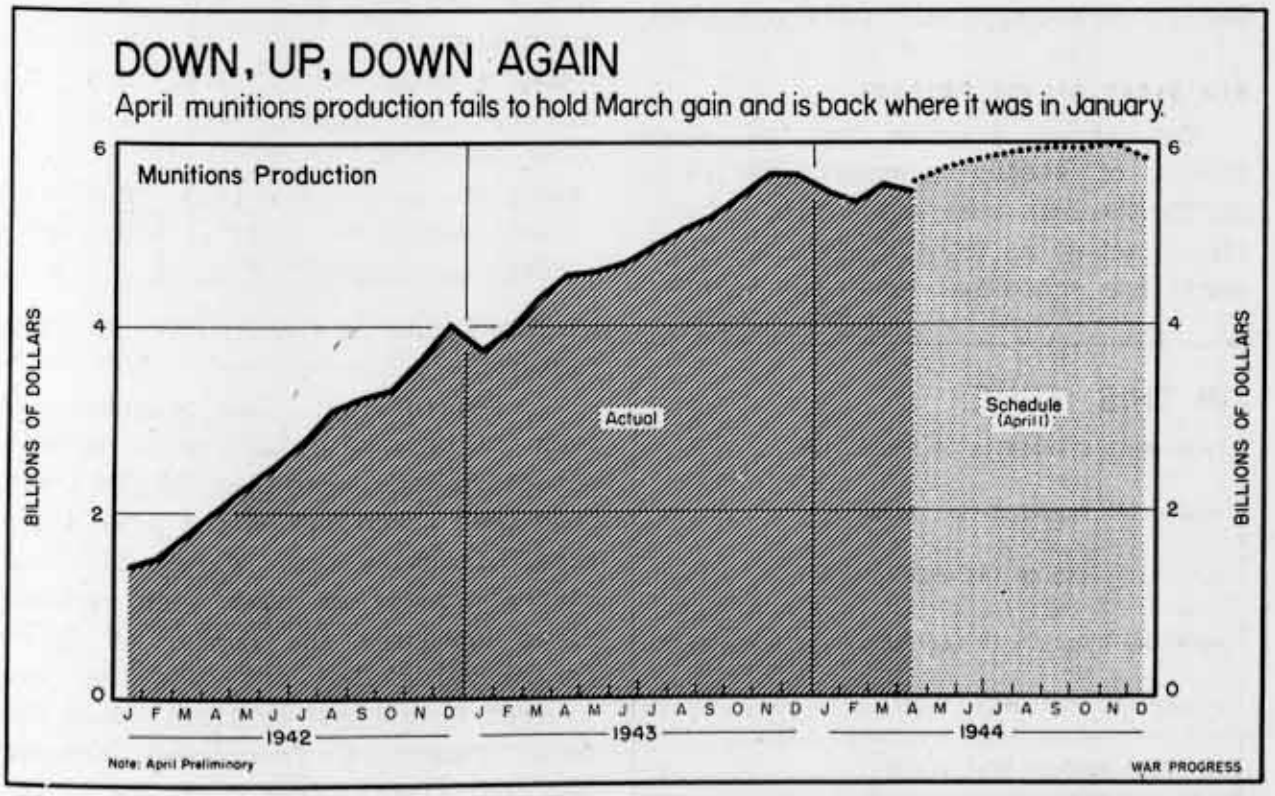
Munitions output is back where it started from in January. Current rate is 10% below scheduled peak. Planes lag, but most "must" programs come through.

MARCH BROKE a three-month downtrend in munitions production—but April didn't follow suit. Total munitions, at $5,450,000,000 (preliminary), not only missed schedule by 2% but dropped 1% below March. Since the first of the year production has gone down, up, and then down, and is just about where it started.

This four-months' standstill in production raises questions about the rising schedules ahead. A peak of $6,000,000,000 is due to be reached in November; that calls for a 10% rise over the April rate, with most of the rise slated for the next four months (chart, below). That's going to take push—especially since only ammunition, among major programs, met schedule last month; biggest lag was in aircraft (table, page 3). However, most of the "must" programs—landing craft, airborne radar, heavy trucks, heavy artillery ammunition, high-preference aircraft models, etc.—fared well. Among planes, the Superfortress and the Mustang lost out to schedules, but Liberators and Fortresses came through in high volume; likewise Thunderbolts, Lightnings, and other high-preference models.

DOWN SHARPLY FROM PEAK

But there is no blinking the fact that, on the recent statistical record, production is down sharply from the peak



in November, 1943, when the value of munitions amounted to $5,640,000,000. That total was nearly reached in December, but not quite. And then came a fairly steep drop—with no real recovery yet in sight. Indeed, the progress toward the coming November peak has been semi-Sisyphean, as the following table makes clear:

	Munitions
1943:	
November.....	$5,640,000,000
December.....	5,620,000,000
1944:	
January.....	5,420,000,000
February.....	5,340,000,000
March.....	5,515,000,000
April.....	5,450,000,000
November peak	6,000,000,000

As the program now stands, total munitions output for 1944 is scheduled to run somewhat below $69,000,000,000. But on the basis of output during the first four months, the year's total would come to only about $65,000,000,000.

REVISIONS REDUCE PROGRAM

The current program for '44 is the result of steady downward revisions during the last year and a half. Originally set up at $82,000,000,000, total munitions schedules were cut to $77,000,000,000 by last September, to $73,000,000,000 by the beginning of the year, and now are down to $69,000,000,000.

Biggest cut, curiously enough, has been in aircraft, though it's still the main expanding program. Take aircraft out, and the program is almost flat. Since September, 1943, aircraft schedules have been cut more than $6,000,000,000. Over the same period ground army munitions have been sliced about $3,000,000,000. The ship program has fallen off only slightly; the addition of 800,000 tons of landing craft largely offset cutbacks in other areas. Communication and electronic equipment has had a slight but nominal increase. The following table indicates the trend:

	Schedules as of Sep.1 '43	Jan.1 '44	Apr.1 '44
	(billions)		
Aircraft.....	$27.5	$24.2	$21.3
Ships (value-in-place).....	15.4	15.2	15.0
Guns & fire control..	3.8	3.7	3.6
Ammunition.....	8.4	7.1	6.5
Combat & motor veh...	6.4	6.3	5.5
Commun.& elec. equip.	4.3	4.4	4.5
Other equip. & supplies.....	11.3	12.1	12.4
Total munitions....	$77.1	$73.0	$68.8
Total war constr...	$ 4.0	$ 3.2	$ 2.8

These cuts are traceable to three factors:

1. Feasibility: Some programs have been cut because requirements exceeded capacity. Thus, more than 100,000 trucks have been taken out of the Army's program. Likewise some of the difficult aircraft programs have been reduced; since September the number of Superfortresses slated for 1944 has been lowered from 1,572 to 1,351; C-46 Commando transports, from 1,983 to 1,596; SB2C Helldivers, from 5,201 to 4,042.

IN THIS ISSUE:

2. Lower requirements: Thus, the bulk of the reductions in the aircraft program has been in spare parts; battle experience proved that they were heavily overscheduled. Similarly ammunition, tanks, antiaircraft guns, and destroyer escorts have taken substantial cuts simply because production was outrunning strategic needs.

3. Obsolescence: Quantity is giving way to quality. In aircraft, for example, production of less desired models is being wound up sooner than originally planned. Since last September, sched-

PRODUCTION PROGRESS – Preliminary

Value delivered or put in place – millions of dollars.

	April Preliminary	March Actual	% Change	April Schedule *	% Deviation April Prelim. vs. Schedule
MUNITIONS AND WAR CONSTRUCTION	$5,690	$5,758	- 1%	$5,780	- 2%
TOTAL MUNITIONS	5,450	5,515	- 1	5,540	- 2
Aircraft	1,645	1,756	- 6	1,688	- 3
Total airframes, engines, propellers	1,276	1,360	- 6	1,310	- 3
Airplane spare parts	343	369	- 7	351	- 2
Other aircraft and equipment (excl. commun.)	26	27	- 4	27	- 4
Ships (incl. maintenance)	1,170	1,176	- 1	1,199	- 2
Navy	596	598	nil	663	-10
Combatant	276	298	- 7	274	+ 1
Landing Vessels	214	195	+10	217	- 1
Other	106	105	+ 1	172	-38
Maritime	401	402	nil	365	+11
Cargo and supply	300	303	- 1	272	+12
Other	101	99	+ 2	93	+ 9
Army Vessels	46	51	-10	44	+ 5
Ship Maintenance and Repair	127	125	+ 2	127	†
Guns and Fire Control	305	311	- 2	311	- 2
Small arms (under 20mm.)	67	70	- 4	72	- 7
Artillery, mortars, rocket launchers–ASF	57	55	+ 4	58	- 2
Fire control and searchlight (excl. Radar)	56	60	- 7	56	0
Naval guns and other	125	126	- 1	125	0
Ammunition	550	518	+ 6	551	nil
Small arms (under 20mm.)	56	63	+11	55	+ 2
Artillery, mortars, rocket launchers–ASF	193	169	+14	194	- 1
Aerial bombs–ASF	100	99	+ 1	98	+ 2
Naval ammunition and other	201	187	+ 7	204	- 1
Combat and Motor Vehicles	405	417	- 3	415	- 2
Combat vehicles	134	132	+ 2	136	- 1
Motor carriages for SP guns	33	34	- 3	34	- 3
Automotive vehicles and tractors	238	251	- 5	245	- 3
Communication and Electronic Equipment	387	381	+ 2	389	- 1
Radio	195	197	- 1	201	- 3
Radar	117	114	+ 3	117	0
All other	75	70	+ 7	71	+ 6
Other Equipment and Supplies	988	956	+ 3	987	nil
WAR CONSTRUCTION (GOV'T. FINANCED)	240	243	- 1	240	†

* As of March 1 for Construction; as of April 1 for all others.
† Schedule used for preliminary.

uled 1944 output of the SBD Dauntless dive bomber has been cut from 2,007 to 979; of the A-30 Baltimore light bomber, from 1,065 to 249; of the PV Ventura patrol bomber, from 1,254 to 352. On the other hand, schedules of high-preference fighters—Hellcats, Mustangs, Thunderbolts, Lightnings—have been stepped up. The net effect of such shifts in the program is fewer planes, but a more powerful air force.

STRATEGY DICTATES SHIFTS

However, strategic requirements also bring upward revisions in the program—and might call for a considerable boost after the invasion starts. Recent additions include vehicular radio sets for landing vessels and rocket launchers for aircraft, tanks, landing vessels, and infantry. More substantial is the recent increase in heavy artillery ammunition requirements, owing to battle experience in Italy (WP-Apr29'44,p4). And another boost, both in heavy guns and ammunition, may be in the offing. Sometimes original cuts prove too severe. The February revision in ASP reduced 1944 small-arms ammunition requirements from 13,400,000,000 rounds to 5,800,000,000; but schedules now call for 6,500,000,000. Such increases have been to fill in gaps and to guard against contingencies.

INVASION ENIGMA

However, big changes in the program—and in production too—are unlikely until after the invasion starts. Then requirements will be clearer and production of certain items, in which supply gaps show up, can be expected to be given an overriding push. But whether the munitions program as a whole goes up depends on the opposition the Anglo-American invasion forces meet. In the meantime, this is a waiting, a marking-time period, as April production results so clearly testify.

Aircraft

Aircraft accounted for some 30% of all munitions production last month, with output of airframes, engines, propellers, gliders, spare parts, etc. running to $1,645,000,000. This, however, was 6% lower than March. And as brought out last week in the case of airframe weight (WP-May6'44,p11), it was the first month-to-month decline since January, 1943. It was also the first time this year that planes missed schedule—by 3%.

At the same time, a steady uptrend in airframe output per worker per month was broken: 85 pounds, as against 86.5 pounds in March. However, that is only an interruption. As of April 1, airframe plants had 871,000 workers, 8% fewer than the 936,000 in November, 1943. Yet airframe weight has gone up 15% since that time—from 71,500,000 pounds to 82,400,000 pounds. And the new WL-10 schedule (preliminary), outlining labor requirements, carries that trend through for the full year.

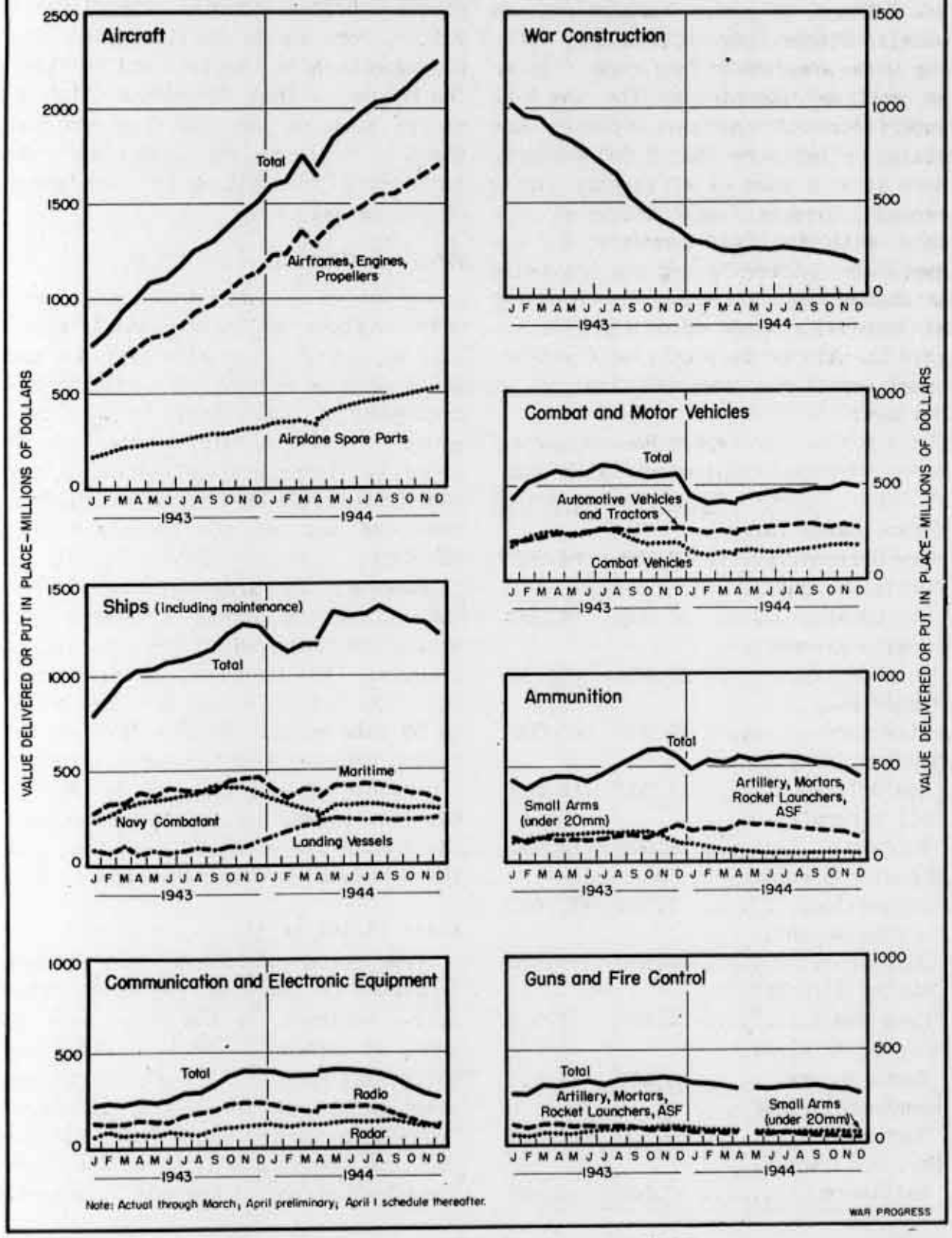
MORE WORK PER WORKER

It calls for 862,400 workers in December, almost 2% fewer than at present. But between now and that time, airframe weight is actually slated to rise—by 14%! Expressed in another way, whereas each worker produced 86.5 pounds of airframes last month, output is scheduled to reach 96 pounds by December.

As in the case of the new airplane schedule discussed a few weeks ago (WP-Apr29'44,p10), WL-10 reiterates that the plane program has come of age. For most plants, requirements by the end of this year are about the same as actual employment at the beginning; large in-

NO APRIL SHOWER OF MUNITIONS

Production of all major groups, except ammunition, declines. Aircraft shows first month-to-month drop since January, 1943.



Note: Actual through March, April preliminary, April 1 schedule thereafter.

WAR PROGRESS

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creases or decreases are relatively few.

Only five plants are ticketed for increases of 4,000 workers or more. These are new plants, such as Higgins at New Orleans, or plants turning out new models—Fisher Body at Cleveland, working on the Army's P-75 long-range fighter as well as subcontracts for the B-29 Superfortress. And seven plants are slated to lose more than 4,000 workers. Here it's a case of efficiency having exceeded expectations—Curtiss at Buffalo, with the C-46 Commando, for example—or of work going out not being matched by new contracts; when Brewster at Johnsville winds up on the F3A Corsair it will be left only with subcontract work. The complete list is as follows:

	WL-10 Requirements Dec. '44	Change From Jan. '44 Actual
Consolidated Vultee, New Orleans.....	7,800	+4,500
Curtiss-Wright, St. Louis.....	18,800	+4,200
Douglas Aircraft, Chicago.....	20,000	+5,100
Fisher Body, Cleveland.....	13,700	+5,000
Higgins Industries, New Orleans.....	11,000	+6,500
Bell Aircraft, Buffalo.....	21,000	-4,800
Brewster Aircraft, Johnsville.....	3,000	-10,400
Curtiss-Wright, Buffalo.....	33,500	-9,600
Douglas Aircraft, Long Beach.....	34,700	+5,100
Douglas Aircraft, Santa Monica.....	25,600	-11,500
Lockheed Aircraft, Burbank.....	62,300	-16,000
Martin (Glenn L.), Baltimore.....	37,500	-4,400

It is interesting to note that while superbomber output virtually quadruples during the year, the list of "big increases" does not include any superbomber plants: Bell, Atlanta; Consolidated Vultee, Fort Worth; Martin, Omaha; and Boeing at Wichita, Renton, and Seattle. The reason is that the construction of planes such as the Superfortress and the B-32 requires long lead times—and labor must be built up far in advance of volume assembly.

Army Ordnance

Output of ground army munitions, which had been declining steadily since last September, rose slightly, but not quite so much as planned. All the increase was in ammunition, the only category to beat schedule. Output ran 7% ahead of March, and deliveries of the high-priority shells for guns over 105mm. rose 45% and met the sharply rising schedule.

However, the 155mm. field gun and the 8-inch and 155mm. howitzers ran behind schedules which are also rising steeply. Only 15 of the 155s were turned out; the schedule was 25 and goes up to 50 this month. Twenty-three of the 8-inch howitzers were produced, against a schedule of 25. The goal for May is 60. The 155mm. howitzer barely missed the goal of 171 with 168 produced. But the schedule for this month rises to 196.

HEAVY TRUCKS UP 12%

Production of heavy-heavy trucks continued to increase. Although automotive vehicles on the whole were 3% short of schedule, heavy-heavy truck deliveries were up 12% over March and practically met the rising schedule. The amphibious truck, the Duck, hit the the peak schedule of 1,450 on the nose. The schedule remains the same this month

before declining to 1,000 monthly.

On the other hand, tractor deliveries dropped off 5% from March and missed the goal by the same margin. And the schedule is far under stated military requirements.

M4 TANK OUTPUT RISES

The M4 medium tank mounting the 105mm. howitzer finally caught up to schedule; indeed, it topped the goal by 3%, with 154 delivered as against 55 in March. The schedule rises to a peak of 270 this summer. Output of the M4 mounting the 76mm. gun rose to 339 from 221 in March; the schedule called for 389, and rises to 800 a month by the end of the year. However, other medium-tank models are dropping out of the program, so this schedule is not so difficult as the base figures might suggest.

Aerial bomb production was up 1% over March and 2% ahead of schedule. This was due chiefly to an overproduction of the 23-pound fragmentation parachute bomb; 200,000 were loaded against a schedule calling for 70,000.

The .50-caliber aircraft machine-gun output decreased 8%, and fell 9% short of schedule; 42,000 were produced. The schedule was set at 46,000, and rises to 48,000 this month.

Signal Equipment

Communication and electronic equipment rose 2% over March production and was on schedule except for radio, a declining program which fell 3% short. Output of radar was up 3% and met the rising schedule on the nose.

In the all-important airborne radar, many new items met schedule for the first time. The best performances were in countermeasure equipment, which fouls

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program-Checks paid (millions of dollars)	1,776	1,710	1,838	1,796	1,462
War bond sales-E, F, G (millions of dollars)	169	245	155	152	576
Money in circulation (millions of dollars)	21,614	21,396	21,191	19,354	16,683
Wholesale prices (1926=100)					
All commodities	103.7 p	103.7 p	103.8 p	102.9	103.7
Farm products	123.3 p	123.1	124.1	122.8	124.8
Foods	105.0	104.7	105.0	105.7	109.4
All Other	98.6 p	98.5 p	98.5 p	97.5	96.9
Petroleum:					
Total U.S. stocks* (thousands of barrels)	410,610	410,660	413,122	426,723	435,547
Total East Coast stocks* (thousands of barrels)	57,067	56,568	56,770	65,511	43,333
East Coast receipts (thousands of barrels, daily average)	1,762	1,794	1,733	1,543	1,359
Bituminous coal production (thousands of short tons, daily average)	2,060 p	2,042	2,086	1,647	1,595
Steel operations (% of capacity)	99.4	99.5	99.5	98.2	99.4
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,440	3,150	3,201	2,648	2,003
Gulf Coast ports	348	357	336	411	400
Pacific Coast ports	1,536	1,686	1,450	1,217	1,124
Department store sales (% change from a year ago)	+8	+17	+32	+10	+12

p preliminary *Excludes military-owned stocks

up the enemy's radar. This was in sharp contrast with March when these devices were the laggards. For example, the AN/APQ-2, which was 91% behind the goal in March, ran 61% over in April; 242 sets were delivered against a schedule of 150. And the AN/APQ-9 did almost as well; the goal was 90, and 140 sets were turned out. In March, 135 sets were scheduled, but none came through.

Ground radar, another declining program, was right on schedule. Wire communication and miscellaneous signal equipment was 7% ahead of March and 6% over the goal.

Merchant Ships

Maritime deliveries of 1,600,000 deadweight tons (preliminary) were 3% more than March and 7% ahead of a sharply reduced schedule. Cargo ships did especially well. The new Victorys met schedule for the first time, with 10 deliveries as against four in March; the 20 standard cargo ships completed were three more than called for; and Libertys kept ahead of a declining schedule—79 completions compared with the April goal of 73 and March's 83.

Military types ran 8% ahead of the program. No combat loaders were due last month, but five transports were finished on schedule.

MARITIME YARDS DO WELL

Most of the big Maritime yards either met or exceeded their goal. Marinship had a particularly good month, beating schedule by 66%, and New England Shipbuilding Company deliveries of 10 Libertys were two more than called for. But Kaiser, Swan Island, was 20% behind on its T2 tankers, and California Shipbuilding 25% behind on its Libertys and Victorys. Here is the yard-by-yard box score in deadweight tons for shipyards which employ more than 7,000 workers:

	Schedule	Deliveries
Alabama.....	51,000	51,000
Beth-Fairfield.....	151,000	162,000
California.....	87,000	65,000
Houston.....	76,000	76,000
Kaiser, Swan Island	84,000	67,000
Marinship.....	50,000	83,000
Oregon Shipbuilding	54,000	65,000
Permanente 1 & 2...	227,000	238,000
Sun.....	89,000	89,000
New England.....	86,000	108,000
All other.....	21,000	33,000

Naval Ships

The feature of the month in the naval program was the completion of the 27,000-ton aircraft carrier, the "Hancock." Total deliveries of Navy-built ships, at 248,000 displacement tons (preliminary), were 16% over March but 6% behind the first-of-the-month schedule, which had been reduced 14% from the schedule as of March 1.

LSTs TOP GOAL

All combatants came through either on or ahead of schedule; the seven submarines completed were one over par. Likewise landing vessels did well, with a particularly big gain in LSTs (WP-May6 '44,p3); the program topped the goal by 2% (thousands of displacement tons):

	Deliveries	% Change From March	% Change From Sched.
All combatants..	82	+30%	+3%
Landing vessels.	130	+35	+2
Patrol & mine...	11	-15	nil
Aux. & all other	25	-39	-46
Total.....	248	+16%	-6%

Three quarters of the deficit was accounted for by three of the 150-odd yards building ships for the Navy. Se-

attle-Tacoma failed to deliver an 8,000-ton seaplane tender; Tampa Shipbuilding Company didn't finish two 700-ton covered lighters; and Federal at Newark missed by one ship its DE schedule. All other big yards (with employment of 7,000 or over) reached their goal or exceeded it with the exception of Bethlehem, Fore River, which was one behind its LST schedule.

Mounting Troubles in Textiles

Shortages in fabrics are carried over into apparel, such as shorts, shirts, infants' wear, dresses, etc. Allocation may yield increased output of most-needed items.

STOCKS of low-priced cotton finished products—women's dresses; men's shirts, shorts, and pajamas; infants' and children's garments, diapers; work gloves, work clothes, etc.—are short. Many stores don't have them, and when they do they often enforce rationing: only one or two to a customer.

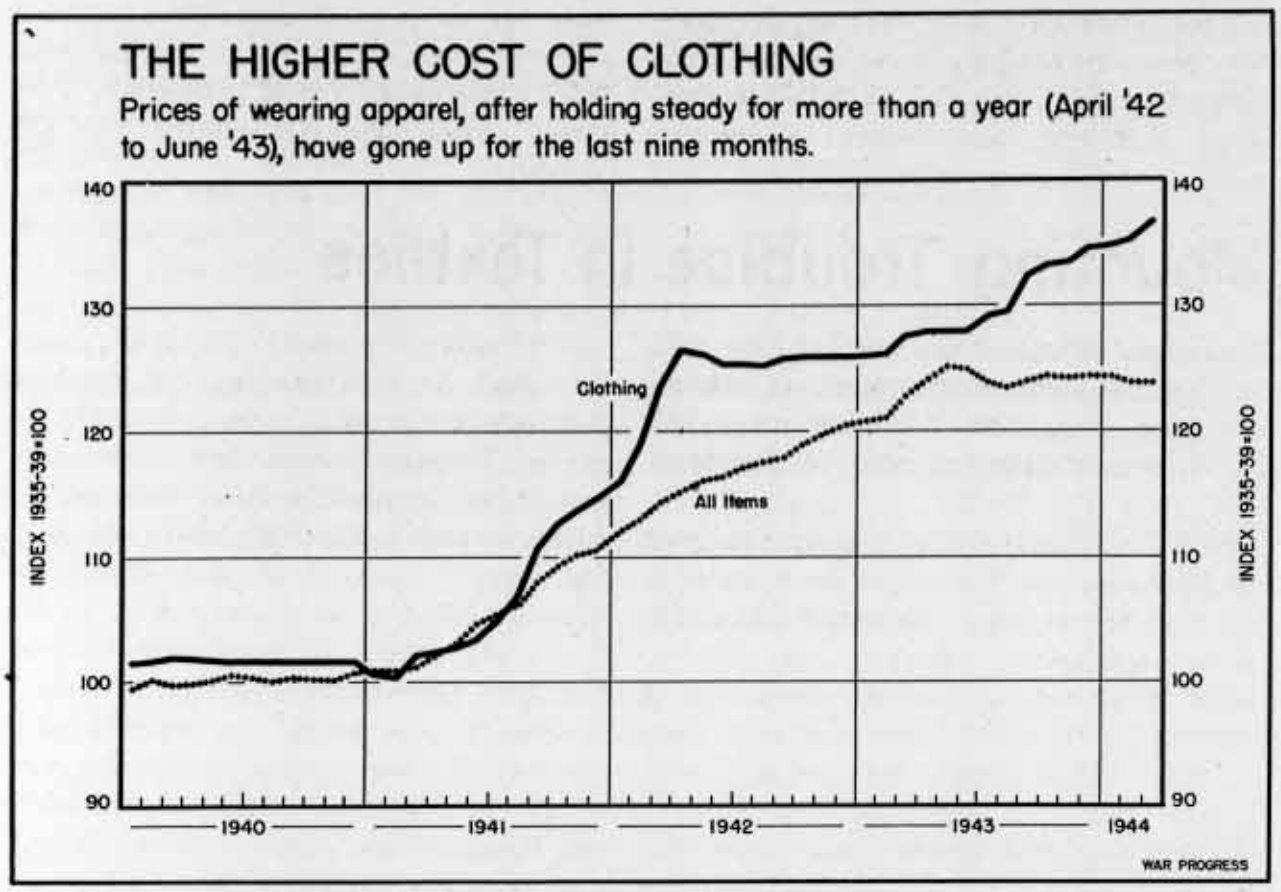
Textile shortages thus pose this question: Is store-imposed rationing a prelude to general, overall rationing? Tentatively the answer is "no." The War Production Board—through its Textile, Clothing, and Leather Bureau and Office of Civilian Requirements—and the Office of Price Administration are trying to meet the problem by getting textile mills to weave the types of cloth most needed and by getting manufacturers of wearing apparel and household linens to make the types of products civilians want to buy. For in large part the problem is this: Supply is out of focus with the most urgent demand.

In the first place, there is an overall shortage of fabrics; requirements of military, export, and civilian claimants for this year run to 12,000,000,000 yards, or 20% more than the 10,000,000,000 yards scheduled to roll off the looms (WP-Jan29'44,p8); but the shortage may even be worse, for actual output may drop to 9,500,000,000 yards, or less.

The heavy demand of the Army, Navy, War Food Administration (bag sheeting needs alone run well over 1,000,000,000 yards), Foreign Economic Administration, and other claimants have reduced the supplies available for civilian wear. And even if textile output reaches the most optimistic estimate, OCR, in the first six months of this year, can expect not more than 2,500,000,000 yards of broad-woven goods (unfinished print cloths, fine sheetings, broadcloths, poplins, dimities, etc.) for women's dresses and house coats, men's shirts, shorts, and pajamas, infants' and children's garments. This is 21% below OCR's estimated essential minimum, and about 40% below consumption in the corresponding period of 1943, when there were complaints of apparel shortages. And if loom output falls below the estimated figure, OCR will fare even worse.

PLAN FOR RELIEF

A production-allocation plan has just been put into effect to get increased production by September 1 of 24,000,000 children's garments—dresses, gowns, pajamas, wash suits, blouses, etc. This plan will be used to step up output of other short items. Here is how it works: OCR decides what end products are short and what fabrics—print cloths, fine sheetings, combed broadcloths, poplins, etc.—are needed for their manufacture. WPB, by issuing directives, then seeks to step up the production of those constructions, and it allocates the unfin-



ished cloth to OCR. In turn, OCR makes the fabrics available to those manufacturers who agree to make them up into low-priced items—women's dresses and house coats, men's shorts, children's wear, etc. OPA sets a limit on the converters' costs of finishing the cloth, and determines the ceiling prices at which the finished end items are to be sold. This will check the upgrading which has been so prevalent.

WAR CHANGES PICTURE

In the textile industry, big-volume cloths have usually netted a lower profit per yard than small-volume constructions. But in wartime manufacturers have been able to sell all types of constructions, high and low priced. So when OPA regulations went into effect and froze prices, some mills shifted their output to the higher-priced and more profitable constructions; from, for example, the staple 3.90 chambray, used for work shirts, to lighter but more profitable constructions for dress goods.

The converter has also followed suit. He buys grey goods from the mills and finishes them or has them finished by bleaching, dyeing, printing, etc. and sells them to apparel manufacturers; he has found it more profitable to go in for costlier processes. His profit is based on a percentage of all costs—the price of goods, finishing charges, shrinkage, freight, and so on. Hence, the more his costs, the higher his prices and the greater his profits. This upgrading is furthered by the garment manufacturer; he puts more labor into the upgraded fabric than he ordinarily would, adds more trimmings, and all this increases his prices and profits. Thus a material which in less abnormal times would have gone into a pair of 39¢ shorts, a $1.50 pair of pajamas, or a $2.98

dress, now gets more expensive finishing and winds up in 75¢ or $1.00 shorts, $2.25 or $3.50 pajamas, or a dress retailing for $4.98, $5.98, or $6.98. OPA is considering revising its regulations so as to cut down on converter upgrading.

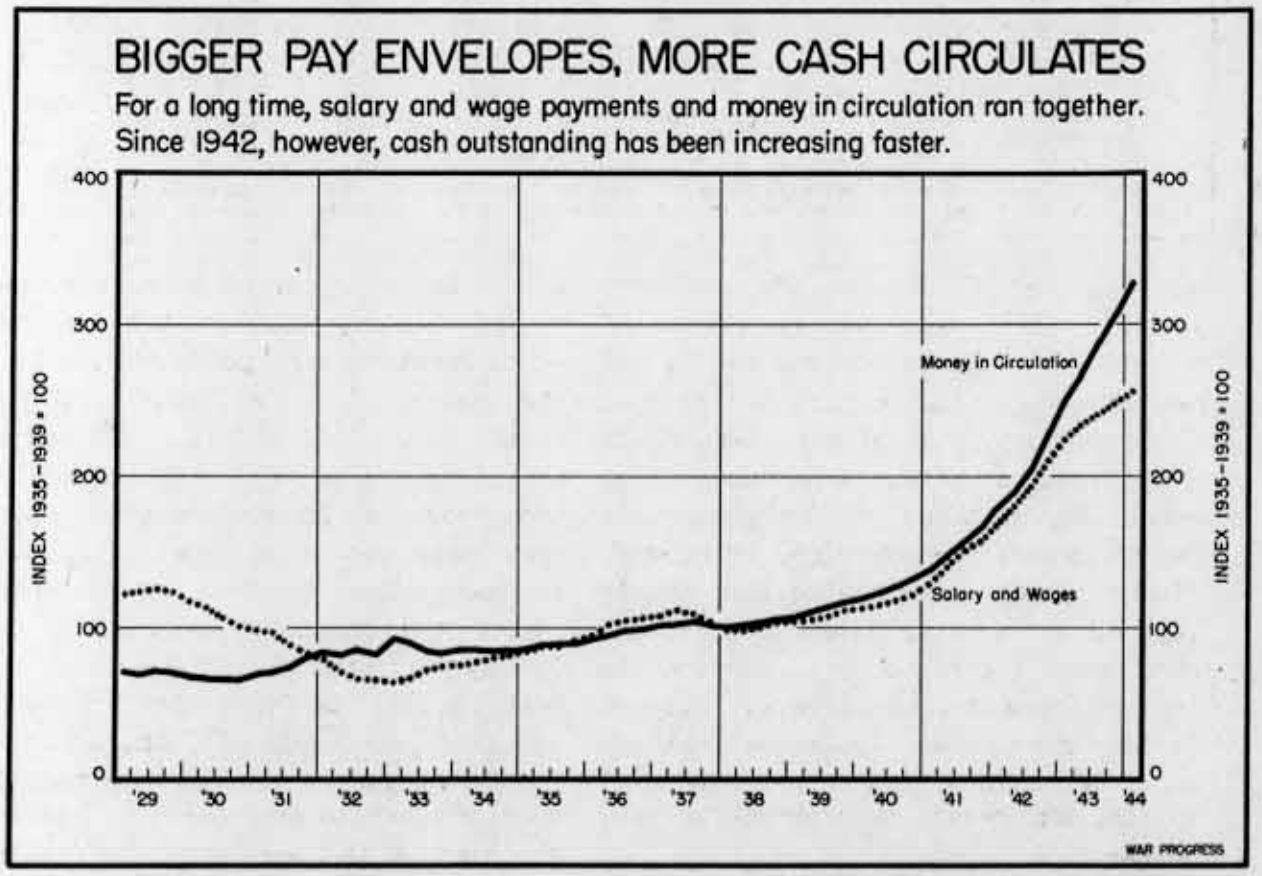
OPA's ceiling regulations, of course, have prevented a manufacturer who specialized in a low-priced garment from stepping up into a higher-priced line, but have not prevented the manufacturer of several lines from concentrating his output on his high-priced items.

MODIFICATION OF LIMITATION

Wholesalers and retailers of low-priced lines, also bound by the price ceilings, have complained that they cannot get inexpensive merchandise and are shut off from quality lines. Now OPA has decided to modify this limitation upon wholesalers and retailers of wearing apparel but will continue to maintain it unchanged at the manufacturing level.

Other factors besides price have had their effect in making items scarce. For example, because of cloth shortages, manufacturers of infants' and children's wear—sleepers, rompers, overalls, etc.—have not been able to keep pace with the increasing birth rate. And at a time when peak industrial activity has created a wide demand for denim overalls, coveralls, jackets, etc., civilians find work clothes hard to get because denim looms had to yield to demands for bag sheeting and the Army and Navy had first call on the denims that were turned out. In work-glove manufacture—a low-wage industry—makers just haven't been able to compete for workers against the much better paying war industries, and output has suffered.

