

RATES OF CHRONOMETERS

ON TRIAL

FOR PURCHASE BY THE BOARD OF ADMIRALTY,

AT THE

ROYAL OBSERVATORY, GREENWICH.

1853.

RATES OF CHRONOMETERS ON TRIAL FOR PURCHASE BY THE ADMIRALTY,

NAME OF MAKER.	Num- ber.	Whether Pocket, 1, 2, or 8 Days.	Construction of Escapement and Balance, from the description furnished by the Maker.	(I).—WEEKLY SUMS OF DAILY RATES									
				Jan. 8—15 *	Jan. 15—22 *	Jan. 22—29 *	Jan. 29 to Feb. 5 *	Feb. 5—12 *	Feb. 12—19 *	Feb. 19—26 *	Feb. 26 to Mar. 5 †	March 5—12 †	March 12—19 †
Lister and Son.....	508	2	Auxiliary compensation to the balance, as in former years.	- 3.1	- 0.9	- 1.0	+ 1.5	+ 1.8	+ 3.5	+ 4.7	+ 13.3	+ 9.1	+ 9.1
Poole.....	1585	2	Auxiliary compensation to the balance, as in former years.	-14.1	-13.1	-14.8	-13.0	- 9.0	-12.5	- 9.9	+ 1.4	+ 1.6	+ 2.9
Woolf.....	5237	2	Auxiliary compensation to the balance, acting at low temperatures.	....	+ 5.9	+ 6.6	+ 7.5	+10.0	+ 9.4	+ 8.6	+ 7.0	+11.2	+14.2
Loseby.....	126	2	Loseby's patented auxiliary mercurial compensation to balance.	+ 2.0	+ 4.5	+ 5.9	+ 8.1	+ 9.8	+14.7	+13.8	- 1.4	- 8.0	- 6.4
Dent.....	2375	2	Dent's patent balance: see pamphlet, "On the Errors of Chronometers," p. 23.	....	+17.4	+15.1	+13.5	+15.7	+15.7	+ 9.6	+17.2	+21.8	+23.0
C. Frodsham.....	2484	2	Ordinary construction.	-11.1	-14.3	-20.7	-21.0	-17.9	-25.1	-21.6	- 2.1	- 8.3	- 7.7
Reid and Son.....	1092	2	Auxiliary compensation to the balance, acting at low temperatures.	....	-11.7	-14.3	-16.1	-14.7	-14.7	-11.6	-24.0	-26.3	-25.1
Glover.....	275	2	Auxiliary compensation to the balance, somewhat differing from Eiffe's.	+ 5.2	+ 7.9	+ 7.0	+ 6.1	+ 7.0	+ 0.5	+ 4.4	- 2.0	- 3.0	+ 4.3
Hewitt and Son.....	1999	2	Eiffe's auxiliary to balance, with a small original alteration.	-35.0	-38.5	-40.0	-35.9	-42.7	-54.4	-49.8	-40.0	-39.3	-35.5
Dixon.....	380	2	Auxiliary compensation to the balance, unpublished.	....	-26.3	-22.6	-17.3	-16.0	-11.1	-10.6	+ 5.6	+ 7.0	+ 9.5
Lawson.....	1152	2	Auxiliary compensation to the balance, acting at low temperatures.	....	-28.9	-31.7	-30.7	-29.6	-32.4	-34.9	- 4.1	+ 4.0	- 2.0
Eiffe.....	482	2	Eiffe's auxiliary to balance by application to pendulum spring, as in former years.	....	-13.1	-18.8	-19.5	-18.7	-22.9	-21.1	+14.7	+16.7	+19.1
Hewitt.....	1520	2	Eiffe's auxiliary to balance, with a small original alteration.	-21.6	-24.4	-31.3	-35.2	-34.0	-44.8	-40.2	-23.6	-27.4	-26.5
M'Clellan.....	148	2	Auxiliary compensation to the balance, at extreme temperatures.	+23.3	+16.5	+12.5	+11.5	+21.2	+27.7	+31.8	+29.1	+29.7	+29.0
Parkinson and Bouts..	850	2	Ordinary construction.	-15.0	-19.1	-20.4	-11.5	-11.5	-21.0	-16.5	- 1.9	- 3.3	- 0.9
Carter.....	535	2	Ordinary construction.	....	+ 6.4	+ 1.9	+ 0.3	+ 4.3	+ 8.0	+ 4.0	+23.3	+22.7	+25.7
Wieland.....	788	2	Balance with auxiliary compensating lever, acting throughout every change of temperature, to counteract the variation of the pendulum spring.	....	....	....	....	....	....	-22.3	- 0.1	-47.9	-47.4
Chorley.....	851	2	Some improvement in the construction of the balance.	+ 6.3	+ 1.7	- 5.5	- 6.0	- 8.3	-20.2	-12.0	+27.5	+24.2	+26.5
Roskell.....	1411 58187	2	Original auxiliary compensation to the balance.	 *	-23.9 *	-38.0 *	-42.9 *	-45.2 *	-56.2 *	-51.2 *	-11.5 †	- 3.8 †	+ 4.5 †
Chronometrical Thermometer.....	}... ..	..	.....	+1288.7	+1539.0	+1878.0	+1959.5	+2050.0	+2499.0	+2321.0	-2288.0	-2454.0	-2553.5
Extremes of Temperature as shown by the Self-Registering Thermometer.....	}... ..	..	.....	38-53	34-53	33-44	30-44	30-44	22-36	22-41	70-104	75-105	80-104

