

THE LAURA SPELMAN ROCKEFELLER CARILLON

Rockefeller Chapel's carillon and its namesake instrument at Riverside Church in New York were the masterworks of the Gillett & Johnston bell foundry of Croydon, England. Carillons of this size had never before been made (and have not been made since). The Chicago instrument comprises 72 bells cast over a three year period, a combined 100 tons of bronze, including the massive 18.5 ton bourdon.

The carillon was installed in 1932. Design consultant Frederick Mayer of West Point originally placed the fourteen largest bells below the playing cabin so that their sound would not deafen the performer to the smaller bells. Similarly, he laid out the fifty-eight smaller bells so that the tiniest of them would be directly above the cabin, and the larger ones higher in the tower. He placed trapdoors in the roof of the cabin, providing the carillonneur with a balanced sound. Listeners on the ground, however, heard the larger bells to the exclusion of the smaller ones.

By the turn of the century, the instrument was due for a major overhaul. The bells themselves had suffered the effects of three-quarters of a century of Chicago winters. The soft iron clappers had become flattened from repeatedly striking the harder bronze of the bells (they had been turned 180 degrees in the 1960s to present once again a round surface to the bells, but no further turning was possible). And the outmoded early twentieth century mechanism connecting the clappers to the playing console used heavy connecting rods (and counterweights for the largest bells), which had deteriorated over the years.

The 2008 restoration, undertaken by Royal Eijsbouts, remedied all of these problems. Many of the bells were shipped to the Eijsbouts foundry in the Netherlands for restoration. The upper belfry was reorganized so that the smallest bells are now at the top of the bell frame, giving them optimal exposure to listeners below. The counterweights were replaced by springs to assist the performer to move the largest clappers. The playing console was reoriented in the tower to shorten the length of the connections to the bells. The old-fashioned connecting rods were replaced by lightweight wires, and new clappers were provided for the smaller bells. These clappers are on round shanks, allowing them to be turned numerous times as flat spots develop. Finally, the Gothic-style carved oak keyboard and pedalboard were restored and updated to a modern standard key layout.

CARILLON SPECIFICATIONS

Bell Number	Actual Note	Keyboard Note	Weight (pounds)	Diameter (inches)	Weight (tons)
1	C#0	F	36,926	117	18.5
2	D#	G	25,613	104.5	12.8
3	E	G#	20,660	99	10.3
4	F	A	18,577	94	9.3
5	F#	A#	15,736	89	7.9
6	G	B	12,621	84	6.3
7	G#	C1	10,973	79.5	5.5
8	A	C#	9,001	75	4.5
9	A#	D	7,591	71	3.8
10	B	D#	6,495	67	3.2
11	C1	E	5,373	63	2.7
12	C#	F	4,759	59.5	2.4
13	D	F#	3,725	56	1.9
14	D#	G	3,227	53	1.6
15	E	G#	2,689	50	1.3
16	F	A	2,308.5	47	1.2
17	F#	A#	1,895	44.5	0.9
18	G	B	1,647	42	0.8
19	G#	C2	1,513	40.5	0.8
20	A	C#	1,239.5	38	0.6

Bell Number	Actual Note	Keyboard Note	Weight (pounds)	Diameter (inches)	Weight (tons)
21	A#	D	1,008	36	0.5
22	B	D#	914	34	0.5
23	C2	E	723	32	0.4
24	C#	F	629		0.3
25	D	F#	557		0.3
26	D#	G	466		0.2
27	E	G#	380	24.75	0.2
28	F	A	350		0.2
29	F#	A#	322		0.2
30	G	B	265		0.1
31	G#	C3	207		0.1
32	A	C#	168	18.5	0.1
33	A#	D	146.5		0.1
34	B	D#	133.5		0.1
35	C3	E	119		0.1
36	C#	F	96.5		
37	D	F#	84		
38	D#	G	72		
39	E	G#	62		
40	F	A	57		
41	F#	A#	52		
42	G	B	43	11.5	
43	G#	C4	39		
44	A	C#	35		
45	A#	D	34		
46	B	D#	33		
47	C4	E	29.5		
48	C#	F	20.5		
49	D	F#	17		
50	D#	G	14.25		
51	E	G#	13		
52	F	A	13	7.25	
53	F#	A#	13		
54	G	B	12.75		
55	G#	C5	12.5		
56	A	C#	12.5		
57	A#	D	12.5		
58	B	D#	12.5		
59	C5	E	12.5		
60	C#	F	12		
61	D	F#	12		
62	D#	G	12	6	
63	E	G#	12		
64	F	A	12		
65	F#	A#	11.5		
66	G	B	11.5		
67	G#	C6	11		
68	A	C#	11		
69	A#	D	11		
70	B	D#	10.5		
71	C6	E	10.5	5.25	
72	C#	F	10.5		