In some instances, changing consumer habits—forced by wartime conditions—



SELECTED MONTHLY STATISTICS

Labor Disputes–Labor Turnover–Federal Finance–Retail Store Sales

	Latest* Month	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
LABOR DISPUTES							
Number of strikes in progress	390 p	370	360	267	272	349	760
Workers involved (thousands)	125 p	130	120	72	77	65	358
Number of strikes beginning during month	360 p	330	330	237	248	210	614
Workers involved (thousands)	115 p	115	110	67	74	43	290
Man-days idle (thousands)	415 p	470	625	210	179	618	3,289
LABOR TURNOVER IN MFG. INDUSTRIES† (rate per hundred employees)							
All manufacturing							
Accessions	5.64 r	5.46	6.47	7.73	8.32	3.34	4.74
Separations-Total	7.27 r	6.52	6.69	8.16	7.69	3.18	3.20
Quits	4.96 r	4.56	4.60	6.29	4.65	.82	1.43
Military	.73 r	.49	.53	.64	1.12	n.a.	n.a.
Aircraft							
Quits	4.56 r	3.93	4.33	5.55	4.75	2.26	2.09
Military	.88 r	.55	.62	.73	1.41	n.a.	n.a.
Shipbuilding							
Quits	5.95 r	5.52	6.10	7.30	7.11	.73	2.05
Military	.94 r	.69	.81	.98	1.70	n.a.	n.a.
FEDERAL FINANCE (GENERAL FUND)							
Expenditures-Total (billion dollars)	7.9	8.5	7.9	7.5	7.5	.7	.7
War	7.3	7.7	7.5	7.0	7.0	.1	-
Nonwar	.5	.8	.3	.5	.5	.6	.3
Revenues-Total	3.1	6.6	2.5	2.0	1.5	.2	.3
Income Taxes	2.5	5.9	1.7	1.3	1.0	-	-
Other	.6	.7	.8	.7	.5	.2	.3
War bond sales	.7	.7	2.8	1.7	1.5	-	-
"E"	.6	.6	2.1	1.3	1.0	-	-
"F" and "G"	.1	.1	.7	.4	.5	-	-
Net debt	172.7	168.1	164.0	145.8	117.2	37.0	33.2
RETAIL STORE SALES-TOTAL (million dollars)	5,592 r	4,827 r	4,926	5,357	5,002	3,379	3,596
Durable Goods	750 r	631 r	636	775	718	851	1,017
Nondurable Goods	4,843 r	4,196	4,290	4,582	4,284	2,528	2,579

* Federal Finance, April; All other, March. p Preliminary. r Revised. n.a. Not available. †Rates beginning 1943 refer to all employment rather than to wage earners only and are not strictly comparable with earlier data.

have aggravated shortages. For example, in 1939 there were no complaints of diaper shortages when output was 24 per new baby; yet in 1943 output had climbed to 32 per baby. Working mothers don't always want to launder diapers every day, hence they buy three or four dozen when two dozen would probably do. Moreover, diaper laundry services collect weekly instead of several times a week, and hence need larger stocks to accommodate the same number of customers. Delayed laundry service has also meant that men and women have to keep larger stocks of shirts, underwear, handkerchiefs, etc. on hand.

The textile situation comes down to this: Retail clothing prices have been rising steadily in the past nine months —at the rate of one point per month in the Bureau of Labor Statistics index (chart, page 10). This, of course, threatens the general price stabilization program. At the same time, shortages have become aggravatingly acute, increasing the pressures for rationing. That is the reason for the plan to follow through production all the way from textile mill to final manufacturer of clothing and household linens: to see first that the most wanted constructions of cloth are woven; second, that they are used in the most urgently required types of end products.

PSF WPB

The President

WAR PROGRESS

~~Confidential~~

No Argument About July Production

When G. I. Joe Returns

Scorecard on Merchant Shipping

Number 204

August 12, 1944

No Question About July Production

Weather, holidays, etc. result in output 2% below June, with no major group on schedule. But loss of labor in munitions plants decelerates, ordnance gains workers.

THERE CAN BE no argument about July munitions production. It was bad. At $5,300,000,000 (preliminary), output was off 2% from June and was the lowest since February (also $5,300,000,000 and a short month). Not a single major group made its first-of-the-month schedule. Here's the statistical tally:

	% Change From June	% Lag Behind Schedule
Total munitions.	-2%	-4%
Aircraft.....	-5	-7
Ships.....	-1	-5
Guns.....	+2	-1
Ammunition.....	+6	-3
Vehicles, etc...	+2	-2
Signal equipment	-6	-4

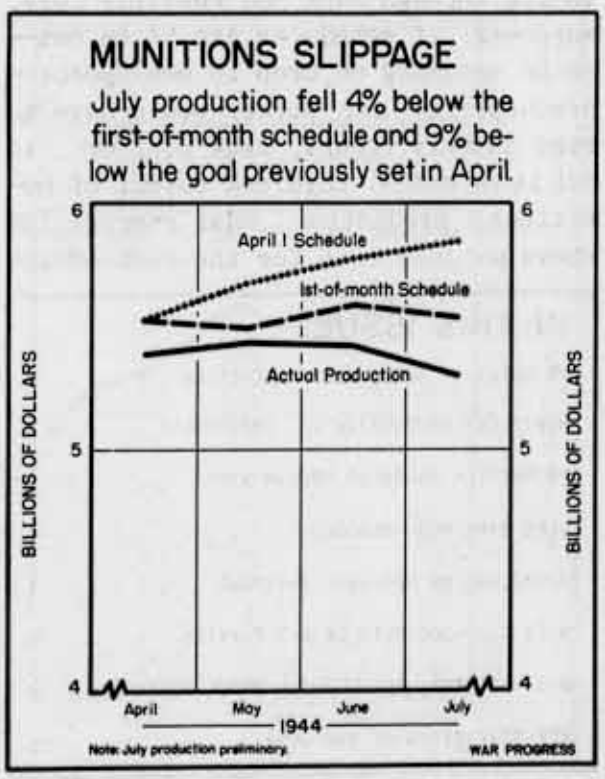
But that is by no means the whole tally. Since the first of the year, many schedules have been reduced because of manpower, or new-model, or component problems, in spite of increases in stated requirements. Heavy-heavy trucks and airborne radar are cases in point. Hence the July 1 schedule, used above, understates last month's deficit. If the April 1 schedule were used, the deficiency would show up as 9% (chart, this page).

REASONS FOR POOR SHOWING

There are reasons for the poor July performance. It was a hot month, which affects the pace of production. Moreover, the July 4 holiday fell on a Tuesday and many workers took Saturday-through-Tuesday week ends with and without permission. Still further, numerous plants used Independence Day as an excuse for shutting down for vacations, repairs, or taking inventory.

In the case of copper field wire, the bulk of the industry took July 4 off, and some plants took full-week vacations. This is a must item—as American, British, and Canadian troops fan out and extend their lines, wire cannot be salvaged when troops move fast, as the Russians have already discovered.

Forge-and-foundry plants, tank plants, and other facilities also lost deliveries because of the holiday or the full-week vacations. For instance, 25 out of the 298 critical forges and foundries took the week off. But 22 of these plants re-



built furnaces and reconditioned machinery. This is expected to result in speedier output from now on. But in the meantime, truck and heavy gun deliveries may have been held up.

A hopeful sign during the month was the deceleration in the loss of workers in munitions plants. As usual, employment in airplane and shipbuilding plants declined. But ordnance plants actually gained workers, contrary to recent trends. Nevertheless, certain types of plants—rubber tires, forges and foundries, radar, ammunition, ship repair, etc.—still have to build up work rosters.

BIG TASK AHEAD

On the basis of current employment in munitions industries, the job ahead is imposing. At the rate of output per worker in July, production would fall short of schedules for the rest of the year by $3,000,000,000, or 10%. And that assumes that employment in the munitions industries holds steady, instead of declining as it did from November through June and possibly July. Moreover, if schedules are to be met—again assuming no drop in employment—productivity per worker would have to rise sharply (chart, page 3). Or, to put it in actual physical output of munitions, production must average 11% above the July rate for the rest of the year. This is not too expectable at this stage of production, when many workers and managements are figuring that cutbacks are just around the corner.

Aircraft

As usual, aircraft production set the tone for the month. Output was off 5%, dropping for the second month in a row. That fact, however, is not so important as this: Aircraft has ceased to be the big expanding program. Last month, it accounted for 30% of total munitions production; the month before, for 31%. But back in January it was slated to account for 35% at this time.

While other programs have been stepped up, overall plane schedules have been repeatedly reduced so that now the program is virtually level (WP-July22'44, p8). Indeed, if it were not for superbombers and A-26 Invaders—the two major expanding schedules—airframe weight would be heading definitely downward.

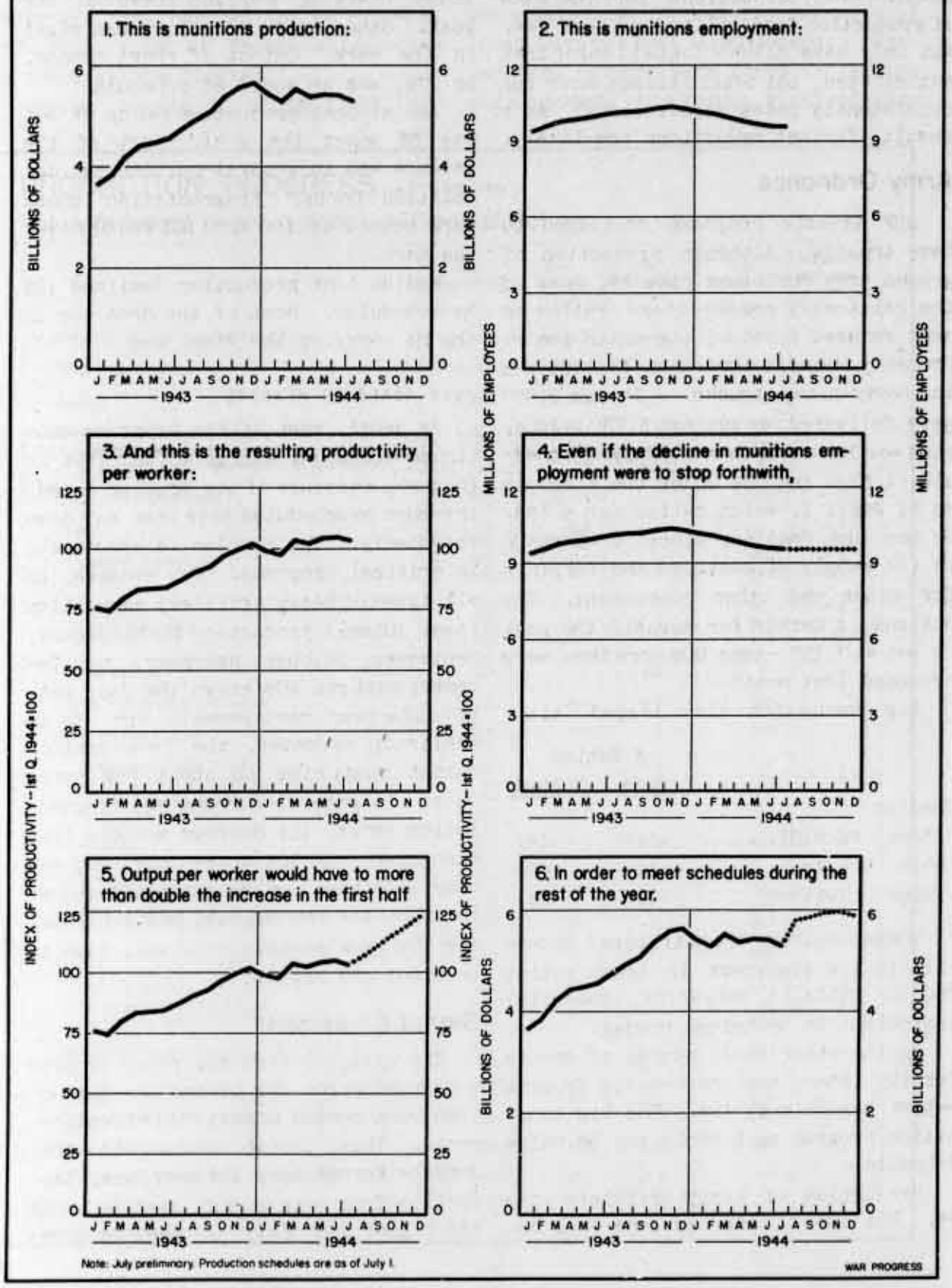
Outstanding has been the steady hacking away at B-24 Liberator schedules. The Liberator program for 1944 and 1945 now runs to 14,768 planes versus 18,850 as of January, a drop of 22%. Other important cutbacks, including the recently publicized P-61 Black Widow, have been:

	1944-45 Sched. as of July 1'44	% Decline From Jan.1'44
P-61 Black Widow	1,049	3%
F4U (FG, F3A) Corsair.....	8,866	9
P-38 Lightning..	10,149	10
C-46 Commando...	4,419	13
B-25 Billy Mitchell.....	5,554	24
P-63 Kingcobra..	5,738	47
A-20 Boston.....	2,317	66
RB-1 Conestoga..	26	98
BTD.....	52	98

In almost every case, the downward

IN THIS ISSUE:

MUNITIONS PRODUCTION vs. EMPLOYMENT



Note: July preliminary. Production schedules are as of July 1.

WAR PROGRESS

revisions have been necessary to bring schedules in line with lowered military requirements; reductions for the sake of production feasibility have been few. Not only have planes lasted longer than anticipated, but battle losses have run consistently below expectations. As a result, further reductions are likely.

Army Ordnance

ASF trouble programs continued to have trouble. Although production of ground army munitions rose 3%, most of the critically needed items failed to meet reduced first-of-the-month goals. Probably the most important failure was in heavy-heavy trucks. Though 3,970 were delivered, as against 3,738 in June, this was 12% less than the July 1 schedule (4,532) and 38% under the schedule as of April 1, which called for 6,353. It was the familiar story: a shortage in the supply of castings and forgings for axles and other components. The outlook is darker for August; the goal is set at 7,137—some 80% more than were produced last month.

Big ammunition also lagged, viz.:

	% Behind June	% Behind Sched.
Shells:		
155mm. HE M101.....	-32%	-45%
8-in. howitzer.....	-39	-63
240mm. howitzer.....	-44	-44

These declines are attributed primarily to the tightness in brass tubing and in phthalic anhydride, essential ingredient in smokeless powder.

On the other hand, output of shells for the 155mm. howitzer—a big program—beat schedule by 39%. The big ammunition program as a whole was 3% below schedule.

Production of heavy artillery rose 7%. But two of the big guns fell behind schedule—the 155mm. field gun by 9%, the 240mm. howitzer by 10%. The 155mm. howitzer ran 10% ahead of the goal. Other heavy artillery was right on the mark. Output of spare cannon, up 27%, was 4% ahead of schedule.

Aerial bomb production was up 5% but was 3% under the goal. Most of the failure was in general-purpose and demolition bombs. Fragmentation bombs were scheduled downward but ran 16% over the mark.

Medium tank production declined 12% as scheduled. Most of the drop was in the M4 carrying the 75mm. gun.

JULY GOALS NO MEASURE

As usual, most of the programs continued about on schedule, but that is in no way a measure of the problem ahead, inasmuch as schedules have been cut down repeatedly. The problem is pronounced in critical programs. For example, in all types of heavy artillery ammunition (over 105mm.) production during August, September, October, November, and December must run 40% above the July rate if full-year requirements are to be realized; moreover, the peak month's output must rise to about 85% above July. In general-purpose and fragmentation bombs, the average monthly rate also must run 40% above July, and the peak will have to be about 50% above. In tanks, the average must be 30% higher, and the peak monthly rate will have to be about 45% higher.

Signal Equipment

The critical airborne radar program continued to run far behind the production level needed to meet stated requirements. Thus, though output of the Army Service Forces rose 17% over June, production from here on must average about 65% higher than July to meet require-

ments for the year. And that calls for a peak rate nearly double July output. (However, requirements may be somewhat reduced in view of recent adjustments in the airplane program.)

Design changes are an important factor in the production lag. The art of radar has been developed so rapidly that new models come in regularly and assembly lines have not kept up with needs. Rising requirements have taxed facilities and manpower. As a result, first-of-the-

PRODUCTION PROGRESS — Preliminary

Value delivered or put in place – millions of dollars

	July Preliminary	June Actual	% Change	July Schedule *	% Deviation July Prelim. vs. Schedule
MUNITIONS AND WAR CONSTRUCTION	$5,530	$5,667	- 2%	$5,772	- 4%
TOTAL MUNITIONS	5,300	5,416	- 2	5,542	- 4
Aircraft	1,585	1,669	- 5	1,700	- 7
Total airframes, engines, propellers	1,253	1,307	- 4	1,346	- 7
Airplane spare parts	313	338	- 7	333	- 6
Other aircraft and equipment (excl. commun.)	19	24	-21	21	-10
Ships (incl. maintenance)	1,165	1,182	- 1	1,220	- 5
Navy	546	581	- 6	585	- 7
Combatant	228	245	- 7	219	+ 4
Landing vessels	229	240	- 5	226	+ 1
Other	94	96	- 2	140	-33
Maritime	382	377	+ 1	403	- 5
Cargo and supply	276	272	+ 1	269	+ 3
Other	106	105	+ 1	134	-21
Army vessels	64	57	+12	64	0
Ship Maintenance and Repair	168	167	+ 1	168	†
Guns and Fire Control	275	269	+ 2	279	- 1
Small arms (under 20mm.)	49	50	- 2	48	+ 2
Artillery, mortars, rocket launchers – ASF	59	56	+ 5	59	0
Fire control and searchlights (excl. Radar)	54	54	0	56	- 4
Naval guns and other	113	109	+ 4	116	- 3
Ammunition	565	535	+ 6	580	- 3
Small arms (under 20mm.)	46	48	- 4	46	0
Artillery ammunition, mortar shells, rockets – ASF	171	167	+ 2	168	+ 2
Aerial bombs – ASF	120	114	+ 5	124	- 3
Naval ammunition and other	228	206	+11	242	- 6
Combat and Motor Vehicles	430	420	+ 2	440	- 2
Combat vehicles	144	147	- 2	144	0
Motor carriages for SP guns	32	32	0	32	0
Automotive vehicles and tractors	247	235	+ 5	257	- 4
Communication and Electronic Equipment	355	376	- 6	369	- 4
Radio	155	168	- 8	160	- 3
Radar	120	124	- 3	124	- 3
All Other	80	84	- 5	85	- 6
Other Equipment and Supplies	925	965	- 4	954	- 3
WAR CONSTRUCTION (GOV'T. FINANCED)	230	251	- 8	230	†

* As of June 1 for Construction; as of July 1 for all others.
† Schedule used for preliminary actual.

LIKE SINKINGS—REDUCED

OBSOLESCENCE has overtaken WAR PROGRESS' oldest continuous feature—the full-page "Scorecard on Merchant Shipping." With this issue it is pulled down to half size—recognition of the diminished importance of the German submarine in the war.

But between June 26, 1942, when the Scorecard was first presented, and today, the U-boat has led United Nations shipping a chase, as the chart makes clear. Immediately following the fall of France (June, 1940), it was a rare month in which United Nations shipyards outproduced the U-boat. Throughout most of 1942 sinkings ran above 1,000,000 deadweight tons a month.

But these were peaks. Ships were coming off the ways faster and faster and defenses against the submarine were tightening. Last month, to make a long story short, losses were about 100,000 tons, as against new construction of 1,250,000 tons. The United Nations fleet is more powerful than ever, and continues to grow. In addition, the occupation of Brittany, with its key bases for U-boats, may cut down losses still further.

Hence the need for a monthly profit-and-loss account on merchant-ship casualties of the sea has passed. In the future, WAR PROGRESS will present the Scorecard on Merchant Shipping only as news dictates—not as a monthly feature.

month schedules have had to be reduced constantly toward reality. For example, the July goal for the enemy-radar jamming set, the AN/APQ-9, was cut from $3,490,000 as of April 1 to $1,590,000 as of July 1. Yet output last month (up 62%) still fell 1% short of this reduced mark.

TROUBLE SET COMES THROUGH

Another troublesome set—the AN/APQ-13 bombing equipment—finally came through. Output ran to $9,375,000, as against required average monthly production of $8,650,000 for the rest of the year.

The airborne radar program as a whole, though up 12%, was 5% under the forecast. The biggest lag was in the Navy program, which has been consistently behind schedule. Ground and ship radar declined about as planned.

The wire communication and miscellaneous program for the ASF ran 6% behind both June production and schedule. Here the deficit was due largely to field wire, one of the critical items. Fourth of July holidays cut into production; also facilities which are being expanded to produce a new type of insulation had not yet been completed.

The total communication and electronic equipment program declined 5%, was 6% short of the first-of-the-month schedule.

Maritime Ships

The Maritime program, with total construction of 1,282,000 deadweight tons, had another poor month. Deliveries were 4% under schedule and 8% below June.

Military-type ships registered a 15% gain over the preceding month but missed schedule by a wide margin—9%. High-priority combat loaders failed to get under way as rapidly as planned: eight were scheduled but only six completed. This month 29 are called for.

Merchant ships were 3% short of the

goal. The important tanker program beat schedule by 4%, but all major dry-cargo types ran behind, with most of the deficit in the declining Liberty ship program; 51 Libertys were delivered, 54 were scheduled. Standard cargo ships are due for a sharp rise, with 20 slated for completion in August, as compared with 10 completed in July.

The Maritime program as a whole is scheduled to jump 11% this month, and then to level off until December.

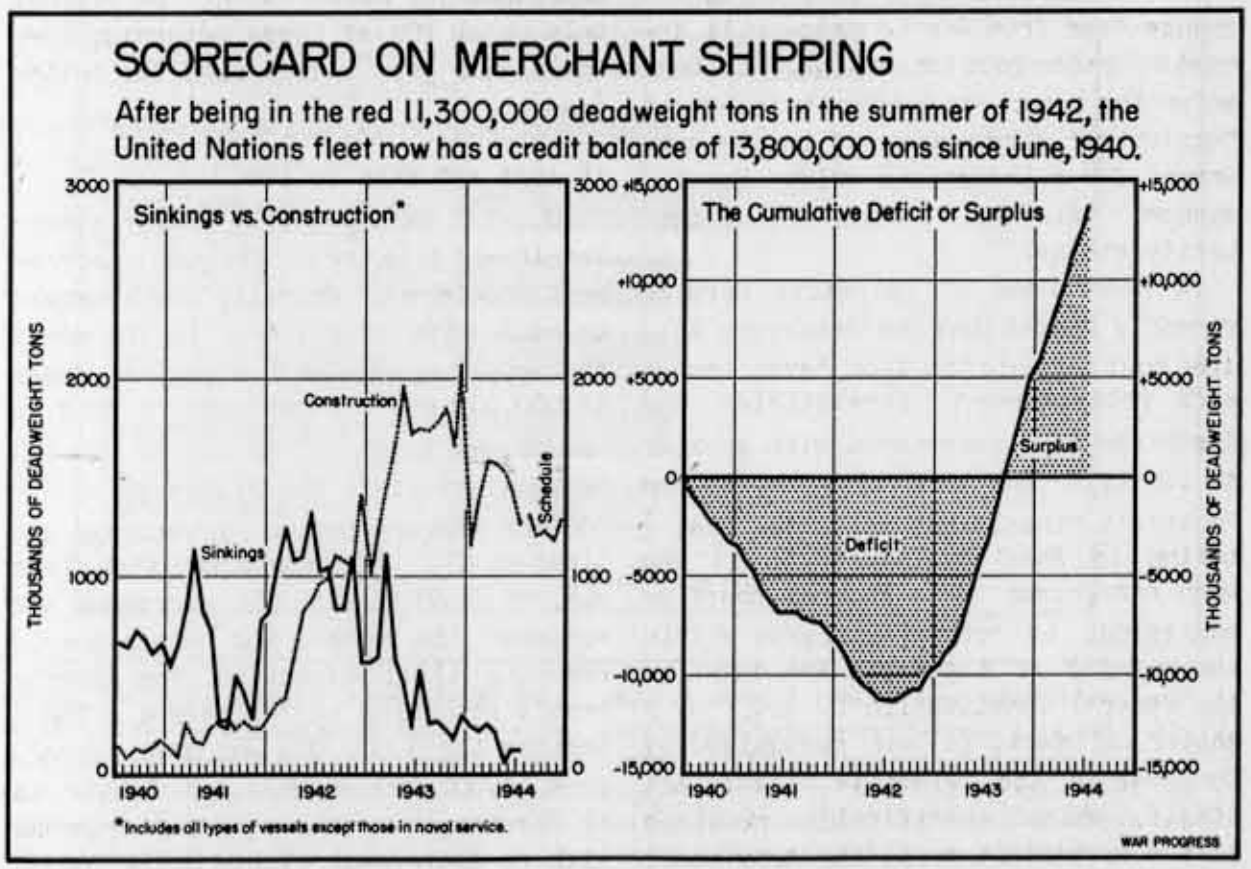
Naval Ships

Navy-built ships in July were led by the 45,000-ton battleship "Missouri" —the last battleship scheduled for completion in 1944 and 1945. Total deliveries, at 298,000 displacement tons (preliminary), were 4% under both June and schedule. The deficit, as usual, was chiefly in auxiliary and minor craft; landing vessels were slightly behind and combatants slightly ahead of schedule:

	Deliveries (000 tons)	% Change From June	% Change From Sched.
Combatants.....	90	-21%	+23%
Landing vessels	142	+ 5	- 3
Patrol & mine..	11	nil	-15
Aux., all other	55	+ 8	-17
Total.....	298	- 4%	- 4%

Despite missing schedule, auxiliaries had the biggest month in Navy construction history. Landing vessels were second only to May's record total, but are due to decline gradually from now on.

The Maritime Commission delivered two aircraft carrier escorts to the Navy, thereby completing on schedule its program of 50. In addition it finished eight frigates; this program is slated to wind up in October.



When G.I. Joe Puts on His Civvies

There's bound to be a conflict between veterans rights and seniority rights. It all leads up to the question: Can and will returning soldiers get their jobs back?

WHEN CONGRESS wrote the law that drafted the serviceman out of his job, it also wrote the law to put him back: Section 8 of the Selective Service Act of 1940 provides that his employer "shall restore such person to such position or to a position of like seniority, status, and pay unless the employer's circumstances have so changed as to make it impossible or unreasonable to do so."

The intention of Congress is perfectly clear: to give the men their jobs back. But the employment of over 10,000,000 veterans during the time when American industry is making the great change-over from war to peace will demand more than good intentions. Although enforcing agencies are bound to interpret "employers' circumstances" in the veterans' favor, questions arise; for instance: veterans' status versus seniority status.

A memorandum of Selective Service recently stated that the returning soldier must have his job back "even though such reinstatement necessitates the discharge of a nonveteran with greater seniority." But seniority is, as the President himself has said, "an institution in American industry"; it has been recognized by a Federal court as equivalent to "property rights within the meaning of the Fifth Amendment to the Federal Constitution"; and, as a matter of fact, it was recognized by Congress in the Selective Service Act itself, which specifically provides that a worker's term in the Army shall be served "without loss of seniority."

That the man longest on the job has the best claim to it is the rule now used by management and labor alike to govern hiring and firing; it is written into nearly all union contracts and is the main personnel control of nonunion companies. Veterans, making use of the seniority accrued throughout their service, would not be apt to find anyone questioning their right to replace workers with less seniority.

Just how the problem of seniority versus veterans' rights is resolved will depend, in the main, on the state of the nation when G.I. Joe returns. If employment at that time is at its present height (60% above prewar levels in the manufacturing industries), veterans' absolute priority for jobs will probably cause no major dislocation. At present only about 20% of those returning seek their old jobs. They hunt for better ones.

IF JOBS ARE HARD TO GET

But if employment is nearer prewar levels—if jobs are hard to get—enforcement of veterans' priority seems certain to cause major conflicts. In the manufacturing industries, for instance, where 16,000,000 are now employed, a drop to the prewar level of around 10,000,000 would necessitate the discharge of 6,000,000 workers before any veterans are hired at all. This would more than clear out, of course, all the emergency war workers: the women, the young people resuming their education, the elderly people returning to retirement. Then, besides the 6,000,000 who have already gone, 4,000,000 more stand liable to be discharged to make room for veterans with re-employment rights in the industry. Even though it is expected that

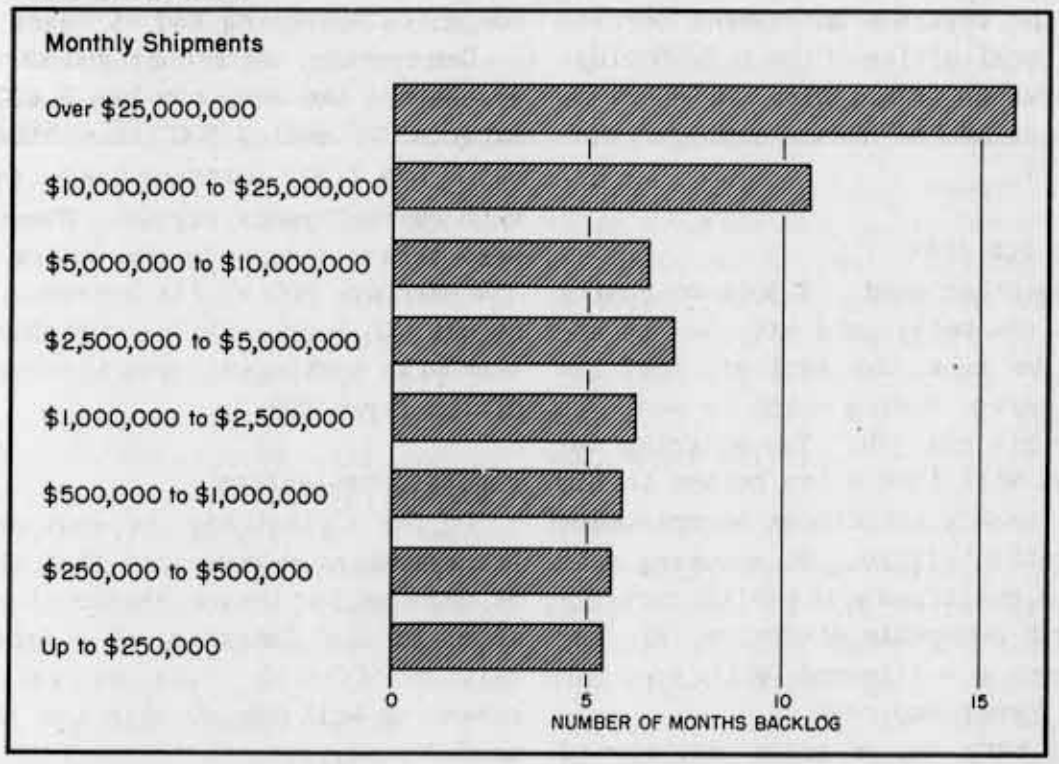
the service industries—transportation, merchandising, and the like—will employ a larger proportion of postwar labor, this will prove a small palliative indeed when you consider that a grand total of 10,000,000 out of 16,000,000 now engaged in manufacturing will have to go.

Just how valid are the servicemen's "rights" under such circumstances? To find out, let's follow G.I. Joe after he gets into civvies; let's try to foresee what obstacles he may encounter and what difficulties he may make for others while on his job hunt.

Assuming that he is in good health and ready to go to work, he will return to his home town. (If he had suffered disability, the Veterans Administration would be charged with his rehabilitation, training, and placement in a job; if the disability were not the result of war service, the Office of Vocational Rehabilitation of the Federal Security Agency would perform this function.) Once he is home his volunteer re-employment committeeman attached to the local Selective Service Board (Veterans Personnel Division) will take his case in hand. And the first question raised will be whether Joe wants his old job

BIG BUSINESS, BIG BACKLOGS

Unfilled orders range from 16 months for large firms down to five months for small companies.



WAR PROGRESS

ALTHOUGH the big companies have the biggest backlogs, actually a good portion of this is only on paper. When X Day rolls around, cuts ranging from 30% to 50% could easily occur. In that case, big backlogs could dwindle overnight. Nevertheless, larger companies would be in a relatively better position than the smaller ones—first because they start with bigger backlogs; second because a sizable proportion of their contracts are subcontracted. Thus when the big blow falls, they would cut their subcontractors out and keep their own plants going as long as possible—their own reconversion permitting.

back or whether he'd like to look around for something else.

What Joe answers will depend not only upon nationwide business conditions but also upon conditions in his own neighborhood. (In New Haven, Conn., until recently around 45% of returning veterans have sought their old jobs, evidently because of high wages in local industry; in Tampa, Fla., only 1% have done so.) But the chances are Joe will not want to return to his prewar status. He'll be an older man—not much in years, perhaps (although years count heavily at his age), but tremendously so in experience and self-esteem. If times are good and men are being hired, he won't be in a hurry to exercise his legal right to his $25-a-week job in the shipping department. So they'll send him to the Veterans Employment Service in the local office of the U.S. Employment Service. (This also is where he would go if he had been unemployed when drafted.)

BACK TO OLD SPOT

On the other hand, if jobs are scarce and men are being laid off, Joe is unlikely to risk the expiration of the 40-day period during which he must apply for his old job. The shipping department will look a lot better to him than a weekly trip to an unemployment compensation office. So assuming he is properly qualified with health certificate and honorable discharge, his re-employment committeeman will send him to his former employer.

From here on, a great variety of things can happen. Ideally, Joe will be restored to his old job "or to a position of like seniority, status, and pay." A civilian with less seniority will be "bumped" out. Industry in general not only acknowledges its obligation to re-employ its veterans but looks forward to it, many managers being convinced that war service makes better workers. In fact, the great majority of companies questioned on the matter now plan to do a lot more for their returning veterans than the law requires.

MORE VETERANS THAN JOBS

So they plan. But circumstances may put them on the spot. In a recent industry survey, 13% of the companies said that they had more stars on their service flags than the total of workers employed before Pearl Harbor. In other words, as a result of rapid plant expansion they have more draftees with the legal "right" to be re-employed than the number of workers they ever employed in peacetime. And 30% of the companies answering had at least half.

One company, which employed 500 workers before the war, now has 3,400. It expects to employ 800 after the war, but it has 1,300 veterans now in service with re-employment rights. Even if it were able to discharge the entire 3,400 now working, 500 of its veterans would be out of luck. So Joe's rights here seem to be contingent upon his being one of the first 800.

VANISHED OBLIGATION

Or Joe's plant may be shut down or its operation so curtailed that the job he once held no longer exists—in which case, in the language of a Selective Service official, "the obligation to re-employ will vanish with the job itself."

Or Joe's plant may be in the process of reconversion to peacetime production. They'll tell him to come back in six months; for the time being (in the language of the act) "the employer's circumstances have so changed as to make

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War Program—Checks paid (millions of dollars)	1,927	1,707	1,635	1,844	1,652
War bond sales—E, F, G, (millions of dollars)	215	424	505	870	147
Money in circulation (millions of dollars)	22,910	22,734	22,561	20,534	18,014
Wholesale prices (1926=100)					
All commodities	103.6	103.9	103.9	103.1	103.0
Farm products	122.5	124.1	124.1	124.2	125.0
Foods	104.6	105.3	106.0	104.2	106.6
All Other	98.7P	98.7	98.7	98.0	97.2
Petroleum:					
Total U.S. stocks* (thousands of barrels)	413,329	411,357	411,612	418,352	425,933
Total East Coast stocks* (thousands of barrels)	67,078	66,209	63,684	56,762	54,291
East Coast receipts (thousands of barrels, daily average)	1,754	1,748	1,832	1,514	1,296
Bituminous coal production (thousands of short tons, daily average)	2,058	1,998	2,008	2,138	2,028
Steel operations (% of capacity)	96.9%	95.9%	97.2%	96.8%	97.8%
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,800	3,267	2,839	2,783	2,701
Gulf Coast ports	378	430	392	291	336
Pacific Coast ports	1,796	1,720	1,638	1,267	1,320
Department store sales (% change from a year ago)	+4%	+12%	+3%	+2%	+7%

P Preliminary * Excludes military-owned stocks

it impossible or unreasonable" to rehire him. And Joe will figure he was let out of the Army too soon.

Or Joe's plant may tell him that he was a temporary worker when drafted and as such, under the act, not entitled to re-employment. This may be news to him. But if the job he held was one vacated by a man previously drafted, Selective Service says he was a temporary worker. He wasn't told—perhaps because the company badly needed workers at the time they hired Joe, perhaps because the company didn't know or saw no point in the classification. The Selective Service interpretation of the act was not made available until four years after its passage —four years after the war boom jumped employment in their plants. Over 85% of companies answering a widely distributed questionnaire have not been separately classifying "temporary" workers. A last-moment attempt to do so is certain to involve arbitrary decisions and injustice to individuals, because expansion, upgrading, and dilution have so erased outlines of original jobs that the definition will be very difficult. Joe's right, it may turn out, never existed.