* During these weeks the Chronometers were exposed to the external air outside a North window.
† During these weeks the Chronometers were placed in the chamber of a stove heated by gas.
The rate given by the first five days of trial is in every case omitted.

IN THE ORDER OF TIME.

March 19—26 *	Mar. 26 to April 2	April 2—9	April 9—16	April 16—23	April 23—30	April 30 to May 7	May 7—14	May 14—21	May 21—28	May 28 to June 4 †	June 4—11 †	June 11—18 †	June 18—25	June 25 to July 2	July 2—9	NAME OF MAKER.	Num- ber.
- 2.5	+ 0.6	+ 0.7	+ 1.4	+ 2.8	+ 1.4	+ 1.0	+ 2.3	+ 3.8	+ 10.0	+ 11.4	+ 4.9	+ 6.7	+ 10.0	+ 11.8	+ 12.7	Lister and Son	508
-12.0	- 5.0	0.0	+ 0.9	+ 2.1	+ 1.0	+ 1.7	+ 3.3	+ 5.5	+ 5.6	- 3.1	- 2.0	- 1.0	- 1.5	+ 1.0	- 0.5	Poole	1585
+ 5.6	- 1.5	- 5.9	- 6.6	- 8.1	- 5.0	-10.1	- 5.8	- 8.6	- 5.1	+ 8.2	+ 8.5	+10.0	- 2.6	- 4.9	- 0.5	Woolf	5237
+ 3.0	- 1.5	- 6.0	- 3.4	- 3.3	+ 1.3	- 0.7	+ 3.2	+ 1.4	+ 1.0	- 0.5	- 3.0	- 3.5	- 7.5	- 7.0	- 7.8	Loseby.....	126
+ 7.5	+ 6.5	+ 7.4	+ 5.6	+ 7.7	+ 7.4	+ 7.3	+ 6.3	+ 4.8	+ 6.3	+18.2	+25.6	+26.9	+22.0	+21.5	+18.0	Dent	2375
-22.0	- 7.8	- 0.3	- 0.2	+ 3.5	+ 0.9	+ 3.6	+ 4.0	..	..	..	..	..	..	..	..	C. Frodsham.....	2484
-18.3	- 8.8	- 9.6	- 3.1	- 3.7	- 2.9	- 8.2	- 0.1	- 4.0	- 3.0	-28.5	-27.5	-23.9	- 3.4	- 1.5	- 2.9	Reid and Son	1092
+ 4.2	+22.5	+24.0	+25.2	+26.8	+27.4	+26.2	+29.9	+28.0	+28.4	+19.5	+24.2	+31.4	+42.0	+45.5	+46.8	Glover.....	275
-36.5	-28.7	-26.7	-29.7	-26.7	-28.7	-25.7	-26.7	-23.0	-22.2	-38.8	-38.0	-31.0	-10.5	- 8.5	- 9.5	Hewitt and Son ...	1999
+ 2.0	+ 0.5	- 8.0	+ 1.0	+11.5	- 1.0	- 8.5	- 8.0	- 6.5	+ 5.1	- 4.6	-14.5	- 4.0	+23.5	+25.0	+20.0	Dixon	380
-39.6	-34.0	-23.4	-26.7	-20.8	-25.6	-17.4	-20.0	-10.0	- 7.5	- 2.4	- 5.1	- 2.5	- 3.5	- 1.5	0.0	Lawson	1152
-19.9	-13.1	- 8.4	- 7.4	- 6.2	- 5.4	- 5.6	- 4.4	- 6.5	-11.8	+19.2	+13.6	+21.0	-12.0	- 9.5	-11.5	Eiffe	482
