Determination of the Difference of Longitude between CHICAGO, ILLINOIS, *and* MADISON, WISCONSIN, *by Electric Signals for comparisons of Time, June 5th*, 1859.

N. B.—Sidereal Chronometer, No. 2,557, fast of Madison Sidereal time, (at 17*h*. 21*m*. 26*s*. Sidereal time) 1*h*. 45*m*. 47.37*s*. Rate per Sidereal day, +6.086*s*. or per Sidereal hour, +0.2535*s*.

Mean Solar Chronometer, No. 141, slow of Chicago mean Solar time, (at 12*h*. 31*m*. 55*s*. mean time,) 4*m*. 44.64*s*. Rate per mean Solar day, —0.20*s*., or mean Solar hour, — 0.0083*s*.

1st.—Chicago Signals recorded at both Stations.

Times of signals given at Chicago by Mean Solar Chronometer, No. 141.	Mean Solar Chronometer No. 141, slow of Chicago mean Solar time.	Correct Chicago mean Solar time of Chicago signals.	Times of Chicago signals as noted by Sidereal Chronometer, No. 2,557.	Chronometer, No. 2,557 fast of Madison Sidereal time.	Madison correct Sidereal time of Chicago signals.	Chicago correct Sidereal time of Chicago signals.	Difference of Longitude by each signal.—Madison, West of the meridian of Chicago Observnig Station, No. 3.
h. m. s.	*m. s.*	*h. m. s.*	*h. m. s.*	*h. m. s.*	*h. m. s.*	*h. m. s.*	*m. s.*
12 27 10	4 44.64	12 31 54.64	19 07 13.5	1 45 47.37	17 21 26.13	17 28 27.76	7 01.63
12 30 10	4 44.64	12 34 54.64	19 10 14	1 45 47.39	17 24 26.61	17 31 28.25	7 01.64
12 45 10	4 44.64	12 49 54.64	19 25 16.5	1 45 47.44	17 39 29.06	17 46 30.72	7 01.67

1st Mean.—Electric Signals transmitted from Chicago to Madison 7 01.646