IMPOSSIBLE OR UNREASONABLE

Finally, Joe may be told that his re-employment is "impossible or unreasonable" because there are dozens—or hundreds—of other Joes with exactly similar claims who, if they were all rehired at once, would replace the plant's entire trained working force. He'll be asked if he thinks an industrial plant can run without its trained workers and what good his right to a job is in a plant that's not running. He'll have to depend, they'll tell him, on his sen-

iority which has been accruing throughout his service: if it exceeds that of a civilian worker whose job he can do, he'll be hired. If not, not. This is in accordance with their union contract. Joe, backed by the local Selective Service organization, may put up a strong argument for his rights; but his former employer, backed by the union and fighting for the very life of his business, may stand firm in resisting. One manufacturer, foreseeing this conflict, has said that he "just can't believe" government would ask him to dismantle the nucleus of his working force with possibly ruinous results.

JOE VERSUS MIKE

And Joe may have to take a look—a personal look—at Mike, the mainstay of the shipping department, who will be fired to make room for him. Mike may not be Joe's brother-in-law or his next-door neighbor, but he lives in Joe's town, and Joe won't be able to think of him as a mere unit in a manpower surplus. Joe will think of him as a man who needs a job.

From Mike's point of view, Joe is also a man who needs a job, and who was in the war besides; but Mike may have worked for the company the better part of his life; he may be a veteran himself —of World War I; he may have a son in service in this war, who may have been killed or injured. Moreover, Mike may have resisted the temptation to take a higher-paying job because of his vested interest in his seniority, or he may be one of the workers who were recruited for war jobs by the War Manpower Commission through its Labor-Management Committees under the specific agreement that they would retain their seniority rights in civilian employment and in some instances would be subject to recall to their old jobs. In any event, Mike was depending on his seniority to protect him against being thrown out upon a chaotic labor market where his age would count heavily against him.

And from all points of view, there will be thousands of Joes and thousands of Mikes wrestling with their consciences: Whose job is it?

If it so happens that Joe, after reviewing all the pros and cons, decides that the job is his, and not Mike's, then what can be done about it? The act provides that he may go to the courts to implement his claim. However, since he is in an area where there are more veterans than jobs, he is apt to find the court machinery bogged down beyond any hope of speedy judgment. Faced with legal delays, Joe may finally abandon his rights at this point.

WHAT'S THE ANSWER?

If thousands of Joes come to this same conclusion, then they themselves will break down the very safeguards that are supposed to protect them. This raises the problem of whether we ought not now, at this juncture, to try to formulate a system that will serve. Should Congress provide a semijudicial agency to protect veterans' claims? Should the absolute priority provision be retained or should seniority rule, as in Britain and Canada? Might the Army soften the impact of the returning mass of servicemen by scheduling their discharges on a re-employment basis? What other possibilities are there? After all, both the employer and the veteran will be under pressure—the employer to keep his business afloat in the dangerous crosscurrents of reconversion, the veteran to re-establish himself after the break in his life.

Unless these questions are resolved beforehand, all this will come upon us all too soon.

PSF: WPB

The President

WAR PROGRESS

~~Confidential~~

Disclosure Punishable Under Espionage Act

WPB's Field Staff on the Spot

TNT—Again a Production Problem

Preinvasion Peak in Lend-Lease

Number 205

August 19, 1944

More Power to WPB Field Staff

Spot authorization plan increases responsibilities. But their stature has grown with their jobs, which range from approving materials applications to expediting.

WHEN THE War Production Board was set up in January, 1942, practically all of its 8,700 employees were in Washington; less than 200 workers were in the field, a legacy from the superseded Office of Production Management. Today, the WPB payroll stands at 14,900 employees; and 38 out of every 100 work in a regional or district office, a new high (chart, page 2). That's the short short story of the growth of WPB's field organization.

OBJECT: DECENTRALIZATION

The reason behind that story was the need for decentralization. During 1942, when industry was building up the U.S. war machine, around 500,000 applications of all kinds poured into Washington each month. And with Washington itself building up to war, that was too much to handle: weeks, sometimes months, went by before a company's application for priorities assistance came through. Take the case of priorities assistance form PD-1A (now WPB 541), by far the most important application in those days.

Some 160,000 PD-1As streamed into Washington each month and as late as February, 1943, the figure was around 140,000. But in March, 1943, field offices began processing PD-1As involving up to $500 of materials or products and the number of applications coming into Washington dropped to 77,000 in the following month. In November, 1943, the field handled PD-1A applications up to $1,000. Two months later, the ante was stepped up to $2,500; and in April, 1944, to $25,000. Now, the Washington total for PD-1As runs to about 9,000 per month (chart, page 3).

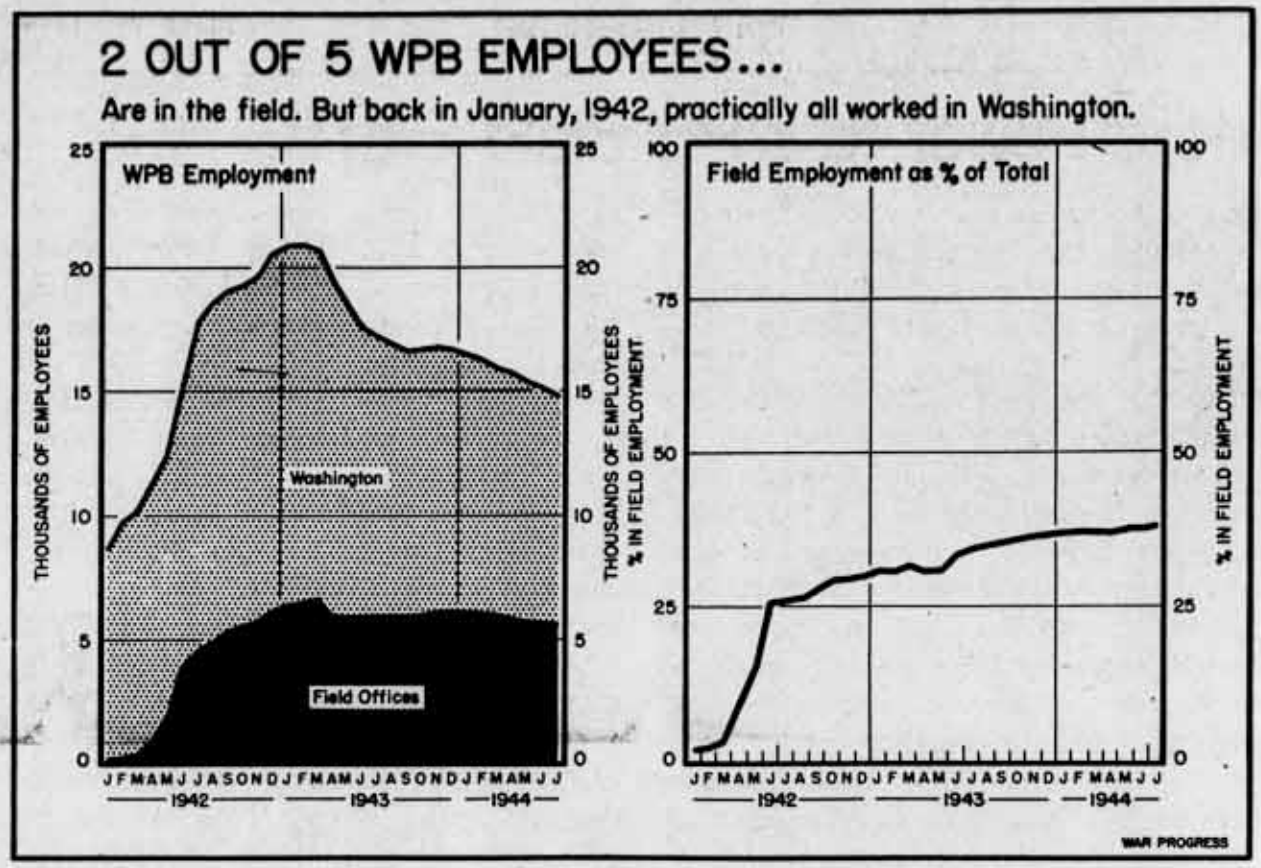
Not all of this drop can be credited to the field. Businessmen were continually being educated, learning not to file PD-1As unnecessarily as they often did in early-WPB days. More important, when the priorities system was changed—and controls were extended to more and more materials and products—the work that would have been done by the PD-1A was placed on other applications.

Those were the days when Washington was still leery of the field; it wasn't sold on the practicability of decentralization. But now the field is getting a finger in just about every pie that's cooked up at Washington headquarters—with consequent gains in efficiency.

PROMPT SERVICE

A few years ago, if a St. Louis meat packer filled out a PD-1A for conveying equipment and sent it to Washington, he counted himself lucky to get his authorization in three weeks. Today he sends it to the WPB district office in St. Louis—one of more than 100 in the United States (map, page 4)—and the job is done within a week. If it's an emergency, he can get it the same day, with as high as an AA-1 preference rating to go with it.

Again, the firm that figures on spending no more than $100,000 on construction formerly had to fill out a PD-200 and "sweat it out" anywhere from 20 to 60 days while the application made the rounds in Washington. Today, the pro-



spective builder fills out a WPB-617 which, with certain exceptions, can be filed at the nearest district office; there, it comes out of the processing mill in about a week. As against none at all prior to March, 1943, the field is now handling some two-thirds of all construction applications—which means 7,000 to 10,000 fewer forms coming to Washington each month.

IN THIS ISSUE:

Examples of such savings can be multiplied: Last January, when the Controlled Materials Plan was overhauled, the disposition of "small cases"—those involving quarterly allotments of less than 150 tons of carbon steel, for instance—was placed entirely in the field. As a result, an estimated 60% of the 80,000 CMP-4B applications expected this year will be handled by the district offices. A few months later, the field was given authority to screen applications for domestic mechanical refrigerators (WPB-882s) and to deny those that didn't conform to Order L-5D; that alone cut Washington paper by some 20,000 applications a month. And in June, another 5,000 applications per month were eliminated when the field was given authority to approve, as well as deny, applications for new typewriters on omnibus form WPB-1319.

Decentralization of the appeals pro-

cedure has also helped to ease the Washington work load and strengthen the field staff's authority. At first, the field had nothing to do with such things as appeals or the distribution of refrigerators and typewriters; they were all handled in Washington. Similarly with scores of other items now handled wholly or partly in regional and district offices: farm machinery, plumbing and heating equipment, construction machinery, copper wire and tubing, photographic equipment, metal office furniture, house trailers, refrigeration machinery, etc.

FIELDER'S CHOICE

Since October, 1943, however, district offices have been allowed either to deny or recommend approval of appeals from approximately 80 L and E orders, including motor trucks and trailers (L-1-e), fluorescent lighting fixtures (L-78), office supplies (L-73), coal stokers (L-75), hand service tools (E-6), precision measuring instruments (E-9), and electric appliances (L-65).

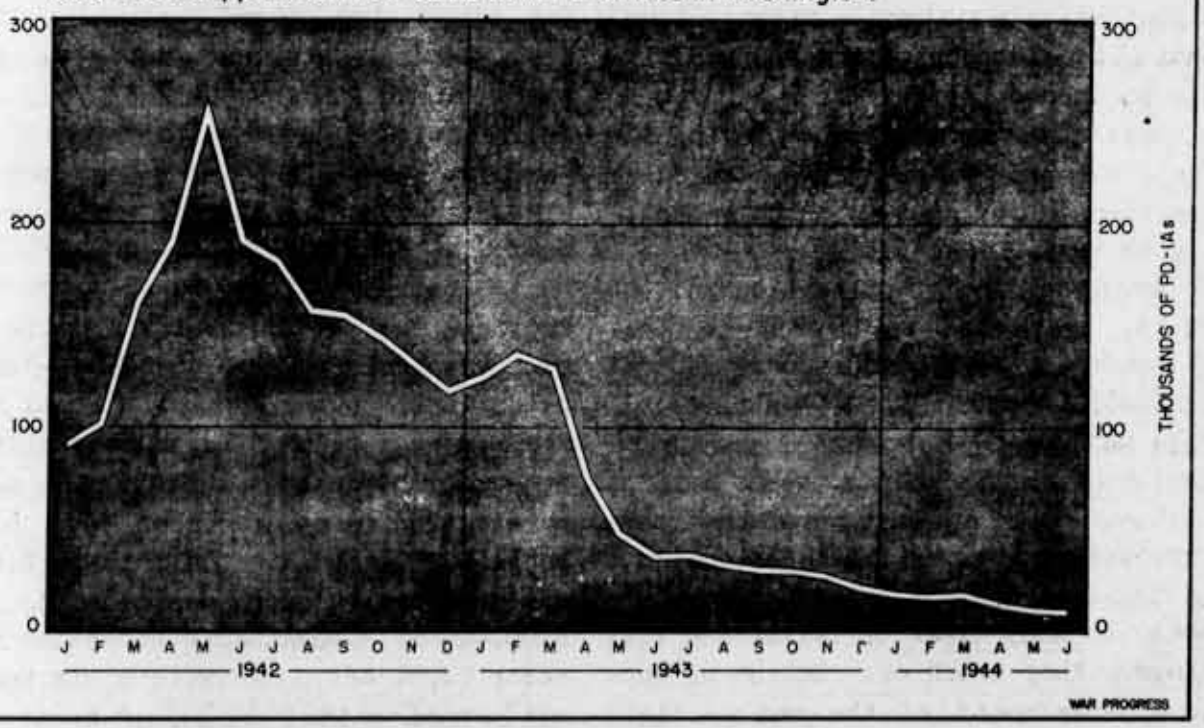
As a result of its hard-won practical experience, WPB's field staff is now charged with a major responsibility in reconversion under the so-called Nelson orders, as follows:

It may authorize manufacturers to build working models of postwar items up to a value of $25,000 per plant per month. It may authorize the placing of unrated orders to acquire machine tools and other machinery necessary to peacetime production. Finally, under this week's spot authorization order, it may authorize civilian production within specified limits in any area where manpower, materials, and facilities are not needed for war production.

The direct delegation of authority to carry out a new WPB policy is a milestone. Formerly, any such departure

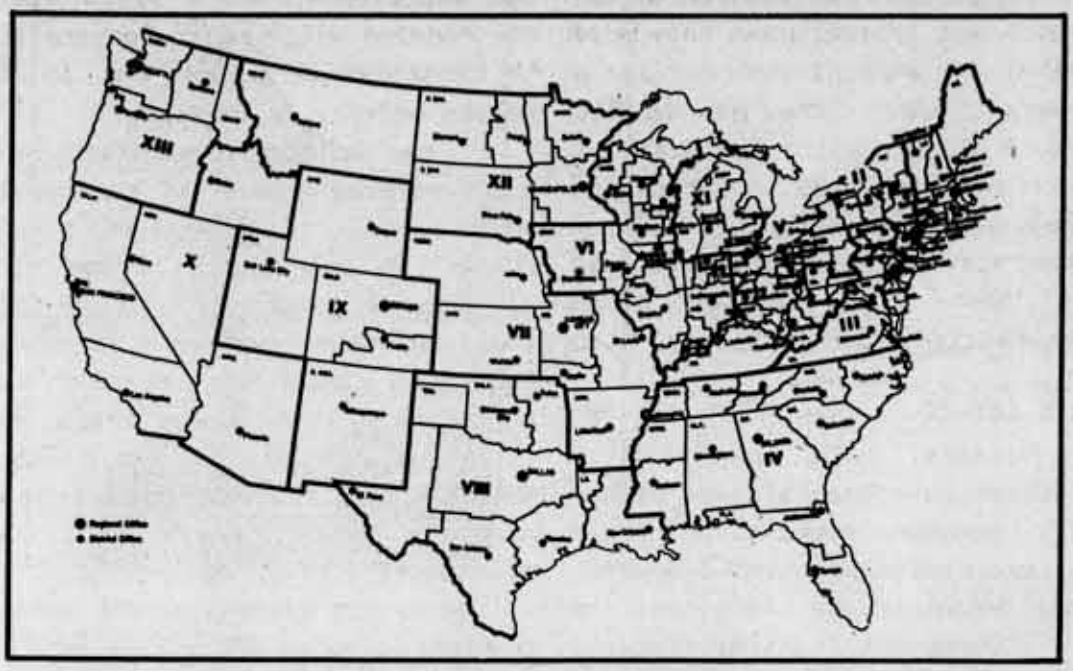
THE RISE AND FALL OF THE PD-1A

From a peak of more than 250,000 forms in May, 1942, less than 10,000 of this once-basic application now come to WPB offices in Washington.



SPOT AUTHORIZATION = FIELD AUTHORIZATION

Recent order permits these 100-odd WPB offices to okay limited resumption of civilian production—provided manpower, materials, and facilities are available.



Note: WPB also maintains field offices in San Juan, Puerto Rico, and Honolulu, Hawaii.

WAR PROGRESS

was sure to be centralized in Washington first; the field might come in for a show later on, after headquarters had it "worked out." But now, the field organization's stature is so established that it is given operating responsibility at the outset.

What's more, today's work in the field doesn't stop with these particular functions; it extends to trouble-shooting as well.

As in the case of priorities and the PD-1A, there had to be a first time. It came in June, 1943, under General Scheduling Order M-293 (WP-Apr2'43,p1; July 29'44,p10). M-293 had been in effect only a month when it became evident that control of at least one of the items involved—valves and fittings—couldn't be centralized in Washington; there were too many types of valves and fittings to keep track of. So the production departments of the various field offices, with their on-the-spot knowledge, were called in to freeze producers' schedules and build up production.

They're still on that particular job. But since then trouble-shooting has been taken in stride. There was the time, in the summer of 1943, when a jurisdictional dispute threatened to shut down assembly lines in an eastern aircraft plant; a field service man headed it off, then arranged a settlement. Later in the year, when a housing shortage was on the verge of slowing construction of a high-octane gasoline plant down South, it was a field man who arranged to move in house trailers and erect barracks. A few months ago, an electronics manufacturer with open facilities came into the Chicago field office looking for business; he got $200,000 in subcontracts for radio and radar right off, and within six weeks was jammed with $550,000 of prime and

subcontracts. Recently, in another mid-western city, a foundry making cylinder heads for heavy-heavy trucks increased output 20% in one week when a field specialist paved the way for new machinery, manpower priorities, and a labor-management committee.

The inclusion of trouble-shooting, however, still doesn't measure the full range of today's operations in the field. All Production Urgency Committees are chairmanned either by a regional director or by a local WPB official appointed by him; and the district offices in each region act as a staff organization for the PUCs (WP-Oct30'43,p1).

The field service also verifies facts in applications to produce consumer items such as electric irons and steel bedsprings; collects information to guide the establishment of civilian programs; cooperates in special industry surveys; etc. In addition, it oversees compliance with priorities regulations; supervises the local distribution of used construction machinery; fosters the creation of labor-management committees; aids in the evaluation of wage incentive plans; and pitches in on special drives such as paper salvage and share-the-steel.

Obviously, for many operating functions, the field has surpassed Washington in importance; and for others it has become indispensable. Which is as it should be. There is no substitute for on-the-spot knowledge, for on-the-spot handling of local problems. In fact, when WPB was established, one of the basic ideas was to concentrate policy-making in Washington and operations in the field. The new spot authorization plan is a high point in that development. And so is the recent creation of an Office of Vice Chairman for Field Operations.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War Program—Checks paid (millions of dollars)	1,615	1,927	1,504	2,104	1,669
War bond sales—E, F, G, (millions of dollars)	106	215	588	589	198
Money in circulation (millions of dollars)	23,020	22,910	22,531	20,586	18,101
Wholesale prices (1926=100)					
All commodities	104.0[P]	103.6	103.9	103.1	102.7
Farm products	124.8	122.5	124.2	123.2	122.9
Foods	106.1	104.6	105.6	104.0	105.1
All Other	98.7[P]	98.7	98.6	98.1	97.3
Petroleum:					
Total U.S. stocks* (thousands of barrels)	411,514	413,329	415,671	415,516	420,129
Total East Coast stocks* (thousands of barrels)	67,698	66,895	64,793	55,630	54,291
East Coast receipts (thousands of barrels, daily average)	1,842	1,754	1,742	1,558	1,295
Bituminous coal production (thousands of short tons, daily average)	2,000	2,065 [R]	1,731	2,142	1,967
Steel operations (% of capacity)	96.0%	97.0%[R]	95.9%	97.2%	97.8%
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,652	2,800	3,148	2,788	2,665
Gulf Coast ports	371	378	452	310	345
Pacific Coast ports	1,783	1,796	1,612	1,182	1,410
Department store sales (% change from a year ago)	+13%	+5%[R]	+15%	-21%	+4%

[P] Preliminary *Excludes military-owned stocks [R] Revised

TNT Gets a Triple-A "Must" Rating

Sharp rise in heavy ammunition requirements puts it back on critical list. Production must double, and will take entire output of toluene; 35,000 workers are needed.

THE TNT schedule has exploded with something of the violence of the material itself: it is now in the middle of a rise that will more than double production.

Production of TNT (trinitrotoluene) was 180,000,000 pounds last November. Then, with the projected decline in ammunition schedules, it dropped to 96,000,000 in April, and was expected to hold that level. But the May upheaval in ordnance shot schedules up. Production now is running at 125,000,000 pounds a month, will return to 180,000,000 by the end of the year, and will reach a peak of 260,000,000 in June, 1945.

Battle experience on all fronts has shown it takes a lot of firepower to reduce enemy strong points without excessive casualties to assault troops. The British, the Russians, and our own armed forces are calling in unison for more heavy bombs and shells, and that means more TNT. TNT has been the favorite bursting charge for heavy ammunition for more than 40 years, not only because it explodes about as violently as anything on earth when adequately stimulated, but also because it is not readily exploded in ordinary handling. It can be dropped, hammered, sawed, and even shot at without going off.

The urgency of the TNT program can be deduced from the steps the Army has taken to get toluene for it. Toluene, besides being the principal ingredient of TNT, is used in blending aviation gasoline. Since May, TNT has already snatched half of the 3,600 barrels per day previously used for gasoline, and by next March will have it all. Aviation gasoline will have to rely on substitutes. The output of nine plants now working on gasoline will be switched over to the explosives program during the next 10 months on a schedule already set; and it is from these that TNT will get the additional 5,000,000 gallons per month needed to supply its estimated consumption of nearly 19,000,000 gallons next June. In this collision of two Army "musts," it was necessary to go to the very top for a decision. TNT took everything.

THE OLD STORY—MANPOWER

With the toluene priority battle won, the TNT program is almost all set. Nitric and sulphuric acids can be obtained. Plant facilities now operating plus plants that have been standing by will do the job. But manpower doesn't stand by. And that's a serious problem. The shutdown of plants early this year not only forced workers to pull up stakes for other places but also filled them with a prejudice against the ups and downs of employment in explosives. Nor do they like the remote locations of the plants, where they have a choice of unpleasant living conditions or long bus rides (the Elwood plant in Illinois, for instance, is 18 miles from the nearest town). A plant can stand by, but a whole community can't: the butcher, the baker, the clean-laundry maker, and the lady who cares for the children—all move away with the workers. And topping off all these difficulties is the very real fear of work in explosives, especially among women, who will have to provide the largest proportion of new workers.

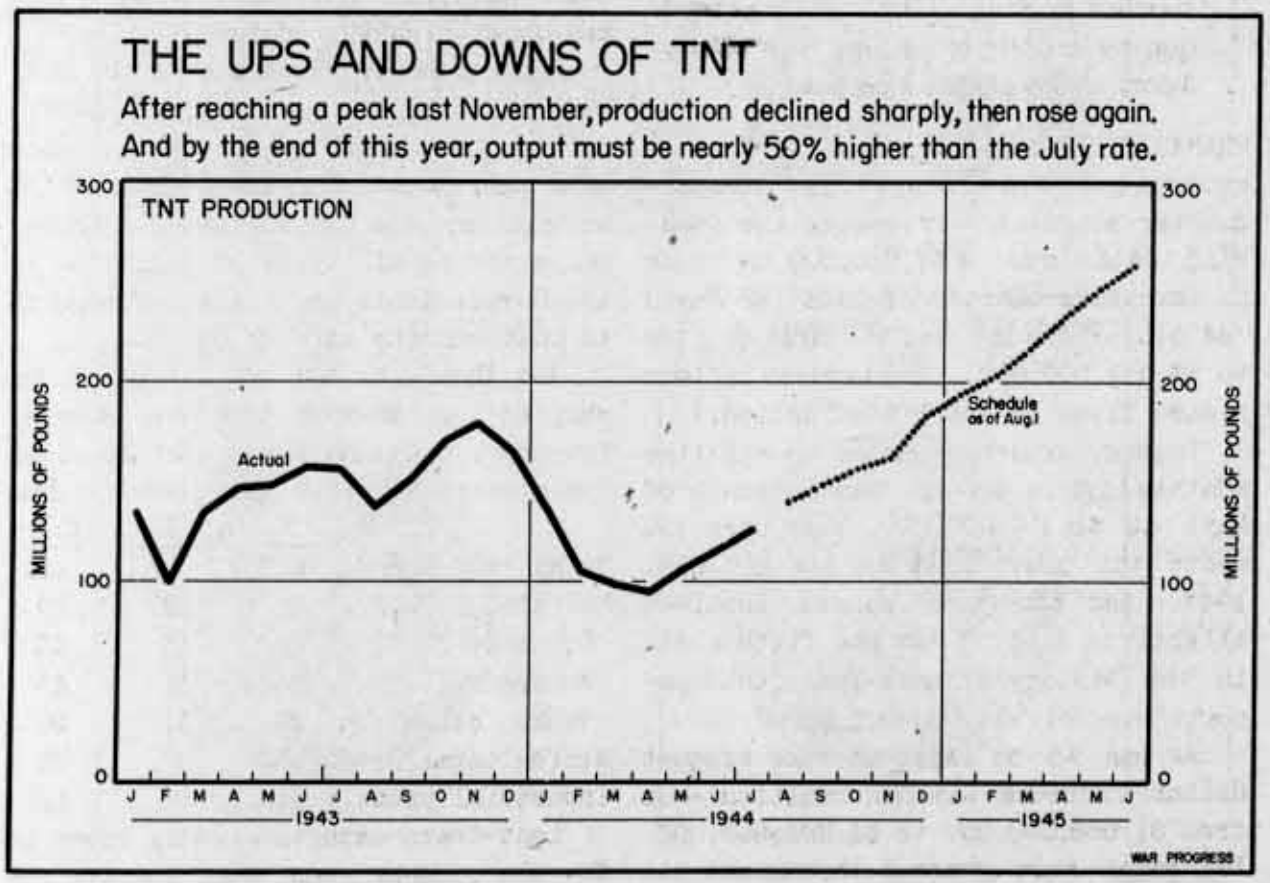
The more than 20 plants manufactur-

ing and loading TNT will need around 35,000 additional workers. Of these, 15 need over 1,000 apiece, three need over 4,000. Real trouble is looked for at the Elwood Ordnance Plant, Joliet, Ill., needing 3,500; at the Kingsbury Ordnance Plant, LaPorte, Ind., needing 4,000; and at the Louisiana Ordnance Plant, Minden, La., needing 5,000.

RECRUITMENT DRIVE

As with smokeless powder (WP-Aug5'44, p6), if workers can't be brought to the plants, new plants will have to be built and brought to the workers. But every effort will be made to get the workers. Few of the jobs require special skills. The tough plants have been listed by the National Manpower Priorities Committee for long-distance recruiting by the War Manpower Commission. The Army Service Forces has delegated a team of officers to devote its full time to the problem: one stationed in Washington for liaison work with WMC, National Housing Agency, and other agencies; five to work out of the St. Louis Ordnance District (in charge of the heavy ammunition program), personally tackling problems in the field. They will iron out management-labor difficulties in the plants, expedite housing and other facilities, provide army busses where other transportation fails, and do an all-around job of on-the-spot trouble-shooting.

And they'll do more than that. In September and October they will form local committees for the reception of a "Firepower Caravan," a miniature war show to be put on by the Special Services Division of the Army Service Forces in 40 or 50 towns within a 50-mile radius of nine labor-starved plants. This show will be adapted to towns of 50,000 population or less; featuring troops, army



vehicles and guns, booby-trap exhibits, a "judo" wrestling team, and war hero speakers. It will also feature statistics: to refute the idea that work at TNT plants is exceptionally hazardous. Bureau of Labor Statistics data show only 4.6 disabling accidents per million hours of work in explosives in 1944 as compared to an average of 21 in manufacturing as a whole.

As for the other objections to the work—the lack of living comforts, the absence of any peacetime future, and the pay that doesn't always stack up well with that obtainable elsewhere—they will be met with a very simple proposition: that the more heavy ammunition we send overseas now the more American soldiers we'll be welcoming back later.

D Day and Lend-Lease

Vast preinvasion movement of munitions and supplies to British Isles boosts second-quarter exports to all-time high. Shipments to Soviet also increase.

PREPARATIONS for D Day sent lend-lease exports up to a new record high. Second-quarter shipments—reversing the downward trend since the $3,010,000,000 peak in the third quarter of 1943 (WP-May20 '44, p10)—rose 16% over the first quarter to $3,113,000,000. (The figures include planes flown to their destination.)

Indeed, exports reached an all-time monthly high in the preinvasion month of May; at $1,159,000,000, they were 12% above the previous peak month, July, 1943. And though shipments declined slightly in June, it was the fifth month in the history of lend-lease that exports exceeded $1,000,000,000.

As was to be expected, the biggest dollar increase was in munitions—up from $1,632,000,000 to $1,802,000,000. Increases were general throughout all categories, excepting tanks and vehicles, which were down slightly. The largest gain percentagewise was in industrial products; they replaced aircraft as the leading category.

Petroleum accounted for 57% of the total tonnage (it is a lower-priced item than munitions). This compares with 41% in 1943. However, the bulk of the petroleum went to a common pool in the British Isles for distribution to both U.S. and allied forces.

Exports to the United Kingdom—springboard for the invasion—were more than one-fourth higher than the former peak in the first quarter. At $1,481,000,000 they represented nearly half of the shipments to all countries (40% in 1943). Munitions shipments to U.K. rose from $710,000,000 to $875,000,000. Industrial products were also up sharply—from $255,000,000 to more than $335,000,000; these included raw materials needed for the production of planes, bombs, guns, and other fighting equipment.

Whereas 59% of shipments to the U.K. were in munitions, industrial and agricultural products accounted for more than half of the exports to Russia—53% as against 48% in the first quarter. Shipments of all types of munitions to the Soviet declined, but total exports to that country were up 5%.

The U.K. got 48% of all munitions shipped, as against 22% for Russia. Together, U.K. and the Soviet received 75% of second-quarter lend-lease exports:

	U.K.	U.S.S.R.	Others
Total lend-lease..	48%	27%	25%
Munitions.....	48	22	30
Ordnance.....	72	13	15
Aircraft.....	36	21	43
Tanks, other veh.	49	31	20
Agricultural prod.	55	27	18
Industrial prod...	41	37	22

Lend-lease exports to Italy began in November, 1943, and that country now

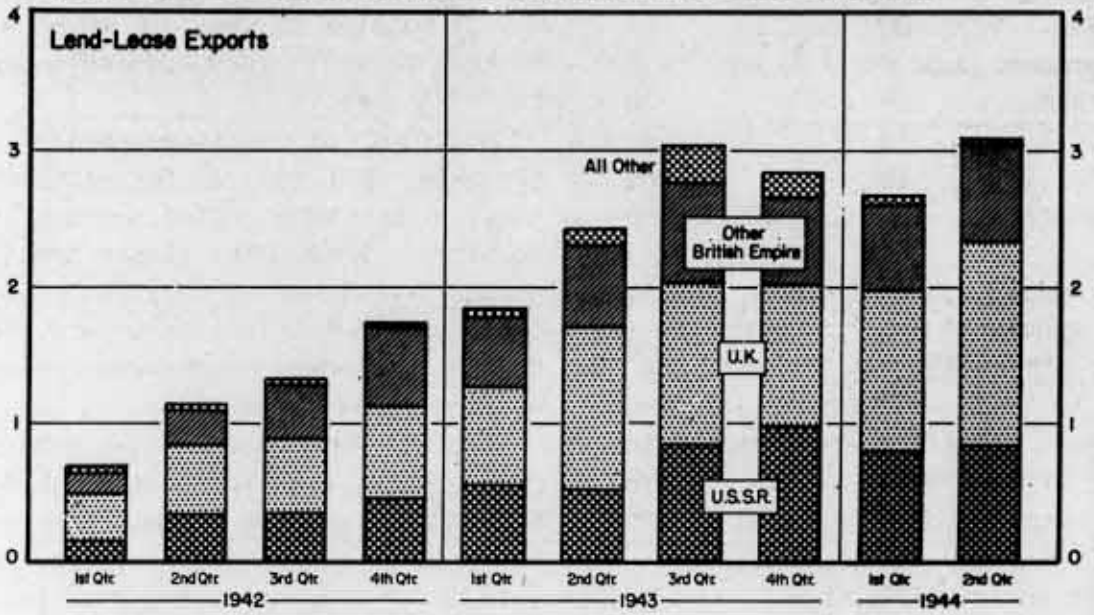
ranks fifth as a destination for lend-lease goods. Total shipments to date approximate $200,000,000. However, the goods are not for the use of Italians; shipments are for the account of the British government and consist mainly of munitions and canteen stores.

As a result of second-quarter shipments of $400,000 in aircraft to Corsica, France has been added to the list of lend-lease countries—now totaling 98.

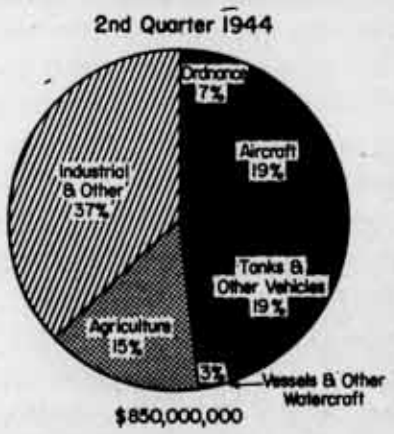
The rapid increase in exports to the China-India-Burma front was evidenced by a 61% rise in shipments to India—now the third largest recipient of lend-lease. However, since the loss of the

LEND-LEASE TURNS UP AGAIN

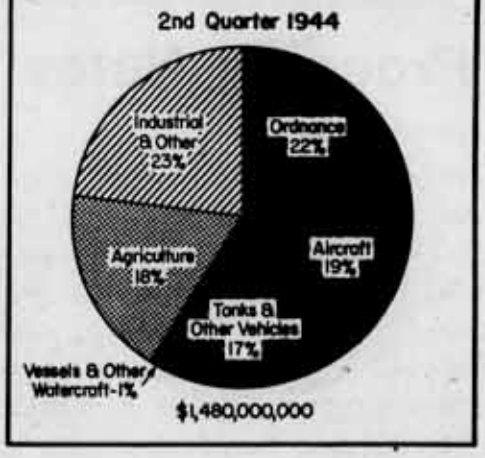
After declining for two successive quarters, value of shipments reaches an all-time high mainly as a result of preinvasion shipments to the United Kingdom.



Munitions account for 48% of shipments to U.S.S.R. Industrial products, 37%.



But munitions account for 59% of shipments to U.K. Industrial products, 23%.



WAR PROGRESS

Burma Road, exports direct to China have declined steadily. Shipments to Australia were up 8%:

	1st Qtr.	2nd Qtr.	% Change
	(millions)		
Grand total..	$2,682	$3,113	+16%
U.K.....	1,180	1,481	+26
U.S.S.R.....	805	846	+5
India.....	142	228	+61
Egypt.....	132	177	+34
Italy (Brit.)	106	87	-18
Australia....	78	84	+8
Union of S.A.	25	24	-4
Algeria.....	20	16	-20
Fr. Morocco..	7	15	+14
New Zealand..	17	11	-35
China.....	13	9	-31
Brazil.....	18	7	-61
All others...	139	128	-8

In addition to lend-lease, goods are being consigned to U.S. commanding generals for subsequent transfer in the field to lend-lease countries. Eventually such transfers are expected to be added to lend-lease totals. Through June, such exports amounted to $678,000,000—nearly all in munitions. The largest share—$420,000,000—was for the French forces in North and West Africa. More than $225,000,000 in goods have been sent to General Stillwell for transfer to China when they can go through.

War Progress Notes

LIQUOR DIVIDEND

DURING 1942 and the first half of 1943, production of industrial alcohol ran ahead of consumption, and stocks were built up far beyond the 30,000,000-gallon minimum inventory considered necessary for synthetic rubber and military needs (chart, page 11). As a result, the War Production Board was able to declare a "liquor dividend." During August, beverage and some industrial plants are permitted to divert some 26,000,000 gallons of 190-proof ethyl alcohol to make about 50,000,000 gallons of 100-proof liquor. This will draw down stocks, but beginning in October new supply will exceed consumption and stocks will start to rise again—perhaps auguring another dividend for next year.