-65.0	-32.3	-20.0	-24.2	-20.5	-24.2	-19.3	-22.0	-15.5	-14.1	-27.9	-32.5	-27.0	-22.5	-19.5	-18.0	Hewitt	1520
+36.5	+31.8	+37.8	+35.0	+37.5	+39.8	+37.6	+51.2	+42.0	+40.8	+24.3	+19.7	+27.5	+64.5	+69.0	+81.0	M'Clellan.....	148
-41.2	-20.2	- 7.6	- 2.4	+ 0.5	- 3.8	- 0.7	- 0.6	+ 5.6	+ 8.0	- 4.0	-12.0	- 3.5	+24.5	+22.0	+21.0	Parkinson and Bouts	850
+ 3.3	- 2.4	- 0.5	- 1.0	+ 1.3	- 0.4	+ 1.5	+ 1.5	+ 3.5	+ 3.3	+37.9	+52.3	+49.5	+ 1.0	+ 1.5	- 0.5	Carter	535
- 3.7	-24.8	-30.0	-16.5	-20.1	-10.4	-32.2	-18.8	-47.1	-53.8	-54.4	-38.4	-52.6	- 2.9	- 1.2	-25.9	Wieland	788
-18.9	+ 2.7	+16.5	+14.1	+22.9	+17.1	+24.4	+21.7	+30.3	+35.3	+32.7	+28.5	+32.4	+38.0	+45.1	+45.0	Chorley	851
-40.9	-20.8	- 6.3	- 8.2	- 3.8	- 8.6	- 1.9	- 4.6	+ 4.6	+ 6.5	+10.4	+11.5	+25.6	+23.7	+25.8	+33.0	Roskell.....	1411 55157
*										†	†	†					
+2213.0	+1433.5	+747.0	+993.0	+808.5	+1142.0	+529.0	+928.5	+208.5	-85.3	-1903.7	-3451.5	-2968.5	-116.5	-148.5	-340.7		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
24—42	39—56	48—58	47—54	48—56	45—53	51—58	47—57	55—65	57—70	66—105	77—107	85—104	58—70	60—69	59—74		

The Chronometer C. Frodsham 2484 was withdrawn at the request of the Maker on May 16.

The Chronometer Wieland 788 was deposited on January 10; but its rates being so irregular as to imply some accidental cause of failure, it was taken away for examination on January 22, and returned for further trial on February 12.

The order of arrangement of the Chronometers in these Tables is determined solely by consideration of their irregularities of rate as expressed in the columns "Difference between the Greatest and Least" and "Greatest difference between one Week and the next," without reference to the duration of the Trial. The position of C. Frodsham 2484, and of Wieland 788, is therefore not necessarily correct.