LOST: ONE PLANE IN 18

FOR EVERY 18 planes sent to Russia under lend-lease, only one has been lost after leaving North America. Shipments through May 31 totaled 10,429, of which 9,840 planes arrived. Thus, losses amounted to 589 planes.

About half of the planes—5,005—were flyaways, and only 43 failed to reach their destination after leaving this continent. Most of the planes are flown across Siberia by way of Alaska. (An additional 115 were lost in this country, Canada, or Alaska, hence were not counted as lend-lease exports.)

Losses over water routes have been much greater than those by air; of the 5,424 planes shipped by boat, 546 failed to reach Russia. Most of these losses were in the era when the U-boat was the hunter instead of the hunted.

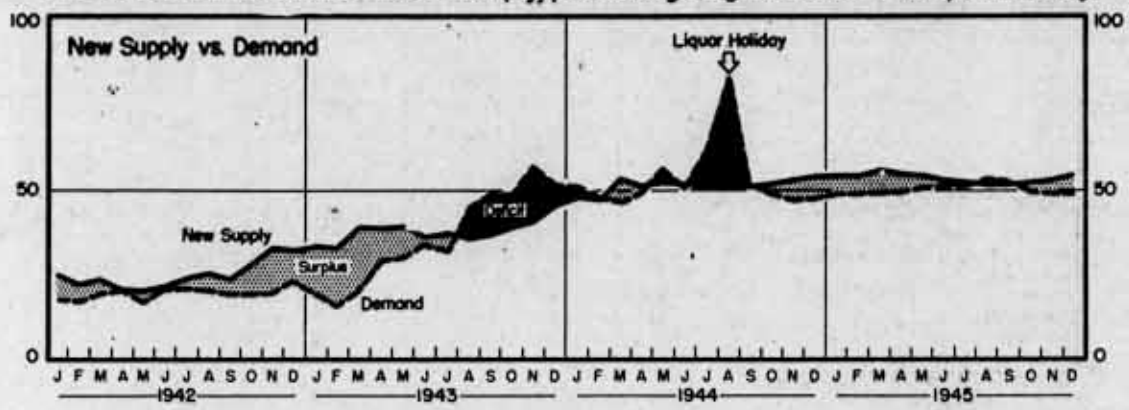
WHO OWNS SAVINGS?

IN THE THREE YEARS between June 30, 1941, and June 30, '44 liquid savings of individuals have increased about $60,000,000,000. That's the nation's postwar nest egg of buying power. But whether it will generate unexampled sales of automobiles, refrigerators, washing machines, and other durable consumer goods depends on the answer to this question: Who owns the savings?

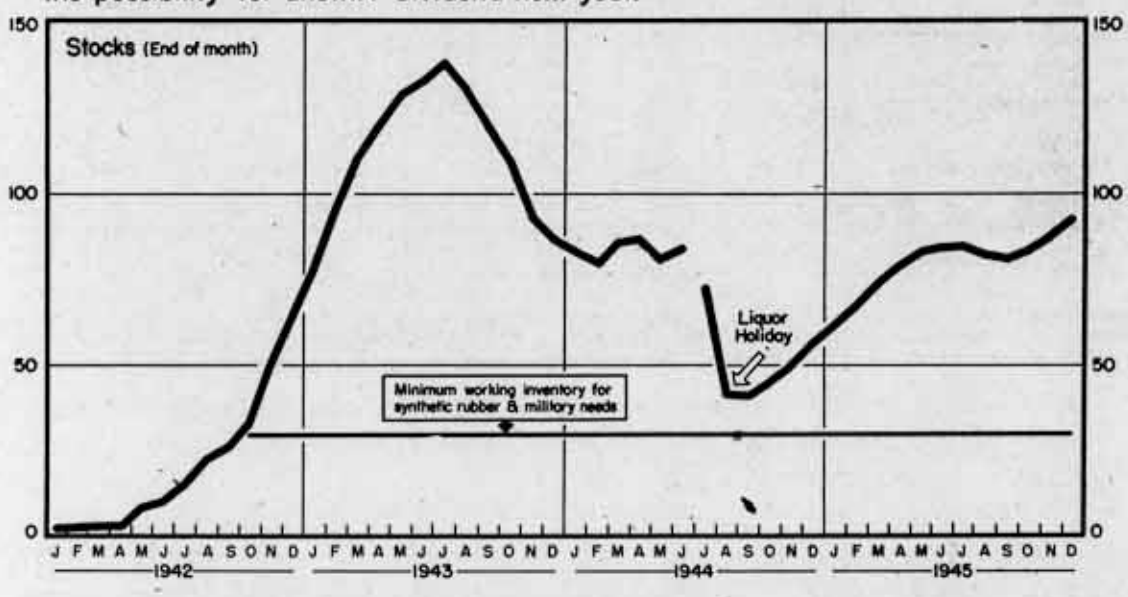
An attempt has been made by Woodlief Thomas of the Federal Reserve Board to put the savings in perspective. He notes (1) that the aggregate income of $5,-

MORE LIQUOR AHEAD?

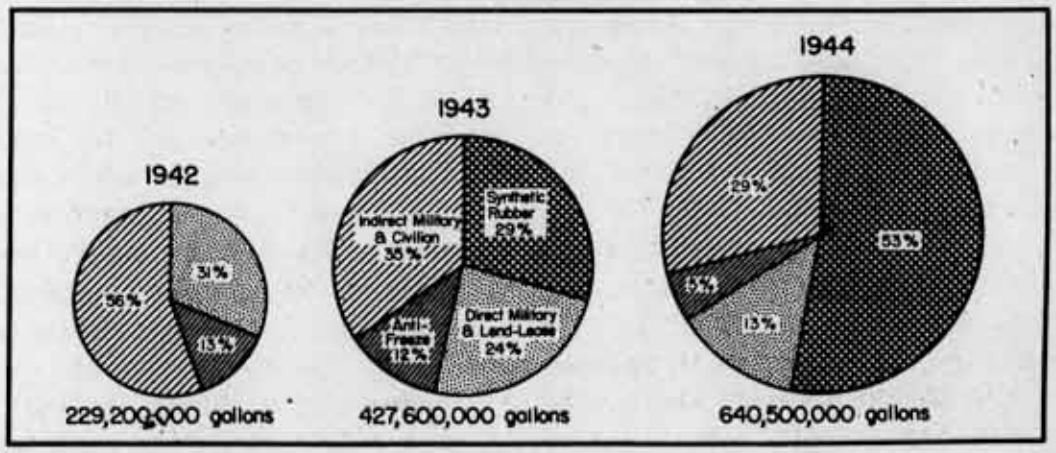
Production of alcohol has risen sharply, permitting August dividend to liquor industry.



And after the resultant sharp drop, inventories should begin to rise again, opening the possibility for another dividend next year.



And this is how the alcohol was and is being used.



Note: Actual through June, 1944; estimated thereafter.

WAR PROGRESS

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SELECTED MONTHLY STATISTICS

Income Payments – Federal Finance – Inventories

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
INCOME PAYMENTS-TOTAL (million dollars)	13,496	12,300R	12,493	13,398	12,271	6,024	6,334
Salaries and wages	9,187	9,075R	8,985	8,967	8,461	3,828	3,978
Comm., distr., and serv. industries	6,965	6,887R	6,820	6,932	6,632	3,121	3,339
Government	2,222	2,188R	2,165	2,035	1,809	542	494
Military	1,234	1,206	1,191	1,048	858	37	32
Nonmilitary	988	982R	974	987	951	505	462
Work relief wages	0	0	0	0	2	165	145
Other income payments†	4,309	3,225R	3,508	4,431	3,810	2,196	2,356
Income payments annual rate (adjusted for seasonal, billion dollars)	155.2	155.1R	154.1	149.7	142.5	70.5	74.4
FEDERAL FINANCE (GENERAL FUND)							
Expenditures-Total (million dollars)	8,110	8,625	8,292	7,570	7,112	764	N.A.
War	7,201	7,567	7,879	7,138	6,432	117	
Nonwar	909	1,058	413	432	680	647	
Revenues-Total	2,163	6,247	2,950	2,747	2,007	265	
Income Taxes	1,247	5,241	2,167	1,727	1,255	42	
Other††	916	1,006	783	1,020	752	223	
War bond sales	2,125	1,802	751	1,699	890	-	
"E"	1,687	1,350	624	1,085	683	-	
"F" and "G"	438	452	127	614	207	-	N.A.
Net debt (billion dollars)	186.6	180.8	177.8	158.4	132.9	38.2	34.1
INVENTORIES-TOTAL (million dollars)	27,647	27,710	27,883	27,699	27,181	18,370	N.A.
Manufacturers	17,279P	17,268	17,414	17,769	17,318	9,683	
Wholesalers	4,088	4,146	4,121	3,965	3,882	3,400	
Retailers	6,280	6,296	6,348	5,965	5,981	5,287	N.A.

Federal Finance, July; all other, June. R Revised. †Social Security benefits, direct and other relief, dividends and interest, entrepreneurial income. ††Transportation, contract construction and federal force account. P Preliminary. N.A. Not available.

000-a-year-and-over individuals would run to around $50,000,000,000 to $60,000,000,000 in the three-year period; (2) that taxes would take at least $15,000,000,000 of this income; (3) that that leaves them $45,000,000,000 or less of disposable income. He then reasons that they would have spent something more than half of their incomes on living—food, clothing, shelter, etc., and that that would mean these $5,000-a-year-and-up individuals would have saved, as an outside figure, $20,000,000,000.

But, since savings increased by about $60,000,000,000 in the three-year period, that would mean that about $40,000,000,000 was saved by persons with incomes of less than $5,000 a year. Which suggests that the country's nest egg of buying power is where it's needed from a sales standpoint.

TANK REHABILITATION

A REVISION of the Army Supply Program calls for the overhauling—"remanufacture"—of 5,145 M-4 (General Sherman) medium tanks and 1,761 M-5 light tanks to bring them up to present combat standards prior to overseas shipment. So far these tanks have been used for training, and having gone many hundreds of miles they've taken quite a beating in wear and tear. Some will have to be equipped with new engines, others with new transmissions, still others with new tracks, and so on. Also, there will be some replacement of sighting systems, etc., to give effect to latest improvements.

PSF: WPB

The President

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WAR PROGRESS

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Disclosure Punishable Under Espionage Act

Freight Cars of the Sky—It Takes Time To Learn the Shell Game—Radar: Aging But Not Maturing

Number 207 September 2, 1944

Form GA-90—SD
(3-23-44)

UNITED STATES OF AMERICA
WAR PRODUCTION BOARD

R

COURIER SERVICE CONTROL RECORD

No. S- 65936

FROM:	TO:
STATISTICS DIVISION (DIVISION OR OFFICE)	The President (DIVISION OR OFFICE)
R. C. (NAME)	(NAME)
(ROOM NUMBER) (BUILDING)	The White House (ROOM NUMBER) (BUILDING)

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GPO 16—37537-3

War Planes With a Peace Future

Troop and cargo craft now in combat use will seem small by postwar standards. Rapid development of models being built could expedite mass landings against Japan.

AS RECENTLY AS a year ago, the C-47 Skytrain—Army version of the commercial airlines' ubiquitous DC-3—was the largest transport in mass production. With a gross weight of 29,000 pounds, it could carry only one ton over a range of 2,500 miles at a cruising speed of 180 miles an hour. But in fulfilling, at shorter ranges, such diverse assignments as hauling freight, flying troops, and towing gliders, it lived up to its commercial nickname, "work horse of the air."

At that time, the much larger C-46 Commando (48,000 pounds) was being produced in small quantities; its carrying capacity is triple the Skytrain's and it averages 216 miles per hour. Also coming through in small numbers was the C-54 Skymaster (65,000 pounds), which hauls more than five tons at a cruising speed of 220 (chart, page 3). The progress can be summed up as follows: the Skytrain can carry 21 paratroops into battle, the Commando 40, the Skymaster 55.

FARTHER AND FASTER

Now picture a plane that can carry almost three times the load of a C-54 Skymaster (16.8 tons vs. 5.5 tons) over a 2,500-mile range and do it some 7% faster (235mph vs. 220mph). Depending on the distance to be covered—hence the space and weight that must be given to gasoline—it could fly between 200 and 300 airborne troops. From Halmahera in the Netherlands East Indies, now under air bombardment by our forces in the Pacific, 100 of these planes could land 40,000 troops on Mindanao in the southern Philippines, 300 miles away, within eight hours.

There is such a plane: the 4-engined C-74, a large-sized development of the C-54. But it is still under construction at Douglas, Long Beach. An experimental model won't take to the air until early next year. By contrast, about 250 Skymasters have come through since March, 1942, the initial acceptance date.

FOR FUTURE USE

Even bigger transports are on the way. Consolidated Vultee's 6-engined XC-99, now being built at Ft. Worth, has been designed to carry almost 39 tons over a range of 2,500 miles. It could haul 400 paratroopers into battle at a 210-mile-per-hour clip. However, the XC-99 is in such an early stage of development that it isn't even carried in the current airplane schedule; similarly with another large transport plane, the Lockheed XR60 Constitution. When these models are finally accepted, they are likely to show any number of changes from the basic design—changes which might easily modify the speed, load, and fuel efficiency factors.

THE BIG NINE

In all, the U.S. aircraft industry is building nine big transports, six of them larger than the C-54 Skymaster (table, page 4). In addition to the C-54, three of these models—Curtiss' C-46 Commando, Lockheed's C-69 Constel-

lation and Martin's JRM Mars—have passed the acceptance stage. One of them, Boeing's XC-97, was scheduled for shop completion last month. And of the remaining four, it will be anywhere from a week (for Fairchild's C-82 Packet) to over a year (for Lockheed's XR60 Constitution) before experimental models are flying.

Large transports are not entirely a war development. In cooperation with commercial airlines, builders such as Douglas, Lockheed, and Boeing were constantly working toward bigger and bigger planes. The C-54 Skymaster, for instance, is a military version of the DC-4 which was designed and built before the war; deliveries to the airlines were just about to begin when the Army's Air Transport Command took them over.

FIRST THINGS FIRST

At first the war tended to slow down the building of large transports; men, materials, and machinery were piled into the manufacture of bombing and fighting planes. The 4-engined C-69 Constellation, another prewar development, is a case in point. As early as December, 1941, 80 were programmed. But after that it became an off-again on-again program and it wasn't until July, 1943, that the first one was accepted. Another came through last March and nine more are on the way over the rest of the year.

OUTWITTING THE SUB

The turn came in 1942. U-boats were having a field day with United Nations tonnage; as an example, 25% of all mica shipments were being sent to the bottom. But these and other vital cargoes, such as tantalite and quartz crystals, had to get through. Overnight, cargo planes became front-page news.

In March, 1942, mica shipments by air were begun from India; in October, quartz crystals from Brazil; after that, tantalite from Brazil; and so on. But not only were there no large transports to do the job, there were none at all designed specifically for cargo carrying. Some B-24 Liberators were converted to cargo work; but it was the C-47 Skytrain—the commercial airlines' passenger-carrying DC-3—that had to do virtually the entire job. Moreover, unlike the big ships now built or building which have ranges in excess of 3,500 miles, the C-47 was limited to 2,500. Thus, a Skytrain out of Rio with quartz crystals for the States had to stop at Natal before continuing. We managed to get through enough high-quality mica, quartz crystals, and tantalite to get along, but we could have used more.

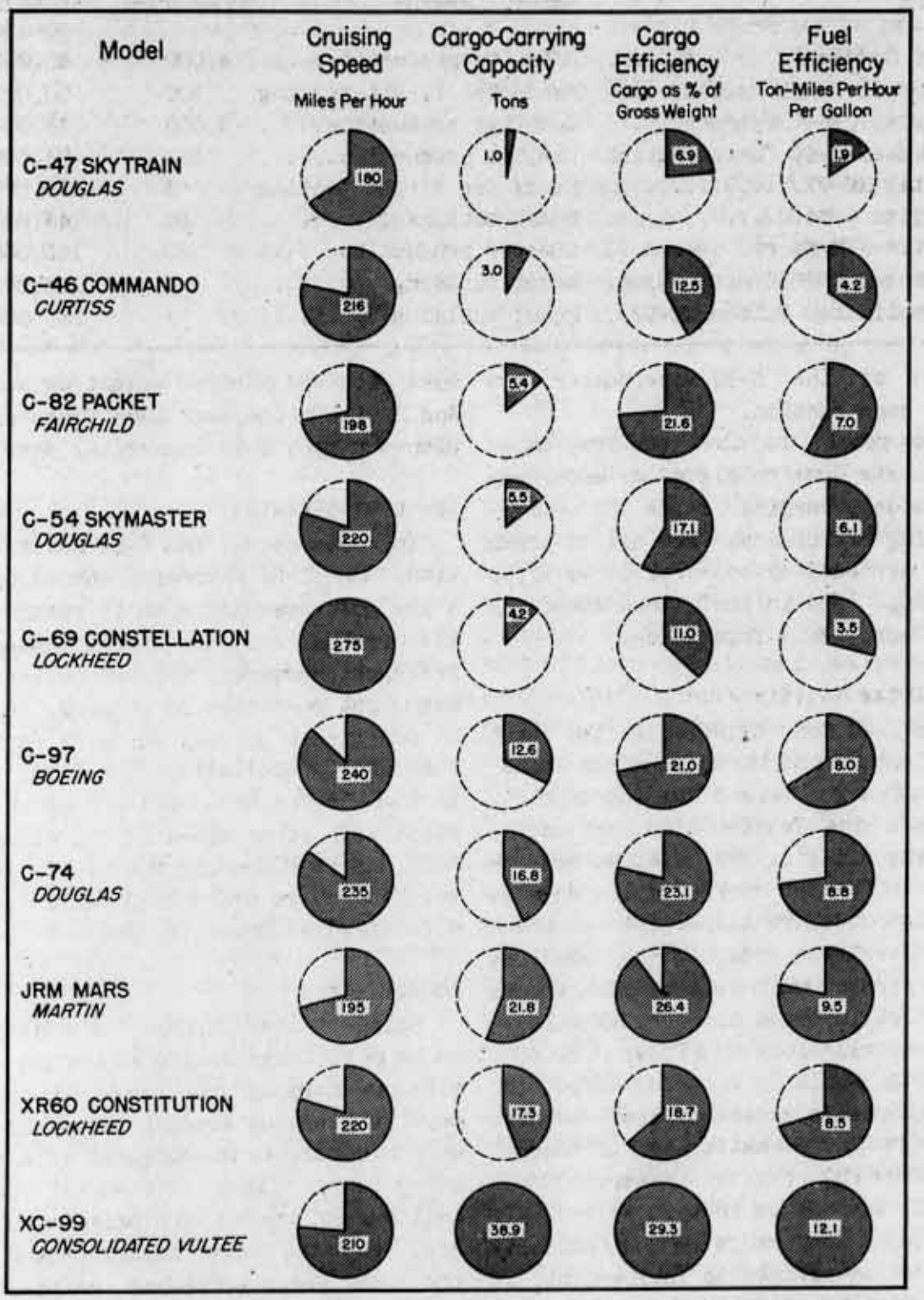
JUST MADE FOR FREIGHT

Only one transport on the long-range list was designed from the outset as a cargo carrier: the Fairchild C-82 Packet. The rest were originally planned as commercial passenger luxury liners, such as the Lockheed C-69 Constellation, or as bombers: the Boeing XC-97 is a development of the B-29 Superfortress; the Martin JRM Mars was initially designed as a Navy patrol bomber; the Consolidated Vultee XC-99 is an out-

IN THIS ISSUE:

FUTURE AIR TRANSPORTS

Speed, capacity, and efficiency of big carriers vs. today's workhorse—the C-47 Skytrain.
Fastest: C-69 Constellation. Most efficient (on blueprint): XC-99.



Note: Figures are for a 2,500-mile range at cruising speed (60% power) and at 10,000 feet.

WAR PROGRESS

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TRANSPORTS—HERE AND ON THE WAY

Model	Current Status	Approx. No. on Program	Gross Weight (pounds)
C-46 Commando.....	Quantity production.....	4,000	48,000
Fairchild C-82 Packet.....	Ready for flight testing	100	50,000
Douglas C-54 Skymaster.....	Quantity production.....	2,000	65,000
Lockheed C-69 Constellation	Limited production.....	260	84,000
Boeing XC-97.....	Ready for flight testing	3	120,000
Douglas C-74.....	Model building.....	50	145,000
Martin JRM Mars,.....	Limited production.....	20	165,000
Lockheed XR6O Constitution.	Model building.....	2	184,000
Consolidated Vultee XC-99..	Model building.....	1	265,000

growth of the B-36 superbomber, now under construction.

One result is that the long-range transports now completed or under way show widely varying rates of cargo-carrying efficiency. But all of these ships are readily convertible to troop carrying. And in that case, speed may be of surpassing importance.

BUT IT CAN TRAVEL

The C-69 Constellation is the least efficient ship of the lot from the standpoint of cargo load and fuel consumption. But it's the fastest transport known, cruising along at 275 miles an hour on long runs, better than 300 miles an hour on short ones. To illustrate the point with an extreme case, in the time that 100 Skytrains could deliver 2,800 troops on a short invasion hop—say 300 miles—100 Constellations could pour in 22,400. And they would be a harder target for fighter planes or antiaircraft to hit.

The fact of the matter is, of course, that there is no perfect transport plane. It all depends on what is wanted. If it's speed, long-range carrying capacity must be sacrificed to fuel weight; if it's carrying capacity, range or speed must give way to cargo weight or space. And it will be the same when these giant planes are put into commercial service.

LOW-COST OPERATOR

In contrast to the C-69 Constellation, the C-54 Skymaster shapes up as a low-cost operator when it returns to its original role as a DC-4 passenger transport. However, for the person who has to get somewhere in a hurry, it may be profitable to pay an extra fare to ride the Constellation. The final version of the JRM Mars will cruise at the relatively lower speed of 195 miles an hour, but it will carry 26% of its gross weight in cargo over a 2,500-mile range, a relatively high ratio. And so it goes.

LUXURY LINER

Going a step further, a transport as large as Consolidated Vultee's XC-99, with its enormous body, two decks, stairways, and various loading ramps, can be made to duplicate the comforts of a seagoing luxury liner: restaurant, cocktail lounge, dance floor, private cabins, etc. But the more luxury packed in, the more passengers—and cargo—that must be left out.

It Takes Time To Learn Big Shell Game

Top expediters work on heavy ammunition program, but tooling up for cases is complex operation. Manufacturers not yet hep to job; best companies have trouble.

JULY PRODUCTION of the most critical heavy artillery shells did not come anywhere near the newest Army goals. The M101 shell for the 155mm. gun and the M114 shell for the 240mm. howitzer missed schedule by 45%; the M106 for the 8-inch howitzer missed by 53%, and the M103 for the 8-inch gun by a full 100% (none came through, though 2,000 rounds were scheduled).

The catch is in the casings. Unlike the TNT that goes into them (WP-Aug19 '44,p6) and the smokeless powder that propels them (WP-Aug5'44,p6), shell casings are not held up primarily by shortages of labor or materials but by shortages in manufacturing experience and facilities. In essence, time is short.

SUDDEN SHIFTS

Schedule revision has been sudden. In April the Army looked forward to a peak production of 240mm. howitzer shells of 11,000 per month; in May they made it 71,000—six and a half times as many. Here is a comparison of the anticipated peak rates for heavy shells (in rounds per month) before and after the May 15 revision of the schedule:

	Peak Rate Expected		
	Before	After	%
Caliber	May 15	May 15	Rise
4.5-inch gun	60,000	181,500	300%
155mm. how..	800,000	1,545,000	193
155mm. gun..	215,000	462,000	214
8-inch how..	185,000	558,800	300
8-inch gun..	10,000	26,400	264
240mm. how..	11,000	71,400	650

These big unforeseen demands come at the end of 15 months of reduced production. Large reserve stocks prompted a cutback of schedules in 1943 tc about half the 1942 peak. This reduced rate prevailed right on through the first quarter of this year, until Italian battle experience finally made it clear that control of the air was not going to pay off as much as had been hoped in reduced artillery needs. So May 15 brought an eleventh-hour call for ammunition far exceeding anything yet seen.

TOO HOT TO HANDLE

But tooling up for shell production is a complicated precision job. The manufacture of a 155mm. gun shell (a medium-sized casing) by modern mass-production methods requires more than 40 separate operations on 40 different machines in forging and machine shops. Each of these operations requires moving of the shell, which weighs over a hundred pounds and is far too hot to handle—or even get close to—most of the time. Two miles of conveyor systems are used. These conveyors and many of the largest and most complicated of the shaping machines are created (conceived, designed, built, put in place, regulated, adjusted) for this job alone; and when the job is done, they're dead.

5,000,000-A-YEAR RATE

The white-hot, rough billet of steel that enters this complex of machinery must come out at the other end a polished, lacquered, perfect shell, complete with copper rifling band, and prepared to meet tests of hardness, weight, and size involving tolerances as close as 0.005 inch. And a rate of over 5,000,000 a

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War Program - Checks paid (millions of dollars)	1,571	1,765	1,707	1,471	1,478
War bond sales - E, F, G, (millions of dollars)	164	145	424	439	180
Money in circulation (millions of dollars)	23,221	23,047	22,734	20,696	18,303
Wholesale prices (1926=100)					
All commodities	103.5[P]	103.8[P]	103.9	103.6	102.9
Farm products	121.8	122.3	124.1	124.2	124.0
Foods	104.0	104.5	105.3	104.6	105.5
All other	98.7[P]	98.7[P]	98.7	98.3	97.3
Petroleum:					
Total U.S. stocks*(thousands of barrels)	416,751	413,688	410,845	414,439	420,380
Total East Coast stocks*(thousands of barrels)	71,010	69,849	66,209	54,103	57,987
East Coast receipts (thousands of barrels, daily average)	1,673	1,670	1,748	1,477	1,541
Bituminous coal production (thousands of short tons, daily average)	1,992	2,033[R]	1,998	2,065	2,002
Steel operations (% of capacity)	97.1%	94.5%	95.9%	97.7%	99.4%
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,172	2,787	3,267	2,831	2,651
Gulf Coast ports	398	341	430	384	351
Pacific Coast ports	1,747	1,770	1,720	1,223	1,359
Department store sales (% change from a year ago)	+18%	+2%[R]	+11%	-10%	+1%

[P] Preliminary *Excludes military-owned stocks [R]Revised

year is aimed at for this shell—462,000 a month at the peak.

Even experienced manufacturers can get into trouble on such a job. One of the country's major steel companies, with previous experience on smaller shells, lagged badly on the 8-incher. Even using its own steel and with all of its machinery in place early in June, the company had not succeeded in turning out acceptable shells by the end of July. No excuse seems needed, therefore, for the difficulties experienced by companies with no shell experience—manufacturers of stoves, oil drilling supplies, construction machinery—which have been sucked into the suddenly expanded program.

Their demand for advice—for the help of people with experience and know-how on this job—far exceeds the supply. Crews from Watertown and other government arsenals with prewar experience are circulating as fast as possible where production lines are being set up. But there are few who know the tricks, and experience with one shell does not always lead to success with another of different size or type. Only time can get the bugs out; there's no substitute for it here.

TOOLS NEED TIME

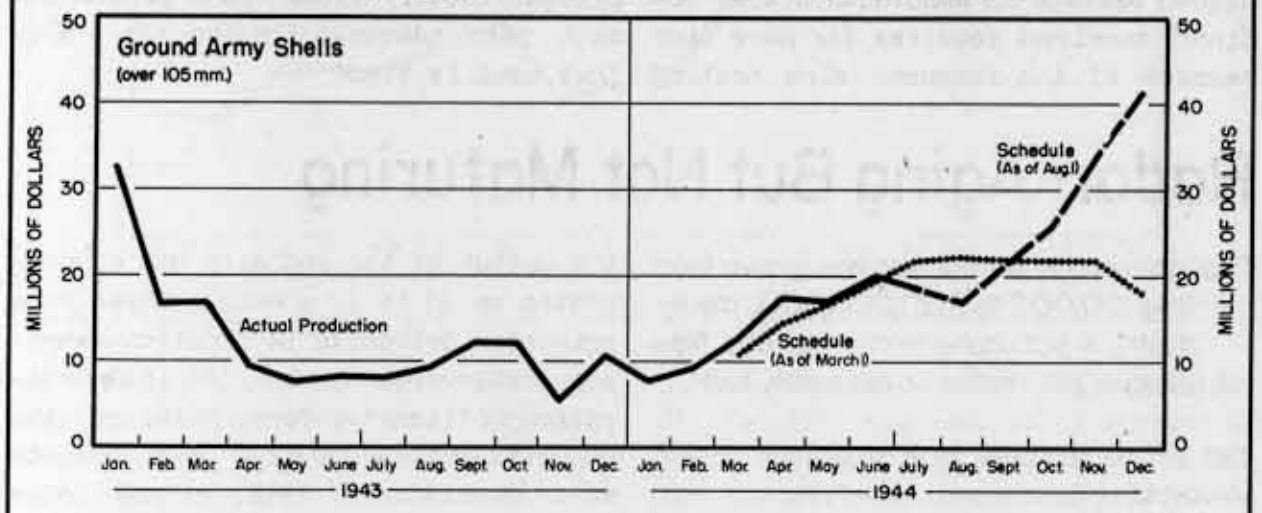
And time is needed to get the tools: the furnaces, the huge forging hammers, the lathes, the conveyors. Additional facilities for the manufacture of these tools cannot be constructed; they would come into operation far too late. So the shell production lines have to wait on currently available machine-tool capacity, now seriously overstrained. And some of the tools are held up by shortages of components. The great hydraulic forging hammers, built to make accurate use of hundreds of tons of power, require many small pumps which are badly needed in other places (in lend-

lease machinery long overdue to Soviet Russia, for instance). Conveyors are held up at the drawing-board stage by lack of draftsmen capable of designing them. And conveyors are also in great demand by the hard-pressed tire manufacturing industry.

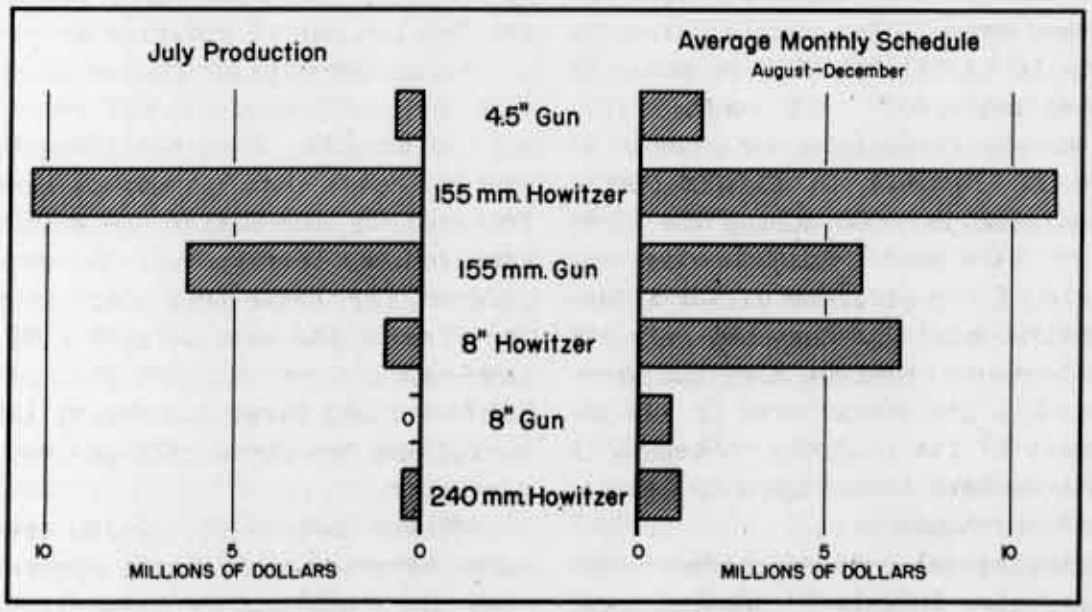
To gain time—since time is so short—Army Ordnance, in collaboration with the War Production Board, is exercising day-by-day control over the facilities construction program, expediting it all the way. Newly finished machine tools are sent where they can be used—not necessarily where they were originally ordered. Technical experts are routed to plants that are able to get the machinery. Conflicting programs are side-

HEAVY DEMANDS FOR HEAVY AMMUNITION

Combat experience in Italy and France boosts Army schedule for shells over 105 mm. Schedule for December now more than double what it was as of March 1.



Here is how production of particular shell sizes must increase:



WAR PROGRESS

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tracked. But even with the best of management, production of some of the large shells will be several months catching up to scheduled requirements.

Adequate steel supplies are being made available to the shell program only at the expense of nearly all other claimants for the material. The Army's fourth-quarter allotment—24% of the expected total production of carbon steel (WP-Aug26'44,p1)—is a record high. But this figure is not the whole story. The hot-topped, forging-quality carbon steel needed for shells has 15% higher wastage in manufacture than ordinary steel and requires far more time because of the frequent slow heating and cooling throughout the process. For example, a unit of the great Geneva plant in Utah, equipped to produce 27,000 tons a month of ordinary steel, will produce only 20,000 tons a month when converted to shell steel. Thus a fourfold increase in shell-steel demand—from 59,000 tons in June to a projected 276,000 tons a month at the peak—will cause stresses everywhere steel is used.

But shells will get the steel—all they need. They'll get the manpower; they have it now except in a few exceptional spots. They've got the plants; present factory floor space is for the most part adequate for the job. What they need is time.

Radar: Aging But Not Maturing

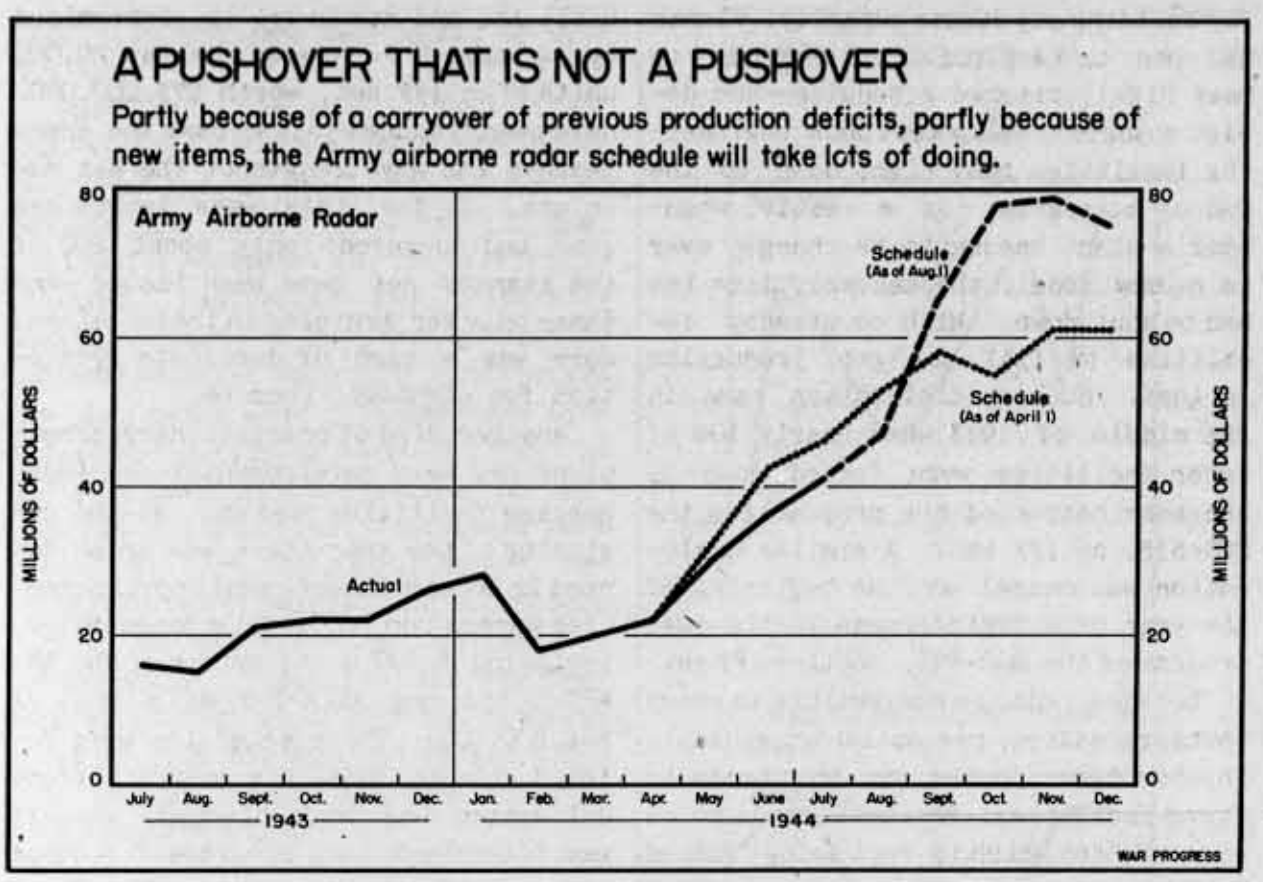
Though monthly production has grown from $4,000,000 to $120,000,000, the industry is still young technologically. New designs play hob with assembly lines.

THE RADAR PROGRAM is a gigantic infant—starting near scratch before the war, it is now larger than the entire communication and electronics program of two years ago. This year's schedule amounts to $1,761,000,000, or about 2% of total munitions. And monthly production has risen from an average of $4,000,000 in 1941 to $30,000,000 in 1942 and $120,000,000 during the first half of this year. Consequently any estimate of the progress of the industry must take into account not only its month-to-month gains but also the growing pains it has encountered in the improvement of its products. Stepups in operations have been dogged by technological developments.

Technological changes in radar have been dictated largely by obsolescence, to some extent by shifts in military strategy. Through 1942 and early 1943, the output of the industry was concentrated on 10 to 12 models. These were primarily defensive in function—warning, interception, and IFF (identification of friend or foe). Moreover, the majority of these devices were obsolete after the middle of 1943, in some cases because of countermeasures developed by the enemy but more often because of the development of superior models.

The number of major pieces of equipment now in production has gone up to well over 100. This proliferation of models comes mainly out of research fostered by the Office of Scientific Research and Development. The research program for radar this year is twice the size of the next largest OSRD program—more than $30,000,000, farmed out to a dozen large industrial laboratories and two dozen colleges and universities.

Devices now in production are much more accurate and highly specialized than the models they have displaced. They include navigational aids; gun-laying and fire-control apparatus of



various types for use on plane, ship, or ground; ground control-approachequipment to help in landing planes; detection equipment with special models for (1) half a dozen types of vessels, (2) ground use (long-range mobile, medium-range fixed, medium-range mobile), and (3) planes (night interceptors, day fighters, bombers, and night fighters). The emphasis now is on navigational and bombing equipment, to keep in step with the mounting offensive of the Allies.

Assembly lines have been pulled apart or stopped so often that the introduction of new models has by now become old stuff to manufacturers. But it's still not easy. Getting a new model under way involves extensive engineering not only by the prime contractor but also by 20 or 30 suppliers of specialized components and occasionally by suppliers of special material as well. A report from a manufacturer shows the typical problems:

"ARL (the Aircraft Radio Laboratory of the ASF) engineer still engaged in approving lab-built samples and establishing production specifications. Until design specifications are frozen and components available and dies completed, no production quantities can be forecast."

From another: "Raw materials 100% ordered, 50% received. Component parts 95% ordered, 10% received." Even when these difficulties have been overcome and sets are ready for delivery, changes in the destination of the equipment may mean an extensive process of fungus-proofing or of complete tropicalization.

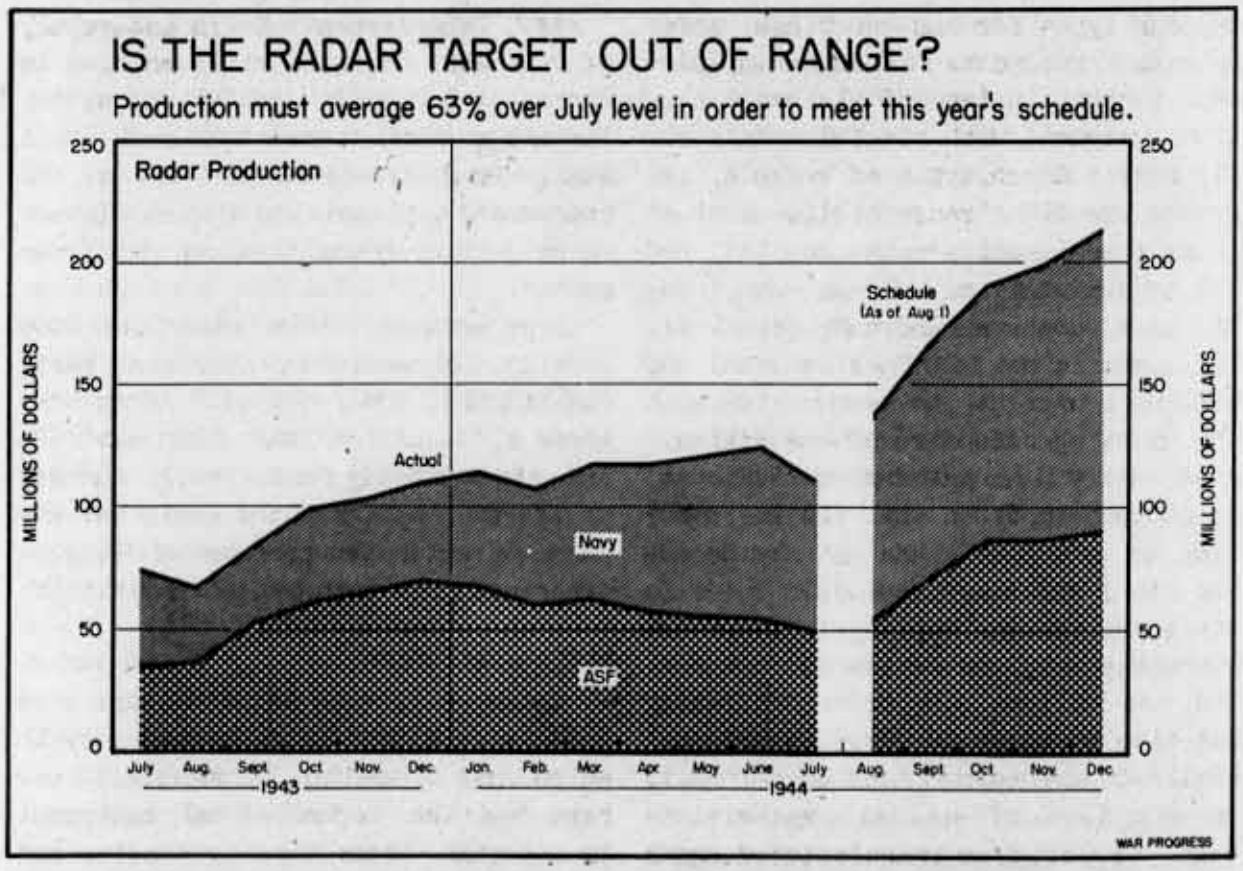
NEVER A BREATHER

These changes and modifications have had to be fitted into an industry in which only a handful of manufacturers have had the technological equipment to undertake large prime contracts, and these have never had a breathing spell

for building any excess capacity. Plants had had to keep going at maximum to meet highly pitched schedules—and design changes usually kept plant engineering facilities busy right down to the end of a program. As a result, whenever a plant has had to be changed over to a new model, the assembly line has had to shut down. With no standby facilities to fill the gap, production is lost. Such a dislocation came in the middle of 1943 when nearly 10% of radar facilities were forced down by the termination of the program for the SCR-515, an IFF set. A similar dislocation was caused at the beginning of the year by a 77% decrease in the 1944 program of the SCR-695, another IFF set.

Because radar is susceptible to enemy countermeasures, precautionary scheduling has been adopted, and this tends to tie up facilities. Production will go on on equipment which is "not being issued until the one now in use is compromised by the enemy." For example, about 20,000 units of an IFF set, worth $75,000,000, have been produced just in case the enemy learned the wave length of the set now in use. So far, this wave length has gone undiscovered; only about 200 of the standby set have been issued—and these only for training in installation. Here was a case of duplicate production for strategic reasons.

Another kind of precautionary scheduling may keep developmental and engineering facilities tied up. At the beginning of the year there was an urgent need for countermeasure equipment. Schedules were set up for about a dozen types, including 3,000 units apiece of the AN/APT-6 and the AN/APT-8 at a cost of $14,600,000. These schedules were deleted during June, six months before deliveries had been planned, when it was determined that programs for other



sets with the same uses would be sufficient.

Sometimes, for want of facilities, high-urgency programs can't get under way. Thus the AN/APQ-7 was designed to replace the AN/APQ-13 as navigational and bombing equipment for the B-29 Superfortress. Deliveries had originally been scheduled for May, but on June 30 the manufacturer reported: "Deliveries are not being made in accordance with precedence schedules because of design changes, development problems, and procurement difficulties." Shortages were listed in test equipment, meters, resistors, motors, relays, and condensers —from 15 different subcontractors. Consequently, schedules for the year were cut in half on July 1 and requirements cut from $27,600,000 to $12,700,000; the difference has been added to 1945 requirements.

SCALING DOWN SCHEDULES

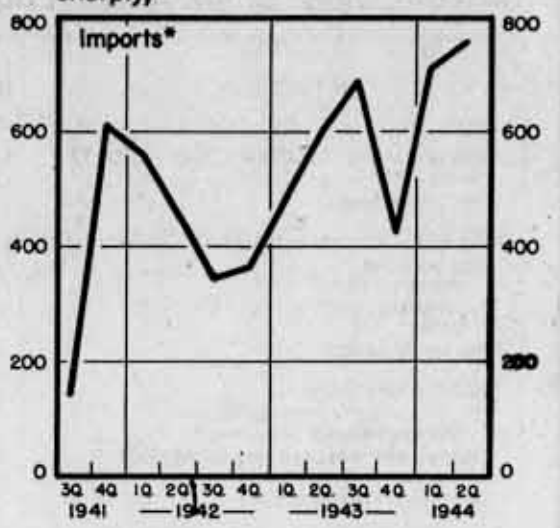
Similar difficulties have beset most important radar programs. For example, in 20 critical sets, none of which was made in 1943, deliveries to date are well behind requirements. Indeed, current radar schedules, as for the following seven sets, have had to be scaled down below stated requirements because of shortages of one type or another:

	1944 Requirements	1944 Schedules
	(millions of dollars)	
Airborne:		
AN/APG-13	$13.1	$10.1
AN/APS-16	4.5	.9
AN/CPN-2	1.9	.2
AN/APA-5	2.0	.3
Ground:		
AN/MPN-1	16.7	12.3
SCR-615B	10.7	4.6
AN/TPL-1	22.0	1.1

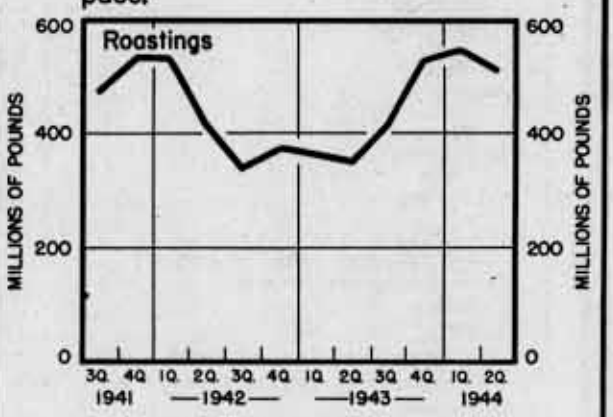
Thus radar continues to act like a

COFFEE STOCKS UP

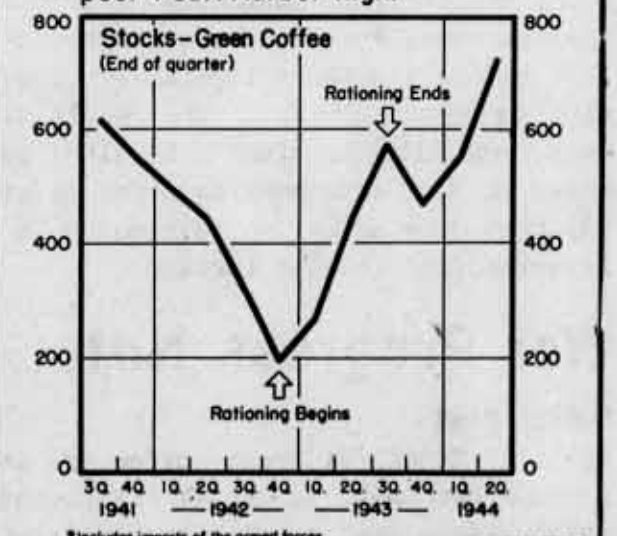
1. Imports of green coffee have risen sharply,



2. While coffee roasting has not kept pace.



3. Result: Civilian stocks are at a post-Pearl Harbor high.



*Includes imports of the armed forces.

WAR PROGRESS

SELECTED MONTHLY STATISTICS

Cost of Living-Employment-Labor Disputes-Turnover-Production

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
COST OF LIVING-ALL ITEMS (1935-1939=100)	126.1 P	125.4 R	125.1	124.2	123.9	98.9	103.2
Foods	137.4 P	135.7 R	135.5	136.1	139.0	94.3	106.3
Other than food	120.1 P	120.0 R	119.7	117.7	115.6	101.2	101.7
FEDERAL CIVILIAN EMPLOYMENT (thousands)†	3,365	3,347	3,324	3,511	3,269	N. A.	N. A.
War agencies	2,498	2,476	2,456	2,400	2,411		
War department	1,541	1,526	1,509	1,480	1,545		
Navy department	736	730	728	700	635		
Other	221	220	219	220	231		
Nonwar agencies	867	871	868	1,111	858	N. A.	N. A.
LABOR DISPUTES							
Number of strikes in progress	530	560	660	360	408	389	830
Workers involved (thousands)	180	183	312	120	201	212	354
Number of strikes beginning during month	470	500	610	330	369	251	472
Workers involved (thousands)	145	155	290	110	121	176	144
Man-days idle (thousands)	680	680	1,400	625	695	1,168	3,008
LABOR TURNOVER IN MFG. INDUSTRIES (rate per hundred employees)							
All manufacturing							
Accessions	7.53 P	6.20	5.53	5.19	8.40	3.92	3.69
Separations-Total	7.07 P	6.97	6.78	6.55	7.07	3.31	4.02
Quits	5.38 P	5.20	4.90	4.38	5.20	.73	1.89
Military	.44 P	.60	.64	.50	.69	N. A.	N. A.
Aircraft							
Quits	5.42 P	4.63 R	4.31	3.86	4.55	.99	1.06
Military	.95 P	1.19 R	.97	.48	.68	N. A.	N. A.
Shipbuilding							
Quits	6.74 P	6.32	5.68	5.93	6.20	.59	1.66
Military	.74 P	.97 R	.88	.76	1.06	N. A.	N. A.
PRODUCTION OF CLOTHING AND SHOES FOR CIVILIANS (1935-1939=100)††							
Clothing and shoes combined	98	98	98	97	104	102	N. A.
Clothing	101	101 R	100	101	106	104	N. A.
Shoes	87	85	89	83	94	92	N. A.

*Cost of Living, Labor Disputes, July; all other, June. P Preliminary. R Revised. †Entire Series Revised. ††Unadjusted.
n.a. Not available.

young industry; it continues to rebel against being forced into mass production before its technological development is ready for it. The result of this rebellion is that schedules, as shown in the accompanying chart (page 9), must constantly be revised as deliveries fail to come through.

War Progress Note

COFFEE HIGH

CIVILIAN STOCKS of green coffee are at a three-year peak. At 700,000,000 pounds they are more than triple the low point at the end of 1942—when shipping was tightest (chart, page 11). Rationing started in November, 1942. When antisubmarine measures caught up with the U-boat, imports increased, and rationing ended in July, 1943. Speculation in the producing countries has been and is particularly troublesome. Speculators—especially in Brazil—are building stocks and in many instances are paying prices which the American importer can't afford to meet—if he expects to operate at a profit. Thus, despite encouraging statistics, it will be a tough job to keep stocks at current levels.

PSF: WPB

The President

WAR PROGRESS

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DECLASSIFIED

"Must" Programs Do Better

Dallas: Preview of Postwar Problems

Tug of War and Peace for Textiles

Number 209

September 16, 1944

August Was a Better Month

While munitions output was up only 2% over July (3% below schedule) several critical items made record highs. At two-thirds mark, '44 program is 64% completed.

MUNITIONS OUTPUT extended its 1944 uphill-and-down-dale performance in August. Production rose to $5,435,000,000 (preliminary), a modest 2% above July. However, the first-of-the-month schedule was missed by 3%, making it eight off-schedule months in a row.

There was bound to be some improvement in August. In the first place, July output was close to the year's low of $5,300,000,000 in February. Further, July was hit by the long Independence Day week ends taken in many plants, with and without management consent. Output of forge shops and foundries, for instance, bounced back from its extreme in July, despite continued hot weather and a virtually unchanged working force.

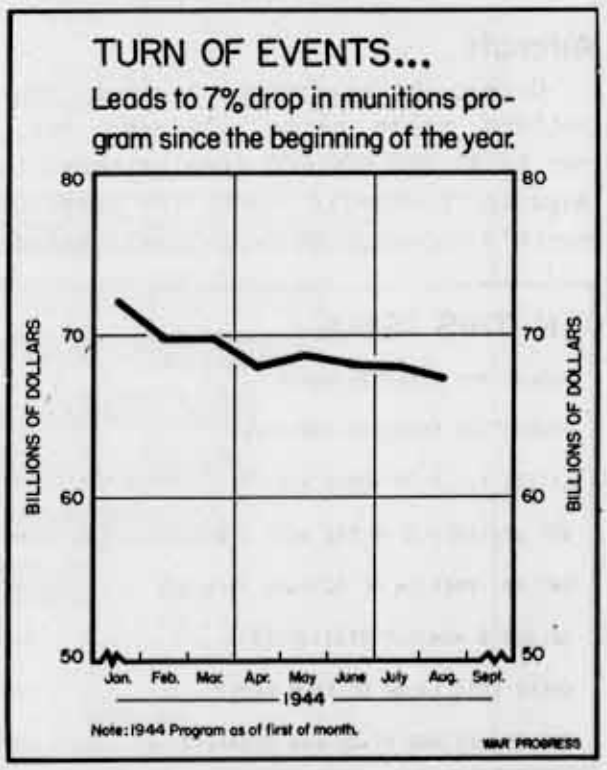
MORE THAN A RECOIL

But there was more to the month's improvement than natural recoil. With tire builders holding a preferred ticket for manpower (WP-Sep9'44,p4), labor was channeled into tire plants and production of heavy-duty tires jumped 24% to an estimated 329,000 units, some 15% ahead of what manufacturers forecast they would turn out. In other critical areas, several individual programs—heavy-heavy trucks, superbombers, and heavy-gun ammunition—attained record highs in production. Here, it was a case of new facilities getting under way, of components coming in more regularly, of increasing know-how proving itself on the production line.

With all its ups and downs during the first eight months of the year, the situation in munitions output may be summarized as follows: with two-thirds of 1944 gone, American industry has produced **64%** of the year's program—$43,300,000,000 out of $67,300,000,000.

Among major programs, aircraft, with an output of $13,100,000,000 and ships, with $9,600,000,000, are 66% completed (chart, page 3). On the other hand, ammunition—reflecting recent large boosts in large-caliber projectiles (WP-Sep2'44 p7)—is only 59% toward fulfillment (chart, page 3).

As might be expected, the work to be done on some of the critical programs is still imposing. Only 27% of the full-year A-26 Invader schedule had been completed through August, 14% of the Mari-



time Commission's combat-loader transport and cargo ships, 50% of the heavy-artillery ammunition (chart, page 3).

However, in virtually all critical programs, the gain in August was real. Thus, in heavy field artillery, the rate of deliveries in August reached a level only slightly below that necessary to meet schedule for the rest of the year. In airborne radar, monthly production in the next four months must run 53% higher than August to achieve the full program; but on the basis of July production, a 75% stepup in the monthly average was called for.

Although the critical programs will probably not be fully realized by the end of the year, current production drives and sharp gains recently achieved suggest that they won't be too far off. As for the munitions program as a whole, it now looks as if total production for the year—assuming no German collapse and no sharp cutbacks before December—will come within 2% or 3% of the program as constituted on August 1.

Aircraft

Output of airframes, engines, propellers, spare parts, gliders, etc., ran to $1,585,000,000 (preliminary) in August, nominally above the previous month's showing. At that level, schedule was missed for the third month in a row, this time by 6%. The deficit in July was 7%, in June 4%.

A model change-over at one plant, holdups because of faulty parts at another, revised acceptance procedures at a third are the kinds of things which have figured in the airplane showing over the past three months. But as noted in WAR PROGRESS last week—and in previous weeks (WP-Aug5'44,p10; July8'44, p7)—the real trouble has always boiled down to two planes and two plants: the B-29 Superfortress at Bell, Atlanta, and the C-46 Commando at Curtiss, Buffalo.

Interestingly, the shortage of 27 Superfortresses alone accounted for one-third of the month's 6% deficit from schedule. As far as Bell, Atlanta, is concerned, below-schedule showings in the B-29 may be cleared up within three months. As for Curtiss, Buffalo, clear sailing on the Commando may have to wait until the middle of next year, when it is cut back to 100 per month from 150 as formerly planned.

Incidentally, from now on, average monthly output of superbombers must double in order to make the year's program; but that's an improvement over July, when the average stepup was 136%. In the case of the A-26 Invader, the contrast is striking: The required stepup from here out is 95%, but in July it was 370%. This reflects the big gain in acceptances last month (WP-Sep9'44, p11). In both of these critical programs, however, quantity production is only now getting under way—and scheduled increases are sharp.

Army Ordnance

Production of ground army munitions rose 11%—from $903,000,000 to $975,000,000—and most of the critically urgent items (in contrast to July) met or exceeded first-of-the-month schedules.

IN THIS ISSUE:

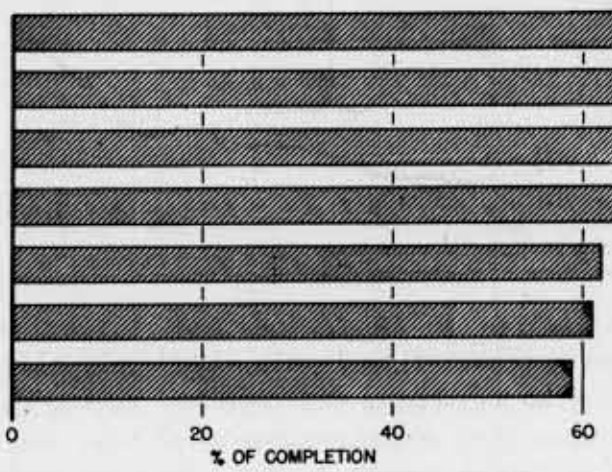
1944 RECAPITULATED

This is the total munitions picture:

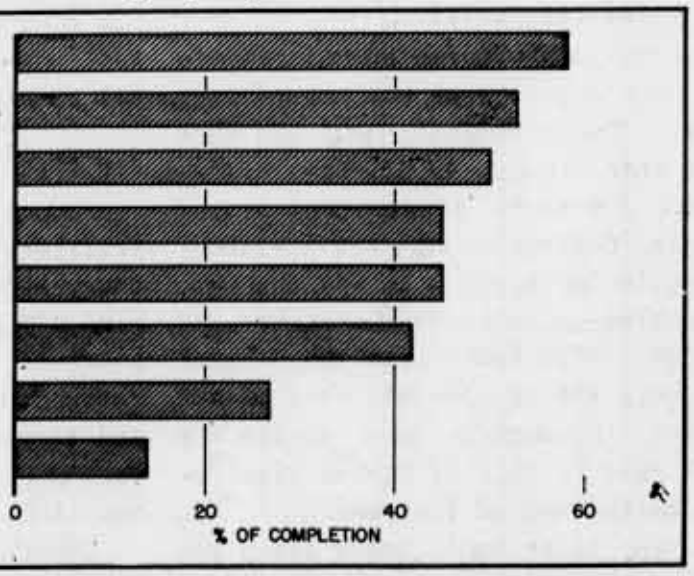
With one-third of the year left, 36% of the 1944 program still remains to be done.

$67,300,000,000

Here is the situation in major groups:

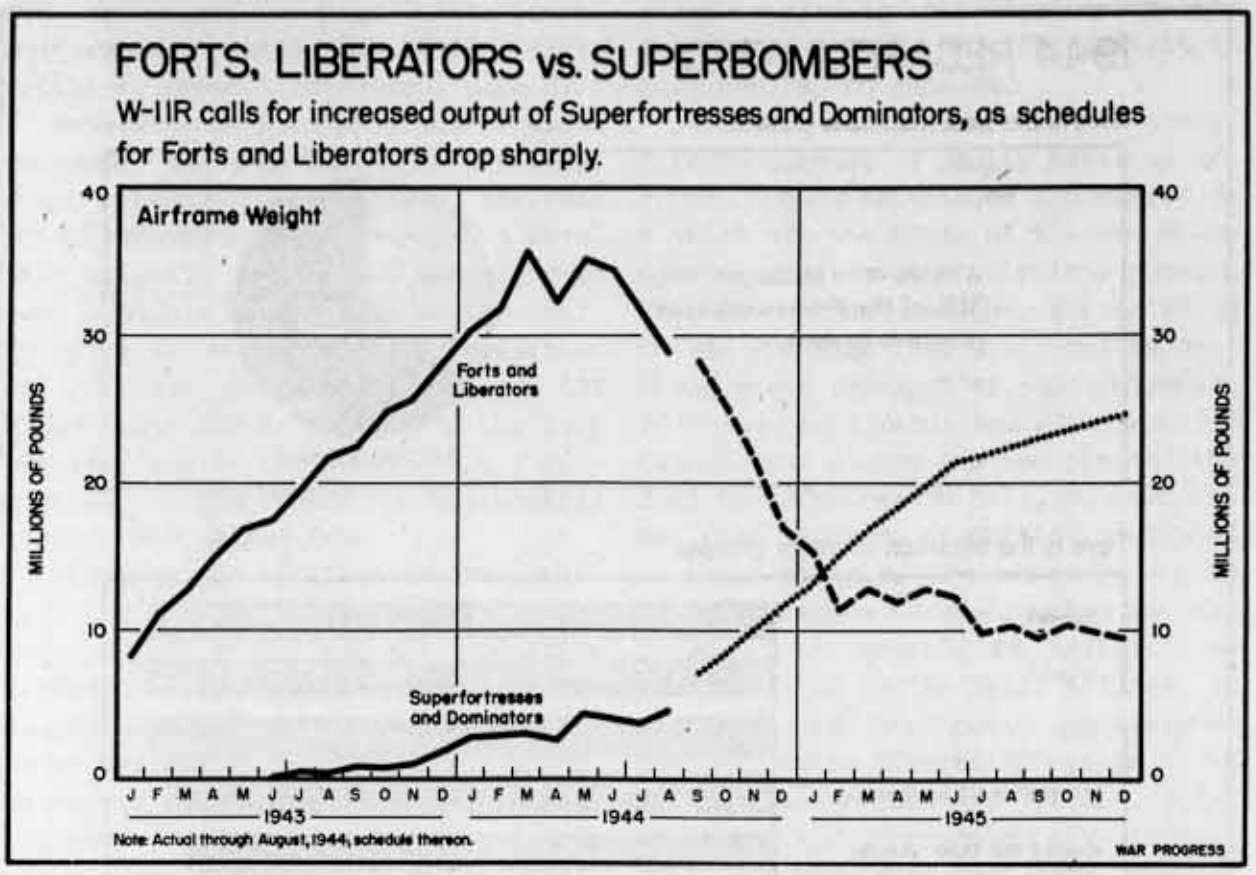


But these critical items still have a long way to go:



Note: Actual through July, August preliminary, August I program thereafter.

WAR PROGRESS



However, schedules in many cases had been reduced to feasibility levels, and production in the remaining four months of the year must rise sharply above the August rate to meet stated 1944 requirements of the Army Service Forces.

STEEP CLIMB FOR TRUCKS

One critical program which failed to reach the August goal was heavy-heavy trucks. Though output was 500 more trucks than in July—an all-time high—it fell 10% short of the fast-rising schedule. Deliveries were 4,476 against a schedule of 4,948. It was the same old problem—a shortage of castings and forgings. With two-thirds of the year gone, only 45% of the 1944 program has been met. Production must double the August rate to fulfill stated requirements by the end of the year.

On the other hand, heavy field artillery output in August attained a rate only slightly below that necessary to meet the program for the year. Production was up 13% and all the big guns were on schedule for the first time since requirements were stepped up in May. However, though spare cannon for these big guns slightly exceeded the August goal, the cannon program for '44 is only 56% completed, heavy artillery, 58%.

BIG GUNS FAIL TO GAIN

Output of ammunition for heavy field artillery rose 6% but did not gain on the year's objective; production must rise 42% over the August rate, the same increase that was needed over the July rate. The problem here is in forging and machining facilities, particularly for the 8-inch shell—a comparatively new item.

General-purpose and fragmentation

bombs gained ground; whereas a stepup of 34% was needed over the July rate of production, a rise of 28% is now needed to catch up to requirements. Both 500-pound and 1,000-pound GP bombs exceeded schedule, and the 100-pounder was right on the mark. These are the bombs urgently needed now. Total aerial bomb output ran 7% ahead of July. This was 2% more than the August goal, and the program as a whole is 65% completed.

One program which lost ground was

PRODUCTION PROGRESS — Preliminary

Value delivered or put in place — millions of dollars

	Aug. Preliminary	July Actual	% Change	Aug. Schedule*	% Deviation Aug. Prelim. vs. Schedule
MUNITIONS AND WAR CONSTRUCTION	$5,655	$5,543	+ 2	$5,847	- 3
TOTAL MUNITIONS	5,435	5,331	+ 2	5,627	- 3
Aircraft	1,585	1,581	nil	1,679	- 6
Total airframes, engines, propellers	1,256	1,250	nil	1,330	- 6
Airplane spare parts	311	312	nil	328	- 5
Other aircraft and equipment (excl. commun.)	18	19	- 5	21	-14
Ships (incl. maintenance)	1,150	1,185	- 3	1,229	- 6
Navy	552	570	- 3	613	-10
Combatant	232	261	-11	223	+ 4
Landing vessels	213	225	- 5	216	- 1
Other	107	84	+27	174	-39
Maritime	370	382	- 3	386	- 4
Cargo and supply	260	269	- 3	251	+ 4
Other	110	113	- 3	135	-19
Army Vessels	58	65	-11	60	- 3
Ship Maintenance and Repair	170	168	+ 1	170	†
Guns and Fire Control	270	264	+ 2	278	- 3
Small arms (under 20mm.)	48	48	0	50	- 4
Artillery, mortars, rocket launchers—ASF	60	56	+ 7	62	- 3
Fire control and searchlights (excl. Radar)	54	55	- 2	55	- 2
Naval guns and other	108	105	+ 3	111	- 3
Ammunition	595	566	+ 5	611	- 3
Small arms (under 20mm.)	45	47	- 4	45	0
Artillery ammunition, mortar shells, rockets—ASF	184	172	+ 7	190	- 3
Aerial bombs — ASF	130	121	+ 7	133	- 2
Naval ammunition and other	236	226	+ 4	243	- 3
Combat and Motor Vehicles	470	427	+10	462	+ 2
Combat vehicles	160	139	+15	150	+ 7
Motor carriages for SP guns	31	30	+ 3	30	+ 3
Automotive vehicles and tractors	272	252	+ 8	275	- 1
Communication and Electronic Equipment	370	346	+ 7	380	- 3
Radio	152	152	0	154	- 1
Radar	128	111	+15	137	- 7
All other	90	83	+ 8	89	+ 1
Other Equipment and Supplies	995	962	+ 3	988	+ 2
WAR CONSTRUCTION (GOV'T. FINANCED)	220	212	+ 4	220	†

* As of July 1 for Construction; as of August 1 for all others.
† Schedule used for preliminary actual.

mortar shells and rockets. Production declined 11% and fell 22% short of a steeply rising schedule. Only 42% of the year's goal has been met.

M4 TANKS COME THROUGH

M4 tanks mounting the 75mm. gun, the 76mm. gun, and the 105mm. howitzer all beat schedule by wide margins. Stated requirements for the M4 carrying the 75mm. gun have been exceeded, but the programs for the other two are only half completed.

Tractor production rose 15% to reach an all-time high and ran 7% ahead of the August goal.

Signal Equipment

The critical airborne radar program continues critical despite a 22% increase in production in August. Although output of the Army Service Forces, which constitutes more than half of the program, ran 6% ahead of the August goal, production as a whole lagged 5% behind the first-of-the-month schedule. The total program for the year is only 45% complete.

Production during the remaining four months of the year must rise 53% above the August rate to meet stated military requirements. However, the situation has improved; a month ago a rise of 75% was called for.

JAMMING ITEMS IMPROVE

Four types of countermeasure equipment (for jamming enemy radar), which have been partially responsible for the lag in airborne radar, showed improvement. One type was on schedule, another beat schedule by 29%, and the third by 36%. The fourth—the troublesome AN/-APQ-9—fell 10% short, but 1,800 sets were produced, as against 1,100 in July.

Output of the AN/APQ-7 bombing and navigation equipment for the Superfortress, which had been extremely slow in getting into production, was ahead of schedule; 19 sets were delivered, as against seven scheduled.

A shortage of motor generators delayed the radar program. The schedule called for 350 of one type, but only 36 came through. Deliveries of another type amounted to 1,583, as against a schedule of 1,820.

TIGHTNESS IN WIRE EASES

Wire communication and miscellaneous equipment for the ASF was up 5%; this was 7% ahead of schedule—in sharp contrast with a 6% deficit in July, due in part to field wire. With facilities in operation for a new type of insulation, the tightness in field wire is apparently beginning to ease. Three of the most important types ran ahead of schedule.

Total output of communication and electronic equipment rose 7%, but fell 3% short of the August goal.

Naval Ships

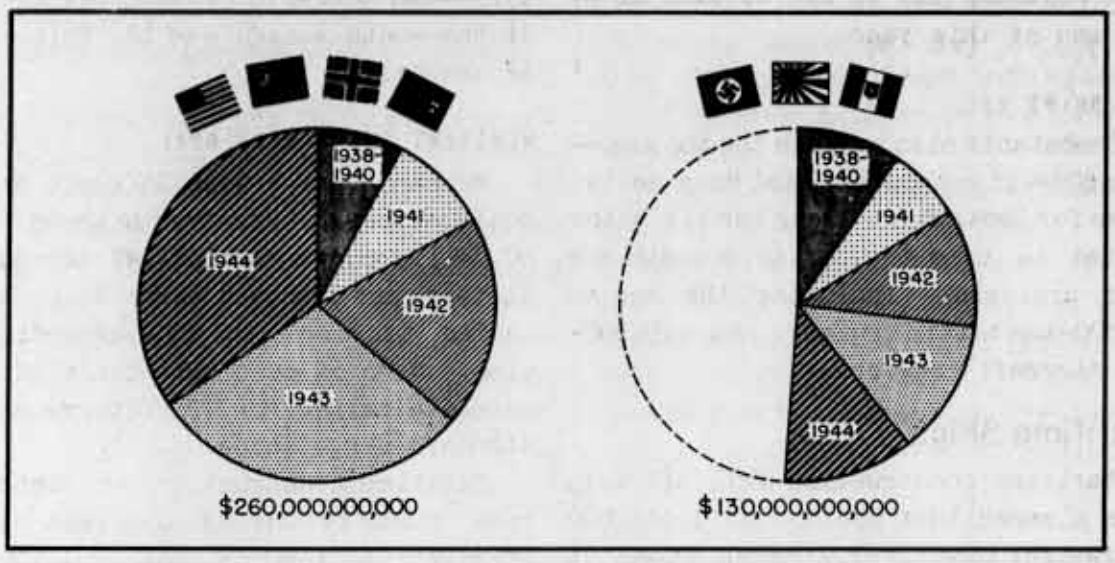
Deliveries of Navy-built ships last month fell 28% below July to 217,000 displacement tons (preliminary). This was 9% behind schedule, with all major categories sharing the lag:

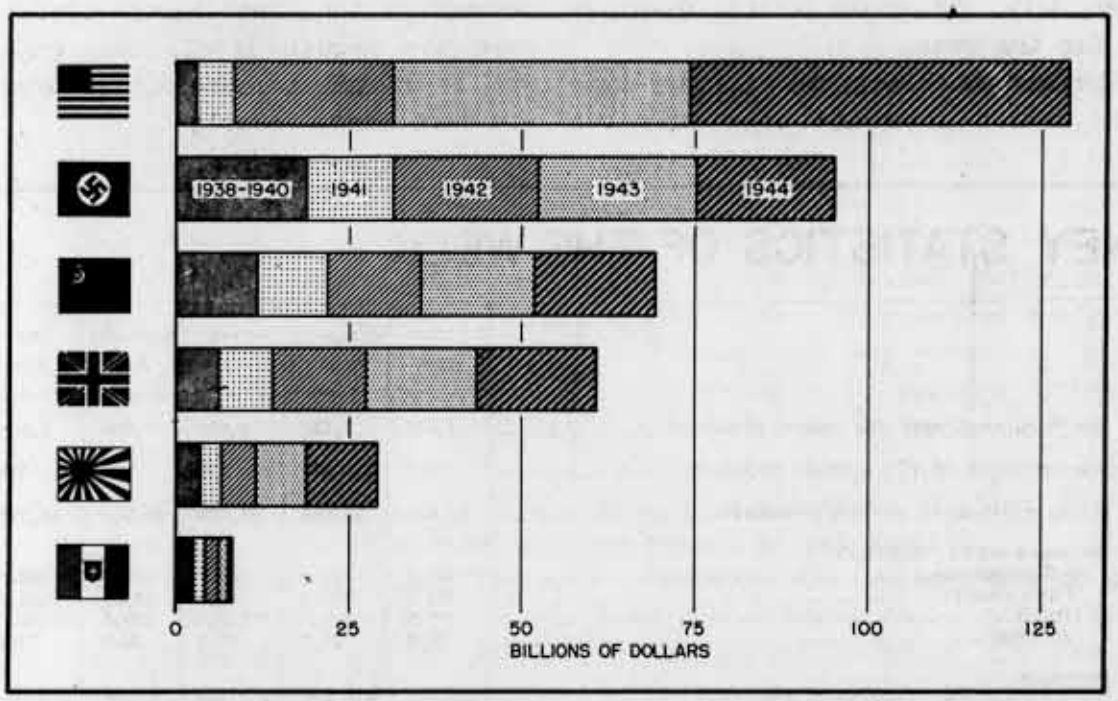
	Deliveries (000 tons)	% Change From July	% Change From Sched.
Combatants.....	30	-67%	-14%
Landing vessels	136	-5	-1
Patrol & mine..	16	+23	-11
Aux., all other	35	-36	-27
Total.....	217	-28%	-9%

Main reason for the drop was combatants. Only one big ship was scheduled for completion in August—the 6,000-ton light cruiser "Flint." Destroyer escorts accounted for most of the deficit

LATEST TALLY ON WORLD MUNITIONS PRODUCTION

In 1942, the United Nations forged ahead of the Axis in producing combat munitions. Currently, the U.S. is producing two-thirds as much as the rest of the world combined.





Note: Germany includes occupied territories. United Kingdom includes Canada.

WAR PROGRESS

Until 1942, the Axis nations led the world in combat munitions production. From 1938 through 1941, some $210,000,000,000 went into their war machine, as against $190,000,000,000 for the United Nations. Then the latent productive power of the Allied countries came into play—especially in the United States—and by the end of 1942, American, British, and Russian production forged ahead. Currently, the United States is producing nearly half of the world's munitions. Interestingly—because of their early start—Germany produced more weapons of war than any other nation for the 1938-44 period.

from schedule in this category; eight were finished instead of the 11 called for. This program has been cut back sharply since reaching its peak of 53 last November and is due to wind up by the end of this year.

BIG SHIPS DUE

Combatants also explain the big jump—over 50%—in scheduled total Navy deliveries for September. Among the big ships slated to come through this month are four cruisers, including the second 27,500-ton battle cruiser, and a 27,100-ton aircraft carrier.

Maritime Ships

Maritime construction fell off more than planned last month. At 1,161,000 deadweight tons (preliminary), it was 9% under July, 6% under schedule—a new low for the year.

The lag was chiefly in military-type ships, which rose 15% over July but missed schedule by 22%. The fast-rising combat-loader program—transport- and cargo-attack vessels—continues to give trouble. August completions totaled 14, compared with six in July but a first-of-the-month schedule of 18. This month 32 are called for.

MERCHANT SHIPS MISS GOAL

Merchant ships were 3% short of the goal. Although Libertys ran ahead, with 50 delivered as against 47 scheduled, Victorys and standard cargo ships again failed to come through according to plan. Nine of each were finished; the schedule called for 12 Victorys and 11 standard cargo ships.

Maritime construction is slated to rise steadily during the rest of the year and to reach a peak of 1,700,000 deadweight tons next March—almost 50% over the August level. The emphasis will be on combat loaders, Victorys, and standard cargo vessels.

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War Program-Checks paid (millions of dollars)	1,613	1,712	1,615	1,836	1,605
War bond sales - E, F, G, (millions of dollars)	117	178	106	101	178
Money in circulation (millions of dollars)	23,495	23,432	23,020	20,963	18,773
Wholesale prices (1926=100)					
All Commodities	103.6[P]	103.6	104.0	103.4	102.8
Farm products	122.2[P]	122.0	124.8	123.2	123.2
Foods	103.9	104.1	106.1	104.6	104.8
All other	98.8[P]	98.7	98.7	98.2	97.4
Petroleum:					
Total U.S. stocks* (thousands of barrels)	418,518	417,474	413,389	415,187	423,110
Total East Coast stocks* (thousands of barrels)	72,666	71,489	67,698	55,846	60,343
East Coast receipts (thousands of barrels, daily average)	1,679	1,990	1,842	1,711	1,485
Bituminous coal production (thousands of short tons, daily average)	1,989	2,012[R]	2,000	2,088	2,031
Steel operations (% of capacity)	94.2%	99.3%	96.0%	98.8%	100.3%
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	2,902	3,099	2,632	2,954	2,678
Gulf Coast ports	372	331	371	444	340
Pacific Coast ports	1,884	1,843	1,783	1,454	1,438
Department store sales (% change from a year ago)	+14%	+15%[R]	+13%	+11%	+10%

[P]Preliminary *Excludes military-owned stocks [R]Revised

Dallas: Preview of Postwar Problems

Early Liberator cutback gives Texas community head start on adjustments. Aircraft company, WMC move fast to prevent labor evaporation when 20,000 are laid off.

THE IMPACT OF postwar deflation has already hit Dallas, Tex., where production of the B-24 Liberator bomber will be stopped in November at North American Aircraft, Plant B, instead of continuing into 1945 as previously scheduled. More than $120,000,000 in contracts will be canceled; and, if plans to get additional contracts into the plant do not succeed, more than 20,000 workers will be laid off. The cutback makes the Brewster affair seem small.

It involves more workers than all Dallas factories employed in 1939. Previously a trade and service center producing chiefly food and clothing, Dallas found its manufacturing industry increased fivefold by the coming of the war, and about 90% of this increase was aircraft. The layoffs will amount to nearly one-fourth of the community's industrial force. Thus, the region serves as a laboratory in which some of the more extreme effects of war-end cutbacks may be observed. And right at this moment, the War Production Board, the War Manpower Commission, the Army, and other agencies concerned with war demobilization are studying these effects.

When the cut came, North American had 48 subcontractors in the Dallas-Ft. Worth region and 7,000 purchase orders aggregating $21,000,000 outstanding among 501 venders. The company immediately sent out stop-work notices on all of these purchase orders. (In the case of two subcontractors, the cut eliminated all work in their shops; for 23 others, the cut took away about 50% of their North American business; and eight others lost all North American business, but had other work.) Office staffs worked night and day to get their cancellations out to subcontractors who otherwise would be busy making parts that would never be used, paying workers $1.25 an hour to convert new materials into scrap.

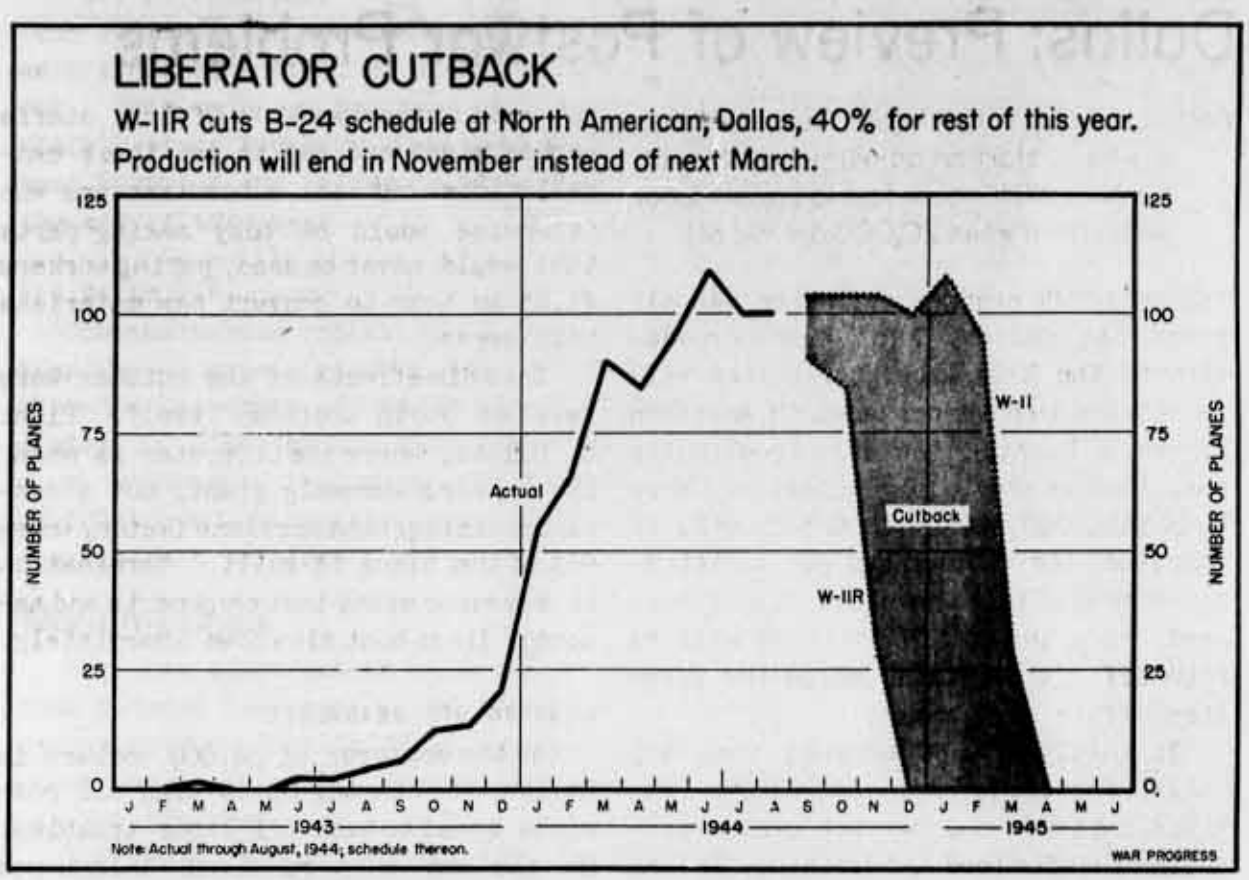
The main effects of the cutback were felt at North American itself. Plant B, Dallas, where the Liberator is made, is no mere assembly plant, but a complete, integrated airplane factory where 95% of the plane is built. Termination in November meant that many parts and assembly lines must slow down immediately.

HEADING OFF HEADACHES

As the employer of 34,000 workers in Dallas, the company moved with all possible speed to head off labor troubles. On the day they received telephoned notification, officials called union leaders at their homes after hours, informed them of the situation, and worked out plans for notifying workers and carrying out dismissal policies based on seniority. They called conferences of foremen and key personnel and got out statements to workers emphasizing that layoffs would be conducted in an orderly fashion, that jobs would be available elsewhere, and that there was no reason to get excited.

However, the cutback was so severe that the company could not afford to let normal quits—about 100 per day—take care of the required reduction in personnel: 3,000 workers had to be released within the first week, 17,000 by the middle of November, 22,000 by January 30. More than that, several hundred new workers were scheduled to report for work the following Monday; telegrams had to be sent them calling it off.

With dismissal carried out on a seniority basis the company was forced to



lay off junior workers in both of its Dallas plants; and consequently production lines were held up at Plant A where the urgent P-51 Mustang fighter is made until workers could be transferred there from Plant B and fitted into the job. Around 2,000 voluntary quits in the two plants during the first nine days also hit P-51 production. Some lines were shut down entirely, and the Mustang did not meet its August schedule.

FAST WORKERS

The company's efforts to prevent a mass exodus of workers were aided by the WMC, which moved rapidly to set up reemployment machinery. Dismissed workers were sent into the city to the U.S. Employment Service's office for their certificates of availability; representatives of 15 high-priority projects were rushed to Dallas, where they succeeded in signing up 15% of the workers laid off in the first two weeks for important war jobs as far away as Alaska, Hawaii, and the West Coast. Of the 3,700 laid off, 2,100 had asked for referrals by August 25; and about 800 had actual transfers in process, over 500 of them for jobs out of the city. The WMC will continue to tap this surplus labor supply until North American, Dallas, is down to its expected 12,000 employment at the end of January.

As far as can now be seen, North American Plant B will then be employing only about 3,000 men, making certain P-51 parts and doing subcontract work on the B-25 Billy Mitchell and B-29 Superfortress for Fisher of Detroit. Liberator manufacture cannot be wound up quickly enough to make the facilities available for subcontract work on the urgent new B-32 "Dominator."

A proposal has been made to shift the manufacture of the P-51 Mustang from North American's home plant at Inglewood, Calif., to Dallas. But the

company doesn't regard the move as practical. In line with recent AAF policy, vigorous attempts will be made to move other airplane work (probably on the B-29) to this specialized plant, thus freeing automobile and other less specialized plants about the country for reconversion activity. However, if these plans do not materialize, and if manufacture of the P-51 cannot be shifted from labor-starved California (as PEC had anticipated when approving the cutback), it looks as if the plant and its labor staff as now constituted are virtually out of war production.

However, for Dallas the cutback cannot be regarded as an unmixed misfortune. Coming as it does this early—when employment generally is high and jobs are available elsewhere—workers have an opportunity to move. Thus the community is ahead of the game in making its postwar adjustment.

The lessons of Dallas are being studied by top officials of the War Production Board, War Manpower Commission, and the various procurement agencies. The agencies immediately concerned have reached agreement on a fundamental point: Future cutbacks must not be made without preliminary consultation with the contractor and notification of WMC and WPB; they want to be ready for similar cutbacks in such other one-plant aircraft towns as Ft. Worth, Oklahoma City, Tulsa, Omaha, Wichita, Atlanta. Released workers in such areas become an instant liability (unless they find nonwar jobs).

SELECTED MONTHLY STATISTICS

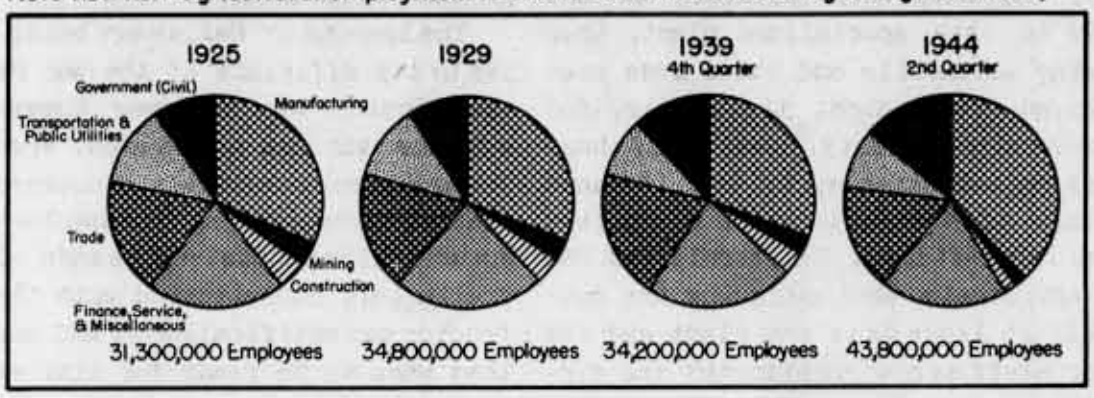
Labor Force – Labor Turnover – Federal Finance

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
LABOR FORCE - TOTAL (millions)	54.01	55.00	54.22	51.15	55.44	n.a.	n.a.
Employment	53.17	54.00	53.22	50.26	54.37		
Male	35.14	35.41	35.04	34.01	36.44		
Female	18.03	18.59	18.18	16.25	17.93		
Unemployment	.84	1.00	1.00	.89	1.07	n.a.	n.a.
LABOR TURNOVER IN MFG. INDUSTRIES (rate per hundred employees)							
All manufacturing							
Accessions	6.82r	7.60r	6.80	6.47	7.83	4.16	3.36
Separations - Total	6.48r	7.12r	6.97	6.69	7.56	3.36	3.32
Quits	4.95r	5.43r	5.20	4.60	5.62	.70	1.25
Military	.33r	.44	.60	.53	.69	n.a.	n.a.
Aircraft							
Quits	4.70r	5.28r	4.63	4.33	5.22	1.44	1.47
Military	.64r	.92r	1.19	.62	.73	n.a.	n.a.
Shipbuilding							
Quits	5.96r	6.74	6.32	6.10	6.91	.67	1.24
Military	.56r	.74	.97	.81	1.07	n.a.	n.a.
FEDERAL FINANCE (GENERAL FUND)							
Expenditures - Total (million dollars)	8,119	8,110	8,625	7,862	7,617	774	n.a.
War	7,571	7,201	7,567	7,518	7,232	121	
Nonwar	548	909	1,058	344	385	653	
Revenues - Total	2,568	2,163	6,847	2,505	2,721	378	
Income and Profit Taxes	1,552	1,247	5,841	1,747	1,564	38	
Other revenues	1,016	916	1,006	756	1,157	334	
War bond sales - Total	602	2,125	1,802	2,782	802	-	
"E"	499	1,687	1,350	2,102	661	-	
"F" and "G"	103	438	452	680	141	-	
War bond redemptions	272	220	241	178	145	-	
"E"	246	196	220	161	134	-	
"F" and "G"	26	24	21	17	11	-	
Net debt (billion dollars)	192.1	186.6	180.8	164.0	137.7	38.7	34.1

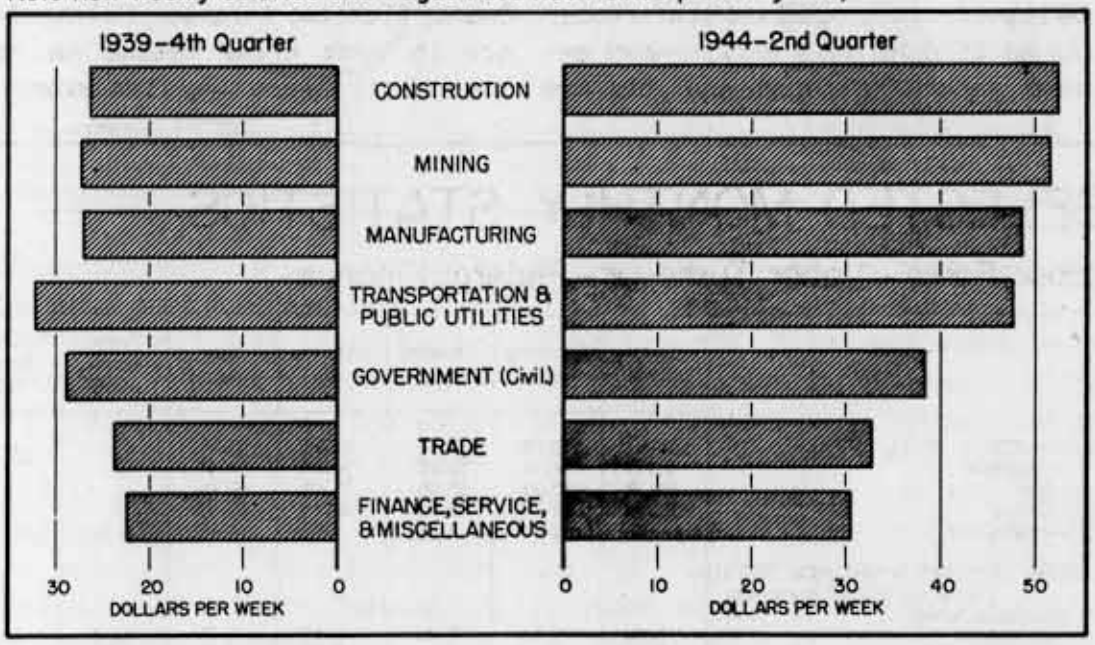
* Labor Force, Federal Finance, August; Labor Turnover, July. n.a. Not available. rPreliminary. rRevised.

WHERE DOES LABOR GO FROM HERE?

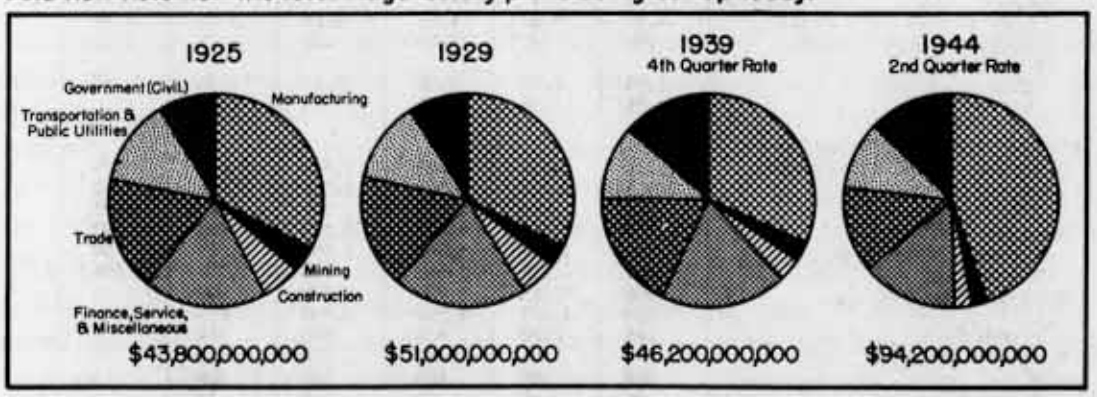
Note how non-agricultural employment has shifted to manufacturing and government;



Note how weekly salaries and wages have risen since prewar years;



And now note how the total wage-salary pie is being cut up **today.**



WAR PROGRESS

Tug of War and Peace for Textiles

Increasing military, export, civilian needs compete for short supply of cotton cloth. Labor shortages, seasonal factors affect third-quarter output—probably war's low.

THE MATERIALS most plentiful at the start of the war, such as cotton textiles, lumber, paper (in sharp contrast to planes, tanks, ships, etc.), have become the tightest as the war nears a climax. And in the case of cotton textiles the tightness is expected to continue even after the fall of Germany.

The gap between supply and demand in cotton cloth has been growing steadily for more than a year. Demand has risen sharply due to (1) expanding military requirements—783,000,000 linear yards in the fourth quarter, as compared to a quarterly average of 550,000,000 yards in the first half of 1944; (2) increasing dependence of the Allies upon U.S. textiles as United Kingdom exports are cut and prewar stocks in importing areas dwindle; (3) growing urgency of relief needs of liberated countries; and (4) continued heavy U.S. civilian purchases as a result of war-boosted incomes.

DROP IN PRODUCTION

On the other hand, there has been a serious decline in production. Despite adoption of a 48-hour week, establishment of a production-urgency rating to channel available labor, and other measures, 1944 output is not expected to exceed 9,900,000,000 yards (excluding woven tire cord). This is 12% below the 11,200,000,000-yard peak in 1942, and 7% under the 1943 output of 10,700,000,000 yards.

The reason is a steady drop in employment—from 510,000 in December, 1942, to 436,000 in June of this year. The industry now is hiring 30,000 new workers per month despite wage differentials and other unfavorable factors. However, the turnover rate is so high that in order to obtain the needed overall increase of 28,500 workers by November 1, as compared with May 1, the industry must hire 240,000. The recent separation rate—8% monthly—is equivalent to a complete turnover in a year.

Furthermore, because of seasonal factors (July and August vacations and shutdowns, hot-weather absenteeism in the South), third-quarter production is expected to sink to the lowest point in the war—2,425,000,000 yards, as against 2,550,000,000 yards in the first quarter, 2,500,000,000 in the second. With stated requirements at 3,100,000,000 yards, the supply-demand gap widens to 21%. In the fourth quarter, despite a small anticipated seasonal increase in production, this gap will be no smaller.

SHARP CUTS INEVITABLE

In some instances, a single claimant's requirements exceeded the total third-quarter supply. For example, the Office of Civilian Requirements asked for 428,000,000 yards of print-cloth yarn fabrics per quarter, whereas the total output in the third and fourth quarters will run to only 400,000,000 yards each. In view of the big overall deficit in cotton cloth, all major claimants had to be cut sharply to meet the most essential needs of all. Reductions ranged from 12% for the War Food Administration to 32% for OCR's house-furnishings category. A 7% boost in military allotments (to one-fourth of total supply) over the first half, resulted in OCR's share shrinking from 55% to 50%. The following table shows how much third-

quarter allotments had to be cut below stated requirements:

	Stated Requirements	Allotments	%
	(mil. of linear yd.)		
Military.....	776	611	-21%
Army.....	480	383	-20
Navy.....	278	211	-24
Maritime.....	9	9	0
ARCO.....	8	8	0
Domestic nonmil.	2,046	1,644	-20
OCR.....	1,582	1,227	-22
WFA.....	337	295	-12
ORD.....	78*	67*	-14
NHA.....	1	1	0
Industrial & commercial....	48	48	0
Exports.....	262	201	-23
Grand total.....	3,084	2,446**	-21

* Excludes woven tire cord.
**Includes 4,000,000 yards of imports, principally from Mexico.

As might be expected, such drastic paring brought protests from the Army, Navy, WFA, OCR, Office of Rubber Director, Foreign Economic Administration, and Canada. All declared the cuts would create difficult problems. But the Program Bureau, upholding the Textile Requirements Committee, pointed out that the diminished supply made it virtually impossible to improve the situation of one claimant without jeopardizing that of the others. The hope held out was that a normal seasonal increase in output might help in the fourth quarter, but present indications are that there will have to be cuts of about the same magnitude.

DUCK BIGGEST PROBLEM

Shortages of certain types of cloth are especially acute. The Number 1 critical program is cotton duck for the Army tent program. Replacement needs in combat zones have boosted stated requirements more than 300%, and when the program was cut back in 1943 many facilities were converted to tire cord and other essential fabrics. During the first half of this year, only one-fourth of the 1944 tent requirements were met.

Against the Army's stated requirements of 124,000,000 yards in the third quarter, 70,000,000 yards were allocated, but the supply now is not expected to exceed about 50,000,000 yards—74,000,000 yards short of demand. The yield from the conversion of looms on drapery, upholstery, corduroys, bedspread, ticking, etc. has been much less than anticipated.

DRASTIC STEPS

The War Production Board's Textile Bureau is combing the market for excess inventories of duck. It has ordered all dealers, including transport companies, manufacturers, wholesalers, and retailers, to hold for military use their stocks of all types of duck in excess of 500 yards. Furthermore, it has ruled that no producer of duck may carry an inventory of more than half of his previous month's production unless he has offered his entire stock to the Army or Navy.

Perhaps enough additional tire-cord yarn to provide from 7,000,000 to 10,000,000 yards of Army duck will be made available in the fourth quarter, because of the increased output of rayon cord. As a last resort, it is now necessary for the bureau to convert more looms making industrial and work-clothing fabrics, especially denim. This will increase the shortage—already acute—in civilian work clothes. A further complication is the fact that the Navy is faced with a serious shortage of denim for dungarees and has recently tripled its requirements for duck.

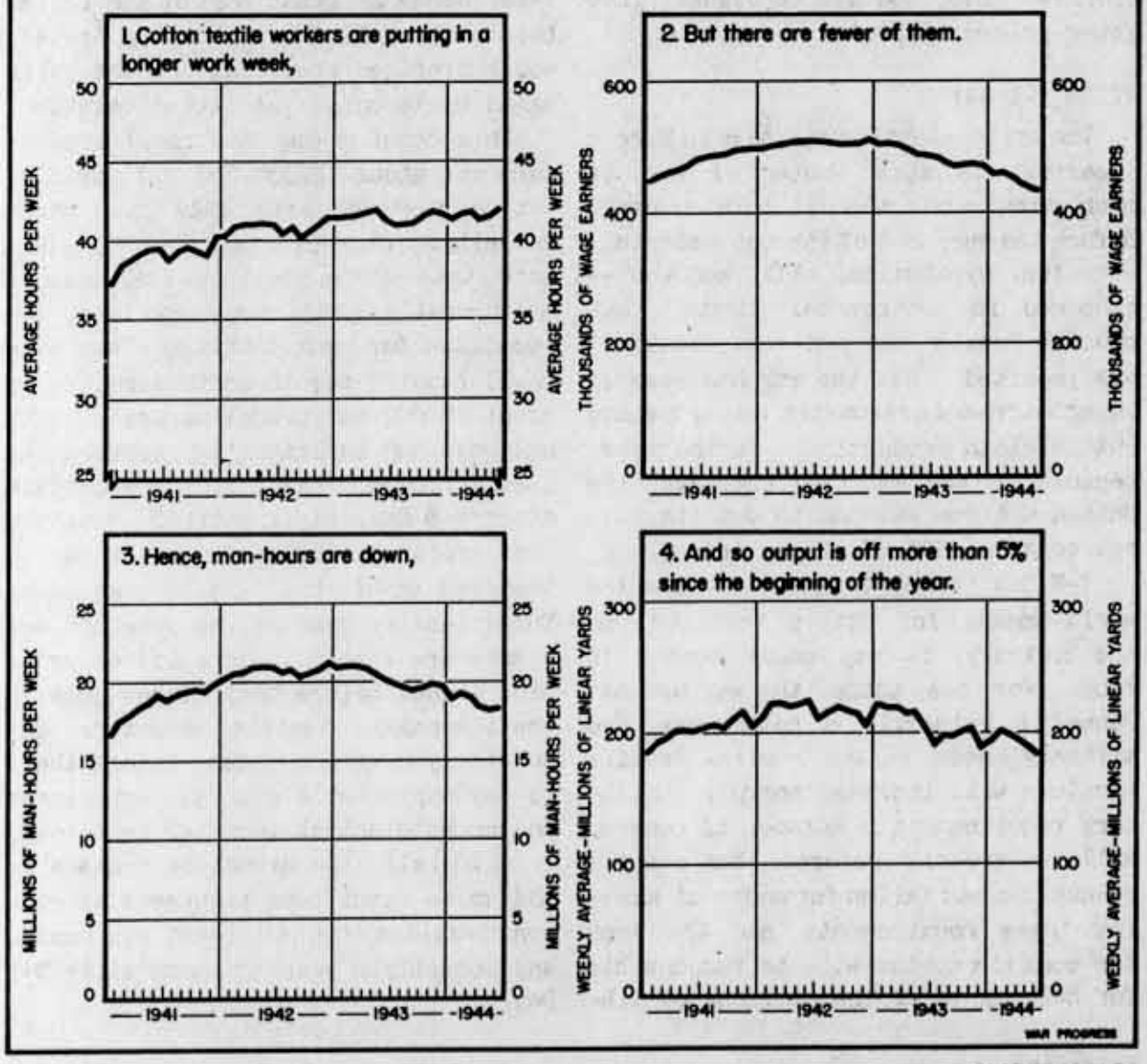
Next to work-clothing fabrics, the most critical OCR shortage is in print cloth—the staple for women's dresses

and house coats, men's shorts, shirts, and pajamas, and infants' and children's garments. Here, a cut of 40% in OCR's stated requirements was made in the third quarter, and a similar reduction will be necessary in the fourth quarter. Cuts were also severe in combed poplins and broadcloths, medium sheetings, bed sheetings, chambray and shirting covert, tickings, blankets, and towels. OCR protested that these reductions will impoverish retail shelves in the fall and precipitate a distribution crisis.

The bureau held that there was no alternative: that careful screening failed to reveal any further feasible reductions in the military needs; that amounts allotted for WFA were barely sufficient to provide bagging and other fabrics for the food program; that industrial requirements were at minimum levels; and that allotments for exports were as low as consistent with vital international obligations.

The tightening situation has required firmer controls. Thus a directive to Order M-91 has just been issued, effective October 1, prohibiting producers

COTTON TEXTILES: ANOTHER TIGHT SPOT



from turning out other kinds of cloth on looms which were making any of the four types of cotton duck in the first quarter of 1943. Conservation Order M-317, which channels cloth into the most essential products, was amended late in 1943 to require mills to set aside percentages of their output for export. As the shortage became more acute in infants' and children's wear, men's shorts and shirts, and women's house dresses, Order M-328B provided for an allocation of fabric to garment manufacturers to produce a specified number of such garments. The latest order, M-385, adopted July 27, is designed to direct the flow of cloth to essential civilian uses, and out of higher- into lower-priced apparel.

AFTER V-E DAY

The cotton-textile shortage in Europe (nearing its sixth winter of war) is much more acute than in this country. Before the war, 80% of the raw materials —cotton, synthetics, silk, and wool— consumed in continental Europe (excluding Russia and neutral countries) was imported. But the war has stopped importation and presumably forced a sharp cut in cloth production. Furthermore, because of the manpower shortage, the United Kingdom has had to cut its output to about 40% of prewar levels.

V-E Day is not expected to ease the world demand for cotton textiles; on the contrary, it may cause demand to rise. For one thing, the war against Japan is primarily a cotton war, and military needs in the tropical Pacific theaters will increase sharply. Military requirements in Europe, of course, will be greatly reduced, but overall production has fallen far short of meeting these requirements, and the Army for some six months will be responsible for helping to clothe millions of liberated people. After that, the United Nations Relief and Rehabilitation Administration will take over, and UNRRA has listed its requirements during the first six months following the end of military responsibility at 1,000,000,000 yards (as much as U.S. military requirements in the first six months of this year). How much has to be sent abroad depends on the extent of war destruction of spinning and weaving capacity on the continent. Rehabilitation will probably require importing some new machinery.

BIG BURDEN ON THE U.S.

During this period, Russia and the U.K. will have their own clothing problems, hence the great part of the relief burden will fall upon the United States, which produces about half of the estimated world output of cotton textiles.

This country has the facilities to turn out about 12,000,000,000 yards of cotton textiles (the 1942 peak rate) annually. This is 2,000,000,000 yards more than the current rate of output, and probably about enough to meet the immediate European shortage. But this would require the 12-month services of about 75,000 additional workers. With hundreds of thousands of workers released from war plants by a 40% cutback after V-E Day, it is entirely feasible that employment could be built up to the 1942 level, but it will take time. Those leaving good-paying jobs in war plants are likely to do a lot of shopping around before they accept jobs in the low-paying textile industry. Undoubtedly it will be months before there is any appreciable gain in employment and any substantial increase in output.

All in all, the situation appears to add up to a continued tightness of cotton textiles for at least six months and possibly a year or more after V-E Day.

PSF: WPB

The President

WAR PROGRESS

~~Confidential~~

Disclosure Punishable Under Espionage Act

After the Planes Stop Fighting

PUCs: The Community Labor Doctors

Number 210

September 23, 1944

When the Planes Stop Fighting

Will they be sold, scrapped, or given away? Present surpluses, mostly trainers and puddle jumpers, do not fully mirror problem when big craft come on market.

THE UNITED STATES built or bought 22,000 airplanes for the First World War. When inventory was taken after the Armistice—in May, 1919, to be exact—this was revealed:

3,000 had crashed or been shot down in combat;

6,000 had been taken over by the Army for peacetime training;

1,000 had been deliberately burned in France, after having been stripped of their engines, guns, and instruments; and

12,000 were available for sale.

As compared with the last war, this war's aircraft disposal problem will be mammoth. To date, roughly $35,000,000,000, or 25%, of all munitions expenditures have gone for airframes, engines, propellers, gliders, spare parts, etc. How much of that total will have crashed, been shot down, destroyed, taken over by the armed services, or transferred to foreign governments is impossible to determine at this point. But one thing is certain: what is left will constitute the largest single block of surplus war property.

TIME, PLACE, PLANE

Will planes be burned abroad? Will they be given away? Will they be sold? Scrapped? Stored? Congress will have the final say. Meanwhile, the outlines of the problem are coming into view. And it looks as if all these methods will be used at one time or another, depending largely on the time, the place —and the plane involved.

So far, approximately 14,300 planes, costing an estimated $200,000,000, have become surplus. More than 90% of the numerical total is in trainer and communication planes (chart, page 3). But the list is sprinkled with other types of aircraft. There are bombers such as the A-34 Buccaneer, A-24 Banshee; fighters such as the P-40 Warhawk, P-43 Lancer, P-39 Airacobra, Curtiss P-36 (predecessor to the "Hawk" planes); transports such as the UC-67 (a conversion of the B-23 medium bomber), UC-78 Bobcat (transport version of the Cessna trainer). These are virtually all obsolete or war-weary planes. No top-flight models are on the list—no Flying Fortresses, Billy Mitchells, Helldivers, Mustangs, Commandos, etc.

WHOSE SURPLUS?

Of the 14,300 planes, some 9,000 have come from the Army; only one ship, a patrol bomber, has come from the Navy. The remaining 5,300 have come from the Reconstruction Finance Corporation, which happens to be the government's agency for disposal of aircraft in the United States (Foreign Economic Administration has the overseas job). These 5,300 planes—almost all of them trainers and puddle jumpers—were originally bought from private owners by RFC's Defense Plant Corporation and then leased to the Civil Aeronautics Administration for its War Training Service program. This program was cut back at the beginning of the year, eliminated in August.

Sales to date have run to about 4,-

500 planes (chart, page 3). These planes, after more than a year's service in the training program, brought approximately $7,000,000, or 60% of stated cost. Only one combat plane has been sold: a Lockheed RA-28 attack bomber, which had crashed. It cost the Army $130,000. This ship was bought by an oil company for $25,000 with the idea of using it for corporate transportation; but the company will have to spend an estimated $75,000 before it can be repaired and flown.

All other sales have been in trainers, puddle jumpers, and light personnel transports (designed to carry three or four persons). These have been taken largely by individuals, flight operators, dealers—and two planes were bought by Haile Selassie, Emperor of Ethiopia.

INVITATION TO THE SALE

From time to time the CAA, as agent for RFC, publishes "invitations for bids" on surplus planes from each of its seven regional offices throughout the country: New York, Atlanta, Ft. Worth, Kansas City (Mo.), Chicago, Santa Monica, and Seattle. In effect, these are lists of available planes.

From one of these bid-lists a prospective buyer finds, for example, that a particular Piper Cub is located at the Municipal Airport, Princeton, W. Va., that it's a 65-horsepower job with 1,152 hours in the air and 220 hours since the last engine overhaul; he also learns that the estimated ceiling price of the Office of Price Administration is $1,220. All light planes (under 500 horsepower) have an OPA ceiling based on October, 1941, prices (less 8% annual depreciation, less a specified amount for each hour since the last engine overhaul; there is no deduction for needed repairs). Sales are "as is, where is," but the would-be buyer is urged to examine the plane at the field. He then submits a sealed bid to the CAA regional office and sends 10% of the bid price as a deposit. If he is high bidder, the plane is his on cash payment of the balance.

That, briefly, is current procedure on light personnel aircraft. Changes are always a possibility; needed repairs may be allowed; quantity discounts may be given; the sealed-bid method may be supplemented by auction. It is notable that the present arrangement with CAA is rooted in necessity—and logic. Last January, when planes first appeared as surplus in significant numbers, CAA had the staff, knowledge, and experience to take over immediately. The Surplus War Property Administration wasn't established until the following month; it wasn't until June that its aircraft division was organized, and not until July that RFC set up a complementary operating division.

RFC LENDS HAND

Alone, CAA can't hope to handle the flood of surplus planes to come. Nor is it expected to. RFC is already taking over. And to prepare for the job ahead, RFC has set up 32 sales centers throughout the United States (map, page 5). These are portions of airfields leased from private operators. Surplus planes are sent to the nearest field,

IN THIS ISSUE:

or to the one where marketing prospects are best. For instance, partly because of flight restrictions along the East and West Coasts, the best current market for light planes has been found to be around the Middle West. Also, topography is an influence. Some models perform better than others at altitudes, hence might be preferred in the Rocky Mountain region.

DEPOT FOR DUDS

In addition to the sales centers, 15 storage depots have been established and 15 or so are on the way. These are also airfields, but are all DPC-controlled. They were originally used for pilot training by the Army's "contract schools," but have since been freed. To the storage depots are sent the surplus planes not readily salable—certain bombers and fighters, for example. Finally three combination sales-storage depots have been set up in the South, with two more on the docket. These, too, are all DPC-controlled.

Of the 225,000 planes alrea
duced, combat planes (bombers, fi
and naval reconnaissance) make up the largest major group—142,000, or 63%—and communication planes the smallest—11,000, or 5%:

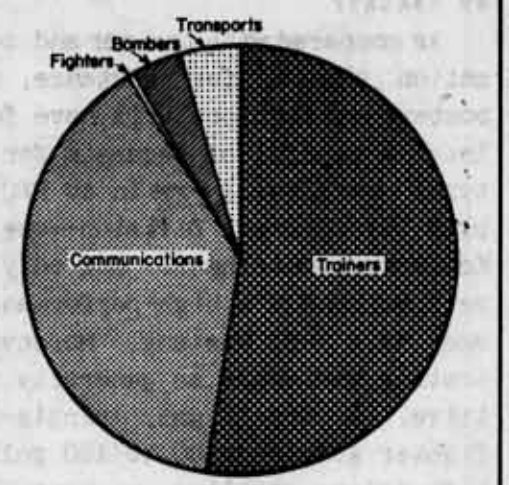
Major Types	Number (000 planes)	% of Total
Combat.....	142	63%
Trainer.....	55	24
Transport....	17	8
Communication	11	5
Total.....	225	100%

This doesn't mean that if the war were to end tomorrow all these planes would be declared surplus. About 45,000 have already been exported to our allies; some have been shot down in combat or otherwise destroyed; others will be wanted by the armed services; and still others

SURPLUS BEGINNINGS

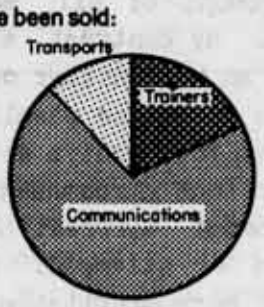
Only a tiny proportion of Army-Navy planes are on the market—mostly noncombat types.

To date, these planes have become surplus:



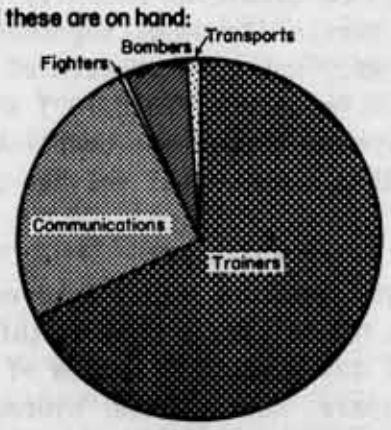
14,300

These have been sold:



4,450

And these are on hand:



9,850

Note: One Army bomber has been sold.

WAR PROGRESS

will be sold or bartered to foreign governments. But whatever is left over—whatever is finally put on the surplus list—will have sharply contrasting markets.

NO TAKERS?

As compared with trainer and communication planes, for instance, surplus bombers and fighters will have few outlets. A handful of requests for combat types have already come in to RFC's Surplus War Aircraft Division—one from a Kentucky mountaineer. But only an expert can handle a high-performance ship such as a P-51 Mustang. Moreover, operating cost would be generally prohibitive. A top-flight, single-engined fighter gobbles up 80 to 100 gallons of high-octane gasoline an hour, costing between $25 and $30. And that doesn't take account of oil, maintenance, or repairs. By contrast, a puddle jumper runs for an hour on four or five gallons of 70 to 80 octane gasoline, which can be bought for about a dollar.

Under such circumstances, most surplus combat aircraft may have to be scrapped or salvaged. And whether it will be more profitable to strip and sell them piecemeal or junk them forthwith is a question. Recently the Army's Air Service Command, together with SWPA and RFC, put on a preview of the problem at Patterson Field, O.: a war-weary Liberator bomber was completely disassembled under normal salvage procedure.

BUT IS IT WORTH IT?

The results were interesting. It took 783 man-hours to strip this $235,000 ship down to 32,760 pounds of airframe, hardware, instruments, hydraulic mechanism, power plant, propellers, radio equipment, rubber, armament, etc. And among the Army, government, and industrial experts present, there was a difference of opinion.

Granting the obvious ability to sell clocks, compasses, fire extinguishers, thermos bottles, heaters, fire axes, and similar items, one group felt that disassembly would be uneconomic, that the cost of salvaging such things would far exceed what would be realized. But another group felt that disassembly could be made worthwhile if new uses for B-24 parts were explored and promoted: oxygen tanks for acetylene containers, radio equipment for two-way communication on passenger and freight trains, fuel cells for flotation gear, engines for industrial power units, navigation equipment for marine craft, tanks for chemical laboratories, hydraulic landing gear for large jacks, generators for electricity where transmission lines aren't available, and so on. Suggestions also ran to making surfboards out of vertical fin boards; ornamental ware out of turrets; fishing cabins, house trailers—and even hot-dog stands—out of fuselages, etc.

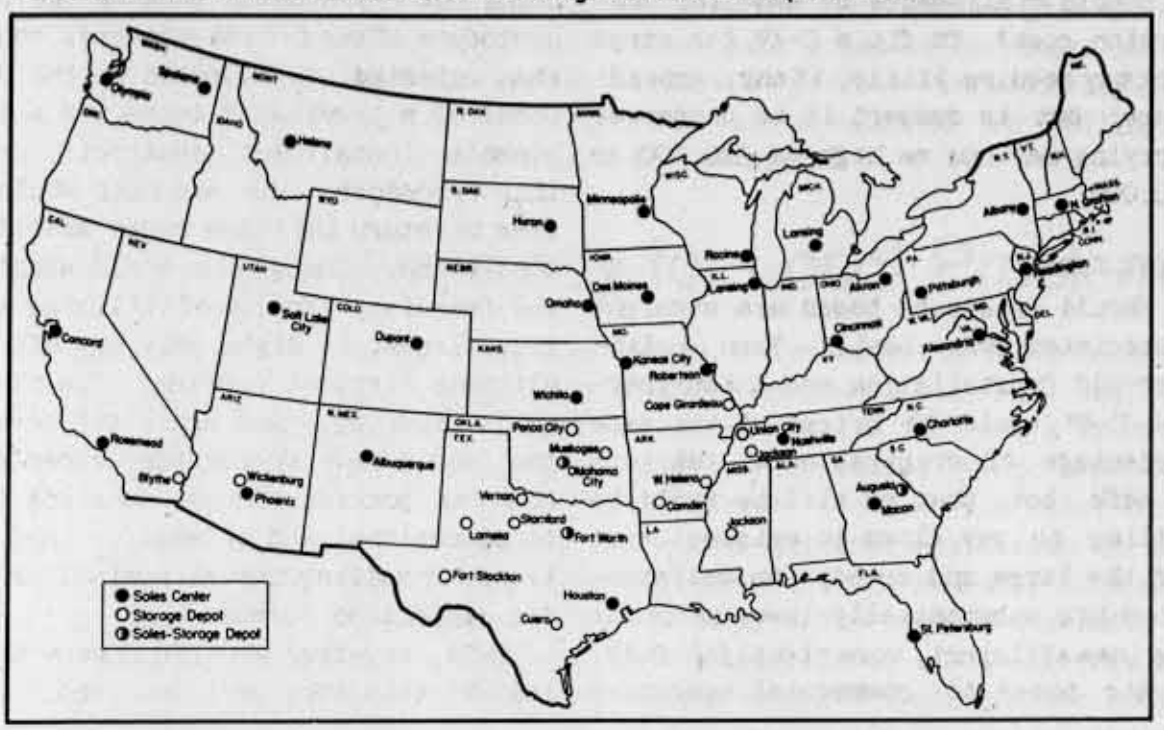
THEY WANT THESE

Transports are in a different category. For the purpose of surplus marketing, they may be divided into two groups. There are the light personnel carriers that RFC to date has been successfully selling to flight operators and individuals; the market for these is likely to remain strong after the war. They are used largely for flight instruction, charter work, and executive travel. Then there are the commercial passenger- and cargo-carrying planes.

These range from the 7,500-pound (gross weight) 6-passenger Beech UC-45 to the 84,000-pound, 60-passenger C-69 Constellation; included are the Commando, the Skymaster, and, of course, the DC-3

DO YOU WANT TO BUY A PLANE?

Here are the first of the R.F.C. sales and storage centers for surplus aircraft.



type commercial transport. This last is the 29,000-pound, 21-passenger "workhorse of the air"—the plane that was converted to the cargo- and troop-carrying C-47, the Army's volume transport (WP-Sep2'44,p1).

BIG DEMAND, NO SUPPLY

No commercial transports have been declared surplus. Yet right now they are wanted—often urgently—by governmental departments, industrial organizations, domestic airlines, dealers, speculators, foreign governments, and would-be carriers of passengers or freight. Indeed, current demand is so great that any surplus will have to be allocated: Where will the planes do the most good for the war effort?

But after the war, when surpluses are counted, demand may not look so large. Prior to 1940, the commercial transport needs of the entire world were filled by approximately 2,000 passenger- and cargo-carrying planes. After the war, demand for the DC-3 type alone may run as high as 2,000 planes; but the surplus in C-47s and other converted DC-3 types may run to 8,000. Who knows?

The basic question is: Can the entire surplus be moved, especially when the surplus planes of England, Russia, and other countries are taken into account? If the answer is "yes," that suggests further questions.

HIGH COST OF LOW PRICES

Can we afford to set prices low enough to move the surplus? This might disrupt the orderly growth of air transportation, might impair the status of manufacturers vital to military aviation. In the last

war, competition from cheap surplus items cut into demand and almost wrecked the industry.

Should an allowance be made for conversion cost? To fit a C-47 for cargo work may require little, if any, expenditure; but to convert it to passenger carrying may run as high as $20,000 or $30,000.

PRICE POSER

Should prices be based on a straight depreciated-cost basis? Then a two-year-old Constellation and a two-year-old C-47 would be priced at the same percentage of original cost; yet it's a safe bet that an airline would be willing to pay close to original cost for the large and speedy Constellation but only a substantially lower price for the less efficient, more plentiful C-47.

Big poser to commercial operators is: What price obsolescence? They may buy a surplus plane at what seems like a good price, but manufacturers may bring out new models, such as the DC-4 (prototype of the C-54 Skymaster), sooner than expected. This has led to the proposal of a terminable lease, or a terminable installment contract. Under this procedure, the operator would be free to return the plane under specified conditions. Though it would simplify the immediate problem of utilizing surplus planes, it might only put off the ultimate disposal problem. The planes would back up. And again the government would have to consider expedients such as junking planes, donating them to educational and scientific institutions, or selling them at nominal prices for exhibition purposes.

SWPA, together with RFC, is now working on this very problem. And that's

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War Rrogram-Checks paid (millions of dollars)	1,568	1,613	1,785	1,878	1,727
War bond sales-E, F, G, (millions of dollars)	156	117	145	161	299
Money in circulation (millions of dollars)	23,558	23,495	23,047	21,006	18,714
Wholesale prices (1926=100)					
All Commodities	103.6[p]	103.6	103.8	103.6	102.9
Farm products	122.1[p]	122.2	122.3	123.4	123.6
Foods	103.8	103.9	104.5	104.6	104.5
All other	98.8[p]	98.8	98.7	98.2	97.4
Petroleum:					
Total U.S. stocks* (thousands of barrels)	417,276	418,518	411,514	414,225	423,824
Total East Coast stocks* (thousands of barrels)	73,370	72,666	69,849	54,751	60,135
East Coast receipts (thousands of barrels, daily average)	1,663	1,679	1,670	1,654	1,514
Bituminous coal production (thousands of short tons, daily average).	2,009	1,940[r]	2,033	2,035	2,031
Steel operations (% of capacity)	95.7%	94.2%	94.5%	99.1%	99.6%
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,070	2,902	2,787	3,091	2,628
Gulf Coast ports	457	372	341	388	396
Pacific Coast ports	1,967	1,884	1,770	1,462	1,439
Department store sales (% change from a year ago)	+9%	+14%	+2%	+17%	+17%

[p]Preliminary *Excludes military-owned stocks [r]Revised

only one among many that will be tackled in turn, especially with respect to combat planes.

Whatever the decisions, the basic aim will be to steer clear of the "surplus" experience of the First World War, when the Army was still using obsolete Curtiss "Jennies" (JN-4s) ten years after the Armistice, when England and France beat us to the sale in foreign markets, when our Allies threatened to flood the U.S. with their own surplus aircraft, when some domestic companies made inordinate profits through buying low from the government and selling high to the public.

PUCs—Local Remedy for Local Problems

Production Urgency Committees seek on-the-spot solutions of manpower difficulties by plant-by-plant assignments of labor, control over contracts coming into area.

AN AIRPLANE PLANT at Wichita uses engines from Detroit, aluminum from the West Coast, wire from Schenectady, rubber from Akron, and guns from Springfield. But the labor it uses—the men and women of different skills who piece all these things together—will come, for the most part, from right around Wichita.

True, people can be, and have been, moved. Mass migrations of labor, however, are slow and undependable, and they create their own unpleasant problems—cramped housing, insufficient community facilities, overworked laundries, etc. Thus the War Manpower Commission, the War Production Board, and other federal agencies have looked upon long-distance labor recruitment as strictly an expensive emergency procedure.

LOCAL PHENOMENA

The point is that manpower problems are local problems. For people are local phenomena: they live at home and work near home. The United States is not one big labor market, but a collection of small labor markets. The necessity of handling these local problems on a local basis, first squarely faced in Buffalo little more than a year ago, has led to the organization of WPB's Production Urgency Committees which now blanket the nation, one for each labor market. The PUCs act in concert with the local offices of the War Manpower Commission, and their aims—born of necessity—are basically simple: (1) to distribute to best advantage the labor available in each area, and (2) to control the quantity of labor-demanding work brought in there.

WHEN PUC MEETS

But simple aims don't necessarily lead to easy procedures. Let us sit in on a meeting of a typical committee. Present are representatives from:

War Production Board (Chairman)
War Manpower Commission
War Department
Navy Department
Maritime Commission
War Food Administration
Aircraft Resources Control Office
Smaller War Plants Corporation
Office of Civilian Requirements, WPB
Office of Defense Transportation

The chairman recognizes the Navy Department.

NAVY: Mr. Chairman, we've got to give an "A" rating to Mammoth Motors. They need 420 more men on those landing

craft engines. They're a month behind schedule now, and LCIs are on the Production Urgency List.

WMC: Yes, it's a "must" item, but Mammoth doesn't need men. There are still plenty of women to be hired in this area. They're using less than 10% women, and could use twice as many.

NAVY: Not on that job. It's too heavy.

WPB: Perhaps not, but LCI engines are only a small part of their work. Certainly, Mammoth could hire enough women in its whole plant to free 420 men for the heavy work.

SWPC: They wouldn't even have to do that if they'd farm out some of the work. They just hate to subcontract. There's a little plant out in Jonesville that could make all the carburetors for those engines. They haven't got work enough to run their plant, and there's plenty of labor there.

OCR: The Jones Company is standing by, waiting to make 500 oil burners as soon as they get the steel.

SWPC: Well, while they wait.....

ARMY: I hope we're not going to spend all day talking about 400 men; the shell-loading plant up in Smith County needs nearer 4,000.

WPB: Well, they've got their "A" rating. And they'll use mostly women.

ARMY: Sure, but they're not getting men or women either. There's no place to live. The contractor at that housing project just isn't building houses.

WMC: Yes, we've certainly got to give that contractor an "A" rating, for the time being. He hasn't got half the carpenters he needs.

ODT: It's only an hour from the city. We could run twice as many busses out there if we had the drivers.

WPB: Wait a minute! We can't give everybody an "A" rating. It wouldn't mean a thing...

The end products of such meetings are urgency ratings on a plant-by-plant basis. In the 11 most critical labor areas in which PUCs have been operating during the past year, 5,000 such ratings have been handed down. The meetings are the means by which stresses, strains, and disputes among claimant agencies are kept behind closed doors; when the doors are opened, settled policy emerges—policy geared to the local conditions of the area.

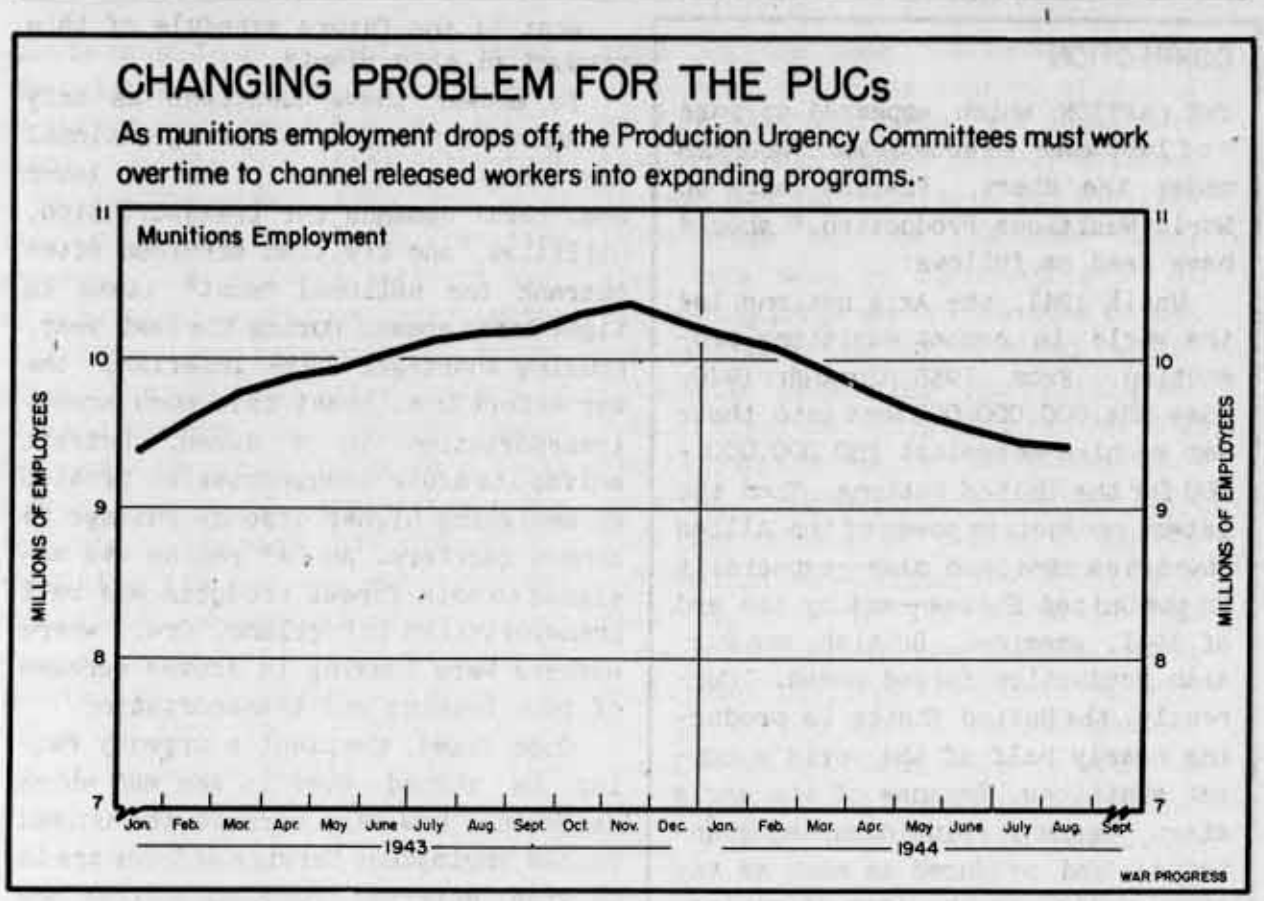
WHO'S FIRST?

The PUC's job of saying who shall get the manpower is done in two steps: (1) the realistic labor needs of the various plants are determined (employment "ceilings" are set) and (2) the order in which they will get the men they want is decided on. From those determinations emerges a Plant Urgency List, which must be kept up to date.

The actual establishment of employment ceilings for plants is done by the Manpower Priorities Committees. These committees are to the War Manpower Commission what the PUCs are to WPB. Indeed, PUCs and MPCs have been referred to as Siamese twins; they have two heads but the same bodies. To change the PUC into the MPC, the WPB man turns over the chairman's gavel to the War Manpower representative. To change it back to PUC, the WMC representative gives up the gavel and the WPB man takes it. The two committees work together in rating labor requirements of each plant. The PUC prepares the urgency list (which programs are more important?), the MPC then decides on the allocation of labor (how many men are needed per plant?).

FROM GENERAL TO PARTICULAR

Setting employment ceilings is a complex problem in economic interrelationships and individual necessities.



Not only must the PUC analyze the total supply-and-demand position of the entire area; not only must it determine which programs come first, but also it must study the individual problems of individual plants. Suppose a plant is falling behind in its production of a "must" item, but suppose also that it is a notoriously inefficient user of labor. What does the committee decide? If the plant is given a higher labor ceiling, it might increase production, but that would increase inefficiency of labor utilization in the area. On the other hand, if the plant is given a lower ceiling in order to promote efficient labor utilization, deliveries might fall even further behind schedule.

INFINITE VARIETY

Such problems, in dozens of variations, arise: Should labor ceilings of plants making civilian products be cut down? If they are, can the labor be counted on to take war jobs?

Various methods are used to fit varying conditions. Some ceilings are set after careful study of plant operation; others are arbitrarily set at employment totals on a certain date, with a view to detailed readjustment later.

WHEN CLAIMANTS WANT LABOR

A plant gets on the Production Urgency List whenever the claimant agency wants to assure its labor supply. Thus ARCO would sponsor an airplane plant, or any plant making airplane components, WFA a food-processing plant, etc. The sponsoring committee-member must be able to answer such questions as:

Is the product of the plant on the Production Urgency List? (This list, prepared by the Production Executive Committee in Washington, now consists of 36 items, some of which are artillery

CORRECTION

THE CAPTION which appeared on page 7 of last week's issue of WAR PROGRESS under the chart, "Latest Tally on World Munitions Production," should have read as follows:

Until 1941, the Axis nations led the world in combat munitions production. From 1938 through 1940, some $24,000,000,000 went into their war machine as against $20,000,000,000 for the United Nations. Then the latent productive power of the Allied countries came into play—especially in the United States—and by the end of 1941, American, British, and Russian production forged ahead. Currently, the United States is producing nearly half of the world's combat munitions. Because of its early start, Germany (plus occupied countries) had produced as much as any other nation in the 1938-43 period. But the United States is now far and away the leader.

ammunition, tanks, trucks, combat-loader cargo and troop ships, rockets, tent duck, and wire.)

What proportion of the facilities of the plant is devoted to this "must" product? What other products does the plant make?

How important nationally is the output of this particular plant? Couldn't this work be moved to an area where labor is plentiful?

Is the "must" product behind schedule? How much? Why?

If the trouble is manpower, how does the plant's labor force compare with its employment ceiling?

Is the ceiling too low? Prove it.

Couldn't some of this work be subcontracted?

What is the future schedule of this product at this plant?

To answer these questions is only to begin the job of translating national war needs into local plans for labor use. Local demands for transportation, utilities, and civilian services often outrank the national "must" items in tight labor areas. During the last year, housing shortages have imperiled the war effort in at least five such areas, transportation in a dozen. Detroit solved its acute transportation problem by assigning higher urgency ratings to common carriers. An "A" rating was assigned to both forest products and rail transportation in Portland, Ore., where workers were leaving in droves because of poor housing and transportation.

Once fixed, the plant's urgency rating is turned over to the MPC which determines how many workers the United States Employment Service offices are to provide. Referral from USES offices now accounts for 52% of all hiring throughout the country, and runs as high as 65% in some areas.

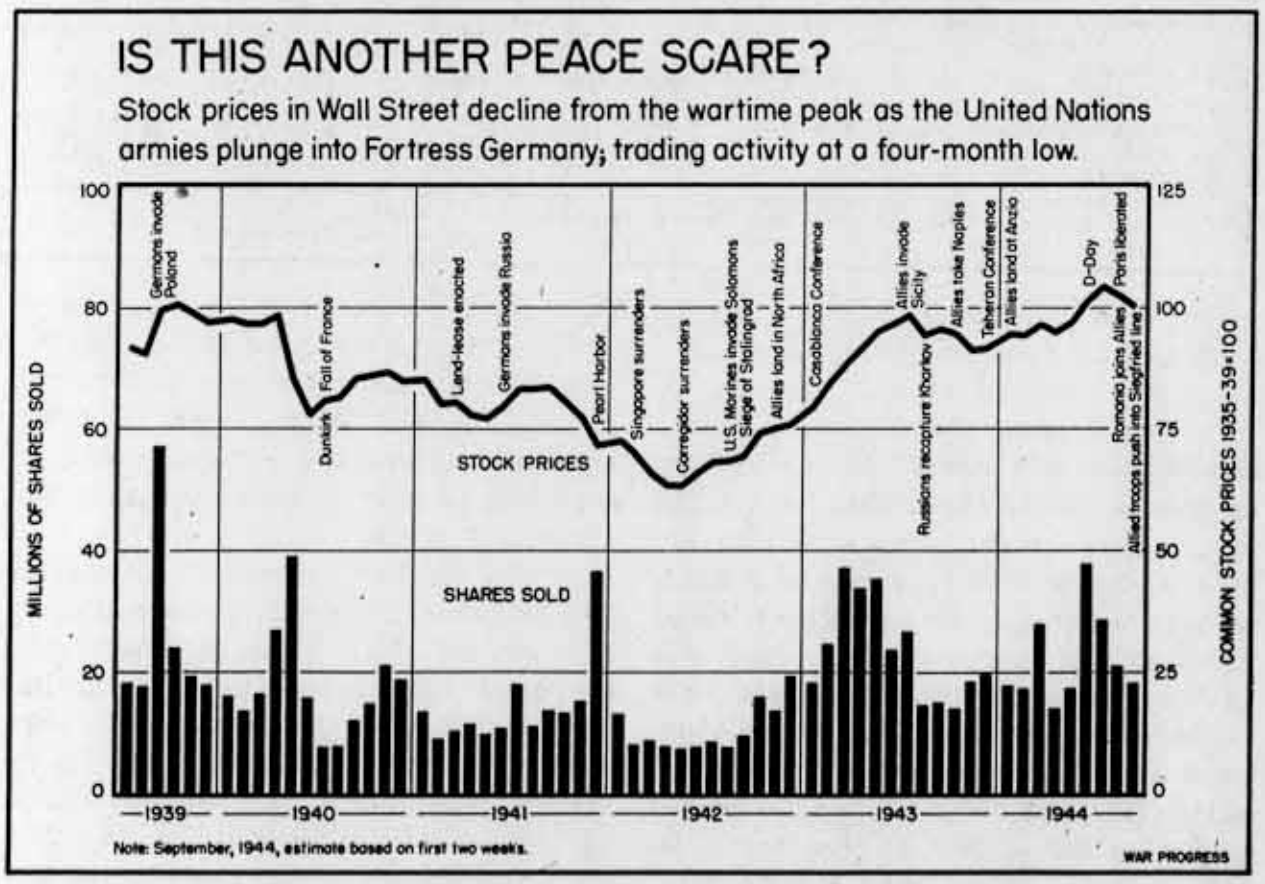
CONTRACT TRAFFIC PROBLEM

The PUC also has the responsibility of controlling labor demand in the area. The objectives here are: To stop contracts from coming into the area if the area is already overloaded; to move overloads out of the area, whenever possible; and to redistribute work within the area. For attaining these objects, the PUCs have virtual veto powers over: (1) building of new facilities, (2) resumption or expansion of production of individual plants, (3) new war contracts requiring increased labor (this veto power is held only by 11 committees in most critical labor areas). The committees are also expected to advise Washington as to what war production

should be moved in or out of their areas.

Exercising these powers, the committees turned down over 10% of all applications for new facilities throughout the country during May, June, and July; during June, the San Diego committee disapproved 30% of such applications. They prevented new production of rubber soles, latex, and raincoats in Akron; approved production of water heaters in Cleveland because only colored female labor would be hired; rejected a large company's request to manufacture electric irons in Chicago but granted approval after the work was subcontracted among 11 small companies; approved temporary production of electric fans in Rochester and aluminum pipestems in Seattle so that two companies could hold their labor staffs together for war work soon to come; approved dinner pails in Canton, O.; but rejected safety boxes in the same place—and so on.

Because alternate sources of supply have not been available, the committees have often been balked in their attempts to keep new war contracts out of tight labor areas, but, on the other hand, they have done an outstanding job of persuading large war contractors to subcontract work out of critical areas. Into this "persuading" has gone a great deal of vigor and ingenuity, often with the help of the Smaller War Plants Corporation. WPB engineers have been sent into the plants to determine whether subcontracting was feasible. When plants still held on to all the work, high urgency ratings have been refused, tight employment ceilings have been imposed, and as a last resort, recommendations have been made to Washington to withdraw the contract. As a result of such measures, subcontracting has become the rule



SELECTED MONTHLY STATISTICS

Cost of Living—Employment—Production—Transportation—Expenditures

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
COST OF LIVING-ALL ITEMS (1935-1939=100)	126.3	126.1	125.4	125.8	123.4	98.6	103.7
Foods	137.7	137.4	135.7	134.5	137.2	95.5	106.9
Other than foods	120.4	120.1	120.0	118.0	115.8	101.2	102.1
FEDERAL CIVILIAN EMPLOYMENT (thousands)	3,442P	3,424R	3,365	3,289	3,337	N.A.	N.A.
War agencies	2,554P	2,547	2,498	2,428	2,468		
War department	1,582P	1,573	1,541	1,493	1,568		
Navy department	752P	754	736	714	665		
Other	220P	220	221	221	235		
Nonwar agencies	888P	877R	867	861	869	N.A.	N.A.
NONAGRIC. EMPLOYMENT-TOTAL	38,771P	38,714R	38,821	38,835	39,860	30,713	N.A.
Manufacturing-Total	16,118P	16,042R	16,095	16,735	17,182	10,117	
Durable goods	9,574P	9,593R	9,704	10,141	10,223	4,290	
Nondurable goods	6,544P	6,449R	6,389	6,594	6,959	5,827	
Mining	832P	833R	844	858	882	853	
Trade	6,896P	6,945R	6,977	6,867	6,875	6,513	
Government (Federal, State, and Local)	5,866P	5,850R	5,896	5,830	5,886	3,972	
Other†	9,059P	8,564R	9,011	8,545	9,035	9,258	N.A.
PRODUCTION OF CLOTHING AND SHOES FOR CIVILIANS (1935-1939=100)††							
Clothing and shoes combined	92	99R	98	107	102	106	N.A.
Clothing	96	101	101	112	104	106	N.A.
Shoes	75	88R	85	88	94	106	N.A.
TRANSPORTATION-COMMODITY AND PASSENGER (1935-1939=100)††	226	231	226	213	223	104	113
Commodity	208	213	212	202	207	103	114
Passenger	286	290	272	254	274	108	100
CONSUMER EXPENDITURES (million dollars)	7,886	7,990	7,787	9,110	7,590	5,096	5,279
Goods	5,348	5,458	5,272	6,623	5,140	3,222	3,438
Services	2,538	2,532	2,515	2,487	2,450	1,874	1,841

*Cost of Living, Employment, August; Production, Transportation, July; all other, June. PPreliminary.
RRevised. N.A. Not available. †Transportation, construction, finance, service and miscellaneous. ††Unadjusted.

rather than the exception in many areas.

The future of the PUCs (now under study by a WPB committee) may not be much longer than their past; it will depend upon the need. They were born on June 14, 1943, in Buffalo, where the burgeoning aircraft industry was upsetting the whole war program by pulling workers wholesale out of local heavy industry (WP-Aug24'43,p1). They were extended to the labor-starved West Coast in September and October, under sponsorship of the Director of War Mobilization (WP-Oct30'43,p1). In a few months more they had spread to Hartford, Detroit, Akron, Cleveland, and Chicago. In February, 1944, the Director of War Mobilization ordered the establishment of "modified" area committees (MAPUCs, lacking only the power of war-contract review) in all Group I and II labor areas throughout the country; and in August he extended the coverage to Group III and IV areas.

After V-E Day, the need for the committees, obviously, will be less urgent, and many will be liquidated—there will be "less labor scarcity" to divide up. Nevertheless, the committees' special attributes—the habit of interagency cooperation and the knowledge of local conditions—will be valuable in a nation which is liquidating one war while prosecuting a second.

PSF: WPB

The President

WAR PROGRESS

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Trials and Terminations
War Production After V-E Day
Heavy-Heavies Begin to Accelerate

Number 211 September 30, 1944

NUMBER 211 WAR PROGRESS SEPTEMBER 30, 1944

Termination Trials and Tribulations

International Harvester was proving ground for difficulties. Plants must first send out "stop-work" orders, prepare accurate inventories, file claims.

COURSES IN CUTBACKS are now being given at the University of Pennsylvania. The students are officials of war-contracting companies and contract termination officers of the Army, Navy, and other government procurement agencies. The subject studied is: "How To Wind Up a War Contract in a Manufacturing Plant." It is expected that such courses will soon be given in at least 50 colleges and universities throughout the country. It is possible that as many as 100,000 contract termination specialists will be trained.

There are probably over 1,000,000 war contracts, large and small, now in effect in some 70,000 manufacturing plants in the United States. If V-E Day brings anywhere near a 40% drop in war production, tens of thousands of plants will be hit simultaneously by cancellations—some merely reducing the war work of the plants affected, some closing them down completely.

WHERE RECONVERSION BEGINS

They will be plants of all kinds. Among the subcontractors whose facilities will be partially released by the impending cutback of the C-46 Commando at Curtiss, Buffalo, are peacetime manufacturers of 18 different products, ranging from stoves and office furniture to funeral and dental equipment. It is in these plants, and in thousands like them all over the country, that reconversion must begin. From them must come the flow of civilian goods that will revive the nation's normal economic life. In them must be employed most of the 4,000,000 workers and veterans who will be released from war jobs after Germany's collapse.

FREEING SPACE AND MONEY

But few of these plants will be ready to plunge into peacetime production as soon as they receive their stop-work notices from the government. Their floor space will be tied up with the products of war and with the materials and tools for making them. Their operating capital will be just as tightly tied up in these same products and materials, and sometimes in the tools. Contract termination—the job of freeing this space and this money for civilian production—will be reconversion's first hurdle.

Contract termination is no job for amateurs. The March, 1943, termination of International Harvester's light-tank contract at Bettendorf, Iowa, took 16 months to settle. A number of the subcontractors, hampered by inaccurate inventories and lack of proper accounting data for presentation of claims, waited all this time for their money. It was a trail-blazing job; the company and Army officials in charge had to work out their policies and methods as they went along.

SPEEDUP IN SETTLEMENT

These officials feel that the same job could be done today in from four to six months. They are banking on trained

men being in charge of the work at all levels and on the improvement in the whole situation brought about by passage of the Contract Settlement Act of 1944.

To understand some of the major provisions of the law, let us take a closer look at the situation with which it is intended to deal.

FROM A TO B

Let us say that "A-Company," a prime contractor manufacturing self-propelled gun mounts directly for the Army, has its contract canceled, "for the convenience of the government." Simultaneously with its own instant work stoppage, A-Company sends stop-work wires to all its subcontractors and suppliers—a great many of them. North American Aircraft in Dallas, for example, sent out 7,000 such stop-work wires on the day it received notification of termination of its B-24 Liberator contract last month.

Thus B-Company, a subcontractor supplying engines to A-Company, is only one of many firms immediately affected. The International Harvester tank cutback affected 438 subs on this first level. Some of these subs will be totally shut down on receipt of the wire and can send out stop-work wires to all their subs, but most of them, like B-Company, will be in a less simple situation. B-Company makes engines for other primes: for tanks, for heavy trucks, for bulldozers, etc. Its officials must immediately calculate the effects of the partial shutdown, so that the flow of unwanted parts and supplies from sub-subs may be cut off. Every moment that passes costs money, causes waste. And under V-E Day conditions they will probably have more than one stop-work order to deal with at a time.

By the time the stop-work notice reaches C-Company, manufacturing fuel-line assemblies for B-Company's engines, it will be merely one of dozens that are hitting the company from all directions—if C-Company is like the Weatherhead Company of Cleveland, manufacturing equipment of this kind, which has more than 10,000 war orders on its books. And each C-Company has its D-Companies; each D its Es.

BEATING MOUNTS INTO PLOWSHARES

To get a more specific idea of what has to go on throughout the industrial structure, let us return to A-Company and look inside the plant. A-Company is a peacetime manufacturer of farm machinery, and now should quickly get back to its regular job—in the interests of good business, in the interests of the workers it has laid off, in the interests of the farmers needing machines, in the interests of a high level of national income. But it has been working to the limit of its capacity on self-propelled gun mounts. Its plant is full of them—some completed, others in progressive stages of completion down the length of its main assembly line. Its feeder lines are choked with subassemblies—tracks, frames, transmissions, etc.—also in varying stages

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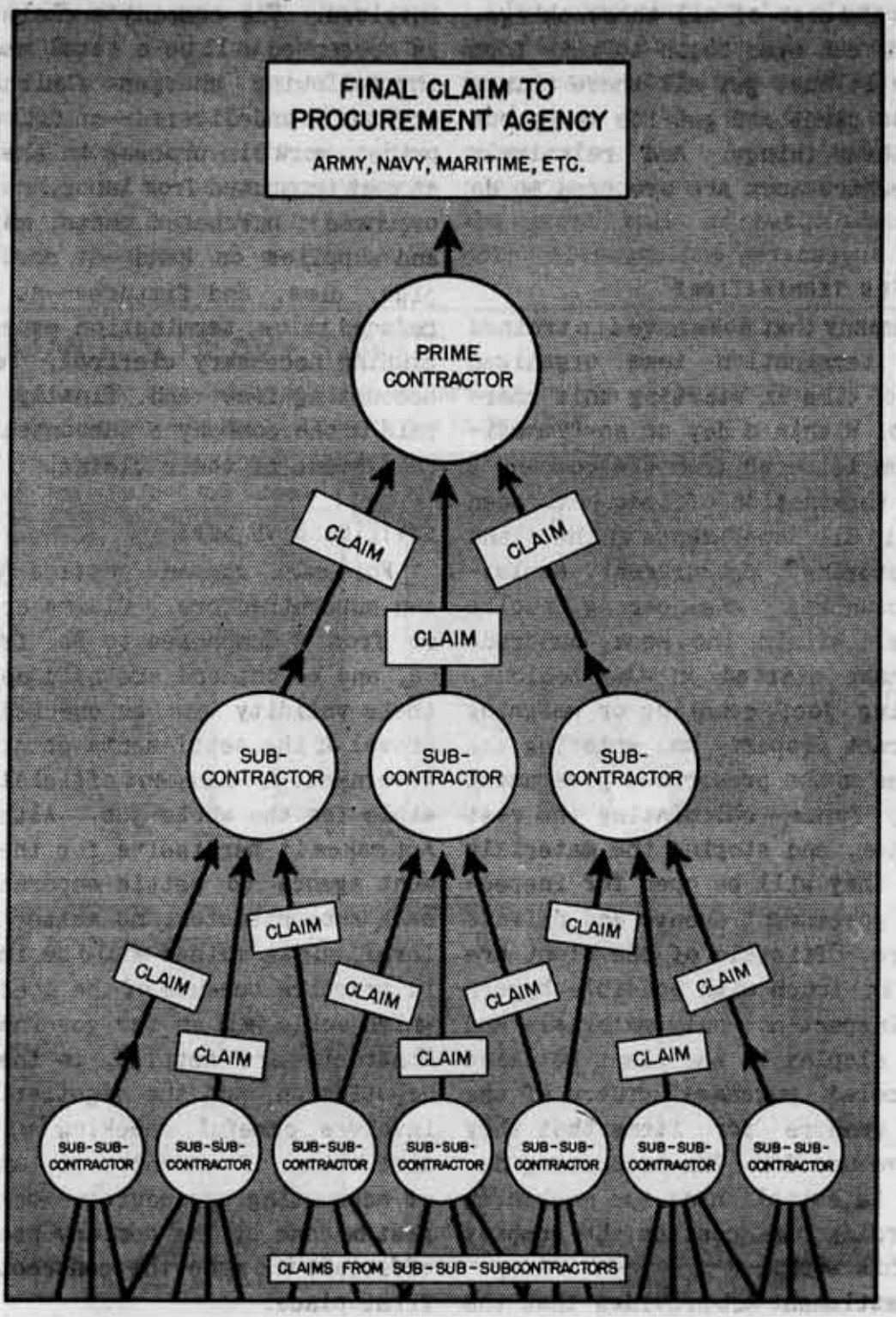
CONTRACT TERMINATION–A PYRAMID OF CLAIMS

Here is how claims are expected to flow up from sub-subcontractors to subs to primes to procurement agencies.



WAR PROGRESS

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of completion. Its bins are full of parts and materials. Its floor is occupied by specialized machinery and tools. And its operating capital is tied up in the cost of all these things. Before it can even begin to make farm machinery it must get all these things out of its plant and get its money out of all these things. And relatively few war contractors are prepared to do this.

TRAINED FOR TERMINATIONS

The company that does have its trained contract termination team organized wastes no time in starting this emergency job. Within a day or so "immediate action letters" from the company's contract termination officer have been received in all departments of the plant —manufacturing, procurement, employment, accounting, engineering, public relations. Within the week, hundreds of men have started on the tedious, painstaking job: counting or weighing war-contract property and entering the quantities on the prescribed government inventory forms, calculating the cost of each item, and storing the materials so that they will be open for inspection by government agents and private purchasers. Officials of the plant are getting in touch with possible buyers who will inspect not only materials and tools on display in the plant but also the canceled purchase orders of the plant's vendors for items that they might have use for. The accounting department is establishing the mechanism for recording the cost to the company of all this work.

The Settlement Act provides that the prime contractor's claim shall be settled with the procurement agency—Army, Navy, Maritime Commission, War Food Administration, etc.—that originally let the contract; that this settlement shall be final, not subject to review by the Comptroller General unless there is good reason to believe that fraud is involved. The company's claim when it is presented will be a total made up of the following charges: finished products still undelivered—at full contract price; work in process in the plant—at cost (computed from labor, materials, overhead); purchased parts, materials, and supplies on hand—at cost; tools, jigs, dies, and fixtures—at cost and reduced value; termination expense, including necessary clerical, legal, and accounting fees; and, finally, amounts paid to the company's subcontractors in settlement of their claims.

SETTLING WITH SUBS

For each company settles with its own subcontractors. Claims are passed up from E-Companies to Ds, from Ds to Cs, and so on; and are paid as soon as their validity can be checked and approval of the settlements obtained from government procurement officials responsible for the whole job. Although the Act makes it permissive for the government agency to settle separately with each subcontractor, no matter what his level, such a method would be impossible in practice because of the load of work which would fall on the government men. Contracts are settled, in the end, by negotiation, and the negotiation often involves careful checking of claims, discussion of inventories, and review of accounting procedures—work that can best be done by the company procurement officials who made the contracts in the first place.

Negotiation also takes time; and herein lies the danger that V-E Day with its thousands of cancellations will usher in a period of economic hesitation

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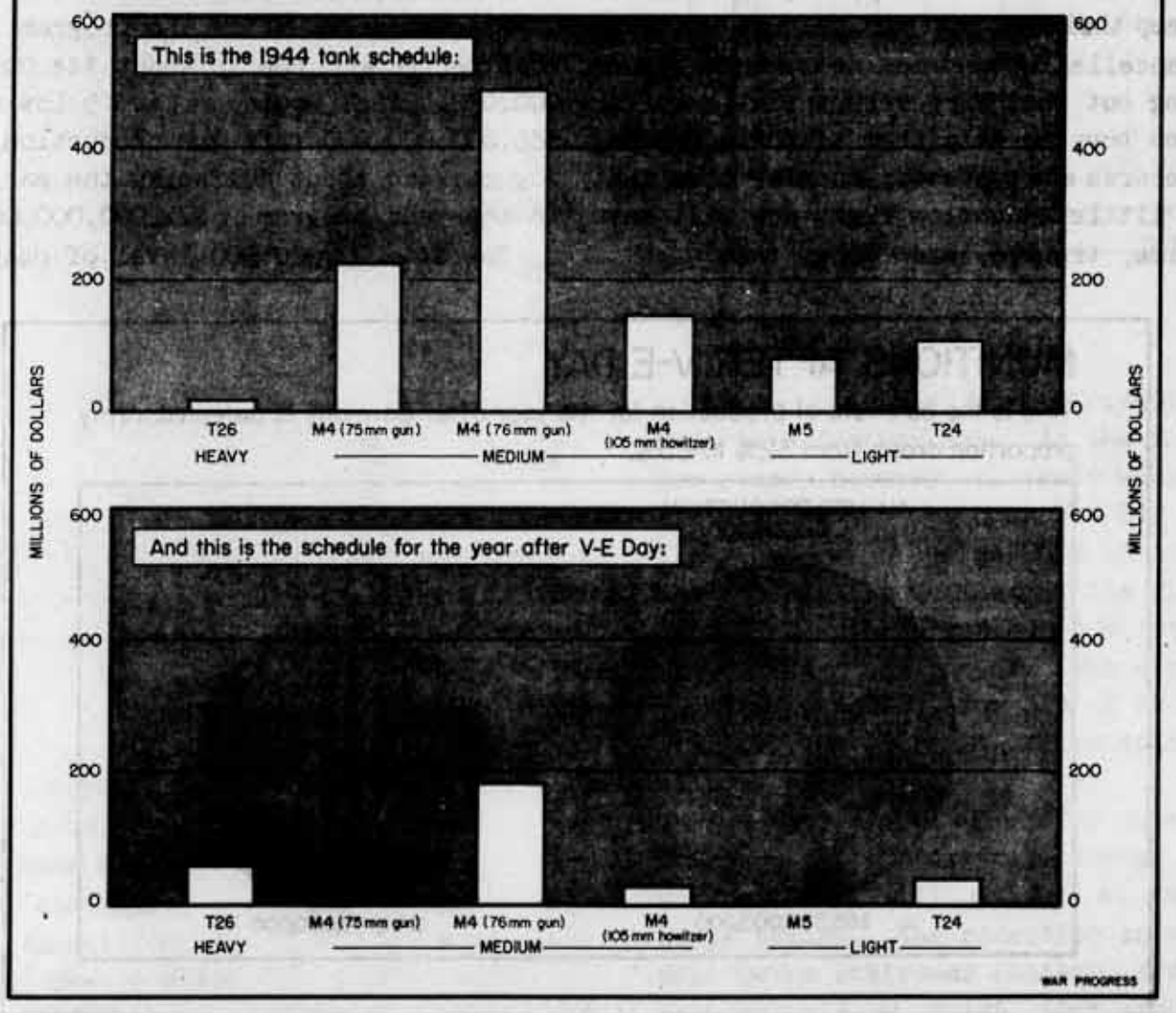
while manufacturing facilities and working capital are tied up with the machines and materials of war. To forestall these dangers, the Act makes provision for freeing both the space and the money: (1) by charging the government with the responsibility of removing materials and machines from the contractor's plant within 60 days after he has presented a proper inventory, and (2) by providing that the government, within 30 days of contractor's presentation of a proper claim, shall make him advance payments or loans, in amounts up to 100% on finished products and 90% on other materials.

But space cannot be cleared unless inventories are properly prepared, and money cannot be borrowed on claims that don't look good. And while many prime contractors and large companies are prepared to present these data properly, the great bulk of subcontractors are not. Although the government has been

NOW IT'S HEAVY TANKS

For the year following the defeat of Germany, only heavies will be increased in the tank program. Lights and mediums due to drop 76%.



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preparing contract termination machinery for over a year, many war contractors have not yet informed themselves as to how this machinery works. The Army has already trained thousands of officers in contract termination, but many companies do not even recognize the need for training. Now that V-E Day is imminent with its thousands of cancellations, the government procurement officers, with their eyes open to the size of the job ahead, are worried about the unawareness of the great majority of war contractors. In cooperation with the Smaller War Plants Corporation, they are holding meetings for contractors all over the country, urging them to keep their war contract records as though cancellation were coming tomorrow, pointing out that the government will be far too busy to help them if their V-E Day records are confused, warning them that a little education right now will save time, trouble, and money then.

V-E Day Munitions

Estimates of production volume for 12 months after victory in Europe indicate a drop of 32% from August rate. ASF has biggest dollar cut, Maritime biggest percentage.

CLEARLY DEFINED post V-E Day programs of military procurement are not yet available. The Army Service Forces have spelled out their requirements, but other needs are not yet detailed. However, certain estimates can be made of the volume of production during the 12 months after the fall of Germany.

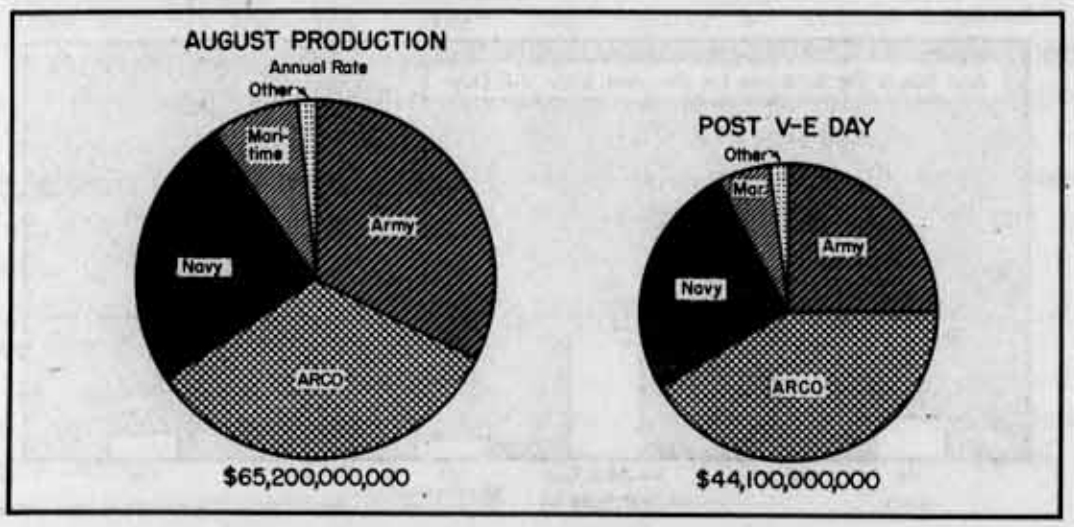
IN DOLLARS AND PERCENTS

It now looks as if the program for that period will run to about $44,000,000,000. That would be 32% below the $65,000,000,000 rate of production in August, and about 40% below the early-in-the-year program of $72,000,000,000.

The $44,000,000,000 level of output

MUNITIONS AFTER V-E DAY

This is the estimate of production for the year after Germany is defeated. Army proportion drops from 32% to 25%.



WAR PROGRESS

after V-E Day, however, now shapes up as a maximum rate, rather than minimum. It makes no allowance for further cuts which may be ordered after the European war is over and a general stock-taking of supplies and equipment in that theater of operations is feasible. Moreover, the longer the war in Europe lasts and hence the longer production continues at recent high rates, the greater will be the stocks available to conduct Pacific operations.

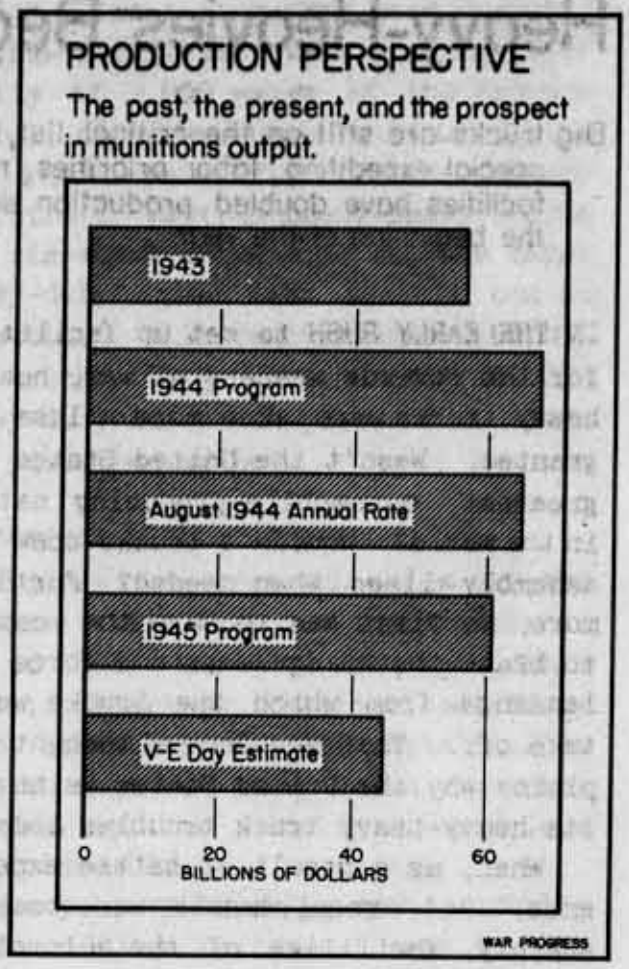
ASF'S CUT

On the basis of present calculations, the biggest dollar cut is in Army Service Forces—$11,000,000,000, or 48%. Percentagewise, the biggest cut is in the Maritime Commission. Tentative estimates of what is in store follow:

	August Rate	Post V-E Day	% Change
	(billions)		
ASF.....	$21.1	$11.0	-48%
ARCO....	21.6	18.3	-15
Navy....	16.2	11.4	-30
Maritime	5.2	2.5	-52
Other...	1.1	.9	-18
Total..	$65.2	$44.1	-32%

Cuts in major munitions programs range from 62% in combat and motor vehicles down to 15% in aircraft. Ships drop 48%:

	August Rate	Post V-E Day	% Change
	(billions)		
Aircraft.....	$19.0	$16.2	-15%
Ships.....	13.8	7.2	-48
Guns & fire control.....	3.3	2.2	-33
Ammunition.....	7.1	4.6	-35
Combat & motor vehicles.....	5.6	2.1	-62
Commun. & elec.	4.4	2.5	-43
Other equipment	11.9	9.2	-23



It is possible that aircraft will undergo a further cut. As the figures now stand, however, aircraft will constitute 37% of the post V-E Day munitions program as against 29% in August; this is mainly because of the rise in the B-29 Superfortress, the A-26 Invader, and the B-32 Dominator. These planes alone will account for 34% of the aircraft program and 12% of the total munitions program.

The full effect of V-E Day cuts will not be felt immediately, though stop-work notices will go out at once in large volume. The reduction in output will form a staircase pattern, dropping down sharply at first, then gradually working lower to a maintenance level for the Japanese war.

Heavy-Heavies Begin To Accelerate

Big trucks are still on the critical list, but special expediting, labor priorities, new facilities have doubled production since the beginning of the year.

IN THE EARLY RUSH to set up facilities for the obvious weapons of war, heavy-heavy trucks were taken more or less for granted. Wasn't the United States the greatest automobile-producing nation in the world? Wouldn't trucks spew off assembly lines when needed? Furthermore, we first had to have the weapons to blast the bridgeheads and force the landings from which the trucks would take off. That sequence of thought explains why the United States is having its heavy-heavy truck troubles today.

When, as a result of battle experience, 1944 requirements were boosted sharply, facilities of the automotive industry were no longer available. They had been converted to making planes, artillery, machine guns, etc. Furthermore, landing craft had been given top priority for some components (chiefly transmissions), and the manpower shortage in forges and foundries had become critical.

EXTRA EXPEDITING

And today, so tight are big trucks that the Army has adopted an emergency expediting measure of its own. Certain types—those closest to immediate combat operations—are given a first preference with the Army program. These include tank transports, 40-tonners, wreckers, truck-tractors, crane trucks, fire-crash (emergency), etc. These special priorities, being within the Army program itself, do not affect the programs of other claimants.

The shortage of heavy-heavy trucks was first demonstrated in the African campaign. Retreating Germans destroyed railroads behind them, and lack of an adequate supply of big trucks slowed down Montgomery's pursuing forces. Had heavy-duty vehicles been sufficiently plentiful to move artillery, men, and supplies, Rommel and his men might never have escaped from Africa to carry on the fight in Italy.

FEASIBILITY FACTOR

As a result, the Army stepped up its requirements, and the total heavy-heavy program for 1944 rose to 110,000 (nearly three times the 1943 production). This later was reduced to 83,000 when it became apparent that the program was not feasible. The Office of Defense Transportation (which gets four-fifths of the commercial trucks), Foreign Economic Administration, Canada, and civilian lend-lease bore the brunt of the cut; the Army's program—65,000—remained about the same. (The Army does some of the procuring for the Navy and the Aircraft Resources Control Office.)

Monthly production has doubled since the first of the year. Yet the rate of output must double again to meet the overall requirements (WP-Sep16'44,p5). Through August, the total program for the year was 46% complete, with Army and Navy program requirements 44% and 40% realized:

	Prod. Through Aug.	1944 Program	% Complete
Commercial...	5,099	10,142	50%
On-highway..	4,537	8,544	53
Off-highway.	562	1,598	35
Army.....	28,745	65,133	44
Navy.....	865	2,136	40
ARCO.....	1,167	2,603	45
Canada.....	2,527	2,829	89
Total.....	38,403	82,843	46%

[redacted]

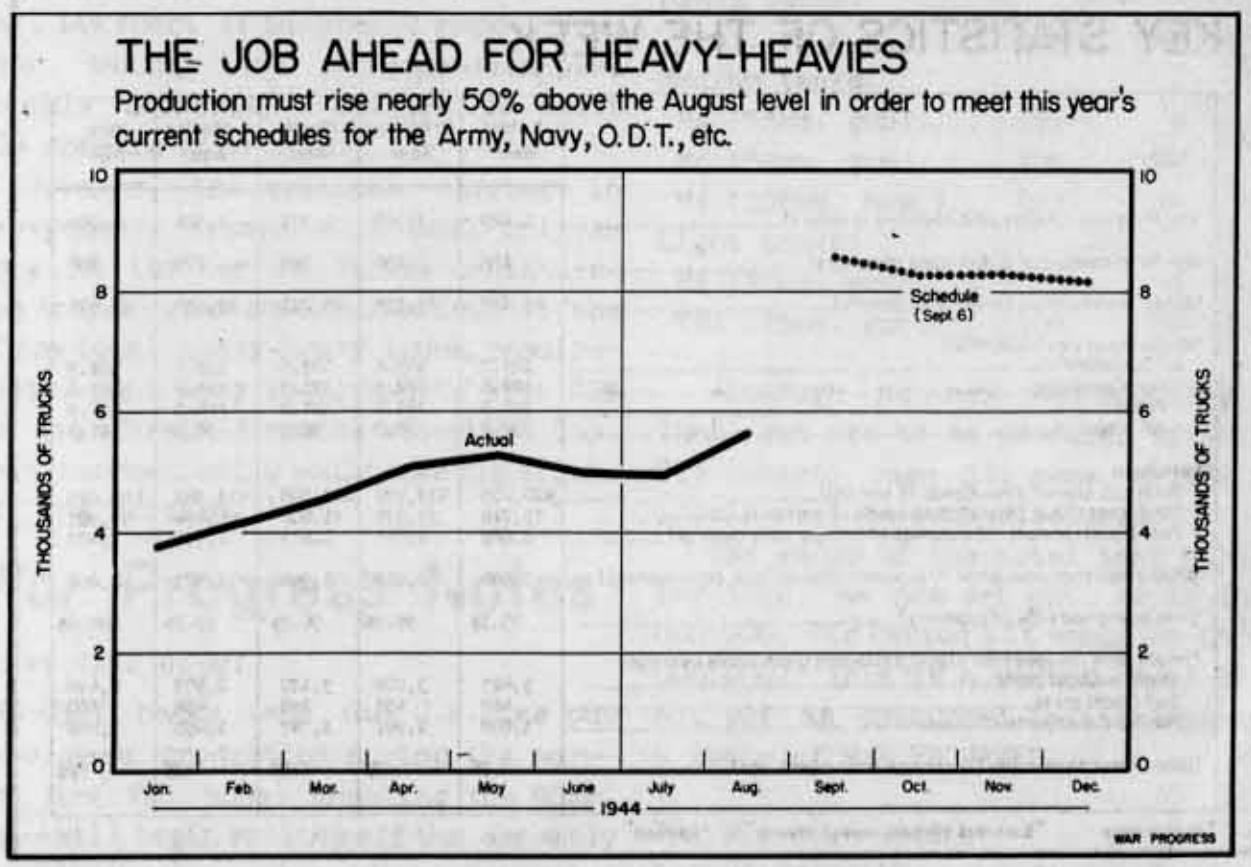
More than $100,000,000 has been spent on new facilities since the first of the year. A substantial part has gone into mechanizing forges and foundries, where the labor shortage has been particularly acute, but facilities have also been added for axles, transmissions, generators, batteries, etc. A $35,000,000 project for the Number 1 critical component—heavy-duty axles—was recently finished.

This included conversion by Standard Steel Spring, Madison, Ill., of a $25,000,000 plant formerly used for casting armor for tanks. Forgings will come from a new forge erected at Lansing, Mich., by the Oldsmobile Division of General Motors, and castings from a new foundry built at Danville, Ill., by the Saginaw Malleable Division of G.M. These three plants employ a total of 2,700 workers and are just beginning to hit their stride. Axle facilities also include numerous other sub plants which employ at least that many more workers. The new facilities have a monthly capacity of 2,000 axles of the Timken-Detroit design and were built to relieve the overburdened Timken Axle Company at Detroit. Wartime heavy-heavy trucks are six-wheel drive affairs, use three heavy-duty axles (as against one in peacetime). With requirements at 83,000 big trucks, this means nearly 250,000 heavy-duty axles this year, or 40 times the peacetime output.

COMPONENTS COMPLICATIONS

Engines are next to axles on the critical list, then come transmissions. All of these are dependent upon anti-friction bearings, castings, and forgings. When any of these parts fail to come through on schedule, a component is held up, and this in time delays final assembly.

Heavy-heavy truck production really began rolling in June—though it has



yet to catch up to steeply rising schedules. In that month, WPB issued its special directive order. Since then, forges and foundries have been scheduling production, key jobs have been filled by upgrading workers, manufacturers have been ordering components further in advance, and employees have been putting in voluntary overtime—some have worked as many as 90 hours per week. Under special labor priorities, more workers are going into the tight spots, and the cutback in landing craft has freed engines and transmissions for trucks. (These facilities are able to operate at only four-fifths capacity, because of shortages in forgings and castings.)

PICKUP PROBABLE

The improvement is apt to accelerate in coming months. Newly recruited workers have gained experience; cooler weather will reduce absenteeism, and all purchasers of axles, transmissions, wheels, and transfer cases are required, under Order L-1-e, to specify what they want them for. This canalizes them into heavy-heavies. However, Selective Service, which dealt forges and foundries heavy blows in 1942 and 1943, is still draining off workers. (One small foundry recently closed down because it lost two key men to the Army.) The priority on labor has channeled some new workers into forges and foundries, but only enough to offset separations. With winter coming on, agricultural workers are a big potential source of manpower. But under the present Selective Service Act, an agricultural worker who takes a job in a forge or foundry loses his draft deferment. The biggest foundries are in Chicago, Cleveland, and the Racine-Milwaukee region—all tight labor areas.

Heavy-heavy truck schedules have repeatedly been reduced for feasibility

KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War Program—Checks paid (millions of dollars)	1,629	1,568	1,571	1,524	1,380
War bond sales—E, F, G, (millions of dollars)	152	156	164	170	886
Money in circulation (millions of dollars)	23,658	23,558	23,221	20,954	18,818
Wholesale prices (1926=100)					
All Commodities	103.7 P	103.6	103.5	103.7	102.9
Farm products	122.8 P	122.1	121.8	124.6	123.8
Foods	104.3	103.8	104.0	104.5	104.9
All other	98.8 P	98.8	98.7	98.3	97.4
Petroleum:					
Total U.S. stocks* (thousands of barrels)	420,235	417,276	413,688	411,983	420,649
Total East Coast stocks* (thousands of barrels)	73,712	73,570	71,010	55,874	59,907
East Coast receipts (thousands of barrels, daily average)	1,662	1,663	1,673	1,791	1,425
Bituminous coal production (thousands of short tons, daily average)	1,921	2,019 R	1,992	1,987	2,008
Steel operations (% of capacity)	95.1%	95.3% R	96.7% R	99.2%	100.6%
Freight cars unloaded for export, excluding grain (daily average)					
Atlantic Coast ports	3,425	3,070	3,172	2,979	2,678
Gulf Coast ports	462	457	398	456	368
Pacific Coast ports	1,898	1,967	1,747	1,493	1,448
Department store sales (% change from a year ago)	+ 9%	+9%	+18%	+17%	+2%

P Preliminary *Excludes military-owned stocks R Revised

[redacted]

reasons. For example, the August schedule, originally set at more than 9,000, was finally cut to 6,558. And output has consistently been running behind the lowered first-of-the-month schedules, due primarily to the shortage in castings. Thus, though August production was at an all-time high, the deficit was 14%:

	August Output	Sched.	% Deficit
Commercial	711	981	-28%
Army.....	4,532	4,980	-9
Navy.....	153	267	-43
ARCO.....	121	206	-41
Canada....	94	124	-24
Total....	5,611	6,558	-14%

Schedules rise sharply in the last four months to an average of more than 8,300—a total of 33,200 trucks. But if 1944 requirements are to be met, 44,440 would have to be produced. This means that even if output comes up to schedule from now on in, it would still fall 14% short of the year's mark. However, taking into consideration past monthly deficits, a failure of about 20% appears more likely.

However, the critical shortage in heavy-heavy trucks will last only as long as the war in Europe continues. The Army program constitutes four-fifths of the total heavy-heavy truck requirements. And Army requirements drop 72% in the first 12 months after V-E Day. This automatically would take big trucks off the critical list.

War Progress Notes

HEAVY TANK DEBUT

THE ONLY heavy tank the U.S. has put into mass production during the war—the new T26 model mounting the 90mm. gun—will begin rolling off the assembly line in October, when 10 are scheduled to be delivered. By next March, if V-E Day doesn't interfere, the schedule rises to 250 per month.

The T26 tank is not much different in size or general characteristics from the M4—the tank which has been the work horse of the Army in this war—but its heavier armor and armament make it nearly 50% heavier. However, it preserves the maneuverability of the M4. Now that it is going into large-scale production, it is expected to receive an "M" designation. The Production Executive Committee in July ordered that it be given the same special directive treatment that has been accorded big guns and heavy-heavy trucks.

Here's how the special Army Supply Program for the 12-month period following the surrender of Germany (Period I) for the most important tanks compares with 1944 requirements:

	1944	Period I	% Change
	(millions)		
Heavy tanks:			
T26	$15	$59	+293%
Medium tanks:			
M4 (75mm. gun)....	223	0	-100
M4 (76mm. gun)....	486	188	-61
M4 (105mm. how.)..	148	24	-84
Light tanks:			
M5 (37mm. gun)....	79	0	-100
T24 (75mm. gun)...	108	34	-69

Although no new M4s mounting the 75mm. gun are to be produced after V-E Day (chart, page 5), some of the old models will be remanufactured.

The value of the total tank program for 1944, as now set out, is $1,086,000,000. For Period I it would be $308,000,000. This is a reduction of 72%—not 96% as announced in the September 9 issue of WAR PROGRESS.

THE WEE WILY WEASEL

LATEST ADDITION to the fleet of amphibious craft, which are playing an impor-

SELECTED MONTHLY STATISTICS

Production—Labor Disputes—Hours and Earnings

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PRODUCTION INDEX-INDUSTRIAL (1935-39=100)†	235′	232′	236	240	245	107	119
Total Manufactures	250′	248′	252	259	264	109	119
Durable	350′	349′	355	366	366	106	131
Nondurable	170′	167′	170	173	181	112	109
Minerals	146′	143′	147	136	140	94	115
LABOR DISPUTES							
Number of strikes in progress	550	550	560	370	347	448	746
Workers involved (thousands)	225	180	185	150	118	119	239
Number of strikes beginning during month	485	470	500	330	310	275	449
Workers involved (thousands)	190	145	155	115	107	80	143
Man-days idle (thousands)	955	680	680	470	456	1,101	2,270
AVERAGE WEEKLY EARNINGS (dollars)							
All manufacturing industries	45.52	46.27′	46.02′	45.29	42.76	23.04	24.31
Durable goods	51.20	52.17′	51.89′	51.21	48.76	25.15	27.05
Nondurable goods	37.07	37.35′	37.03	36.03	34.01	21.44	21.86
Bituminous coal mining	47.31	52.27′	51.66	52.50	42.76	22.05	22.18
Metalliferous mining	43.44	43.12′	44.72′	43.70	43.36	24.91	30.02
AVERAGE HOURLY EARNINGS (cents)							
All manufacturing industries	101.9	101.8	101.7	100.2	96.3	62.6	63.8
Durable goods	111.8	111.3	111.2	109.9	106.0	69.1	69.3
Nondurable goods	86.2	86.2	85.8	83.7	80.6	57.8	58.6
Bituminous coal mining	120.1	118.5′	117.5	119.5	115.0	89.2	88.1
Metalliferous mining	101.1	100.9′	100.5′	99.5	98.6	68.8	71.2
AVERAGE HOURS PER WEEK							
All manufacturing industries	44.7	45.5	45.3	45.2	44.4	36.8	38.1
Durable goods	45.8	46.9	46.6′	46.6	46.0	36.4	39.0
Nondurable goods	43.0	43.4	43.2′	43.0	42.2	37.1	37.3
Bituminous coal mining	39.5	44.1	44.0	44.0	37.1	24.4	25.0
Metalliferous mining	42.9	44.6	44.4	43.9	43.7	36.4	42.4

*Production, Labor Disputes, August; Hours and Earnings, July. †Unadjusted. ′Preliminary. ′Revised.

tant role in landing operations and swamp warfare, is the Weasel—the M29C—procured by the Army. It is a full track-laying light cargo carrier, and unlike the Duck, Water Buffalo, and Alligator, bears no armor or armament. It is much smaller than the Duck—the Army's amphibious truck—and costs only half as much ($5,550). It doesn't bog down in sand, can climb a 45-degree grade, turn a circle in a 12-foot radius, and has a dry-land speed of 35 miles per hour. Because of its low ground pressure it is particularly valuable in jungle and swamp fighting. It is powered by the Champion engine built by Studebaker.

The amphibious Weasel got into production in May; some 2,000 have been delivered. The year's program amounts to 4,400 and schedules for September and October call for 1,700.

The original Weasel—the M29—likewise is a full-tracked light cargo carrier but travels only on land. It was conceived as a snow vehicle in the early days of the war when it appeared that there might be fighting in Alaska. It came into the program in the third quarter of 1943 and more than 4,000 have been built. When production started on the M29C, the M29 went out of the program temporarily. However, another 1,000 are scheduled for November and December.