RATES OF CHRONOMETERS ON TRIAL FOR PURCHASE BY THE ADMIRALTY,

NAME OF MAKER.	Num- ber.	Whether Pocket, 1, 2, or 8 Days.	Construction of Escapement and Balance, from the description furnished by the Maker.	(II.)—WEEKLY SUMS OF DAILY RATES									
				Feb. 12—19 *	Feb. 19—26 *	March 19—26 *	Feb. 5—12 *	Jan. 29 to Feb. 5 *	Jan. 22—29 *	Jan. 15—22 *	Mar. 26 to April 2	Jan. 8—15 *	April 23—30
Lister and Son.....	508	2	Auxiliary compensation to the balance, as in former years.	+ 3·5	+ 4·7	— 2·5	+ 1·8	+ 1·5	— 1·0	— 0·9	+ 0·6	— 3·1	+ 1·4
Poole.....	1585	2	Auxiliary compensation to the balance, as in former years.	—12·5	— 9·9	—12·0	— 9·0	—13·0	—14·8	—13·1	— 5·0	—14·1	+ 1·0
Woolf.....	5237	2	Auxiliary compensation to the bal- ance, acting at low temperatures.	+ 9·4	+ 8·6	+ 5·6	+10·0	+ 7·5	+ 6·6	+ 5·9	— 1·5	....	— 5·0
Loseby.....	126	2	Loseby's patented auxiliary mer- curial compensation to balance.	+14·7	+13·8	+ 3·0	+ 9·8	+ 8·1	+ 5·9	+ 4·5	— 1·5	+ 2·0	+ 1·3
Dent.....	2375	2	Dent's patent balance: see pamphlet, "On the Errors of Chronometers," p. 23.	+15·2	+ 9·6	+ 7·5	+15·7	+13·5	+15·1	+17·4	+ 6·5	....	+ 7·4
C. Frodsham.....	2484	2	Ordinary construction.	—25·1	—21·6	—22·0	—17·9	—21·0	—20·7	—14·3	— 7·8	—11·1	+ 0·9
Reid and Son.....	1092	2	Auxiliary compensation to the bal- ance, acting at low temperatures.	—14·7	—11·6	—18·3	—14·7	—16·1	—14·3	—11·7	— 8·8	....	— 2·9
Glover.....	275	2	Auxiliary compensation to the balance, somewhat differing from Eiffe's.	+ 0·5	+ 4·4	+ 4·2	+ 7·0	+ 6·1	+ 7·0	+ 7·9	+22·5	+ 5·2	+27·4
Hewitt and Son.....	1999	2	Eiffe's auxiliary to balance, with a small original alteration.	—54·4	—49·8	—36·5	—42·7	—35·9	—40·0	—38·5	—28·7	—35·0	—28·7
Dixon.....	380	2	Auxiliary compensation to the balance, unpublished.	—11·1	—10·6	+ 2·0	—16·0	—17·3	—22·6	—26·3	+ 0·5	....	— 1·0
Lawson.....	1152	2	Auxiliary compensation to the bal- ance, acting at low temperatures.	—32·4	—34·9	—39·6	—29·6	—30·7	—31·7	—28·9	—34·0	....	—25·6
Eiffe.....	482	2	Eiffe's auxiliary to balance by application to pendulum spring, as in former years.	—22·9	—21·1	—19·9	—18·7	—19·5	—18·8	—13·1	—13·1	....	— 5·4
Hewitt.....	1520	2	Eiffe's auxiliary to balance, with a small original alteration.	—44·8	—40·2	—65·0	—34·0	—35·2	—31·3	—24·4	—32·3	—21·6	—24·2
M'Clellan.....	148	2	Auxiliary compensation to the bal- ance, at extreme temperatures.	+27·7	+31·8	+36·5	+21·2	+11·5	+12·5	+16·5	+31·8	+23·3	+39·8
Parkinson and Bouts..	850	2	Ordinary construction.	—21·0	—16·5	—41·2	—11·5	—11·5	—20·4	—19·1	—20·2	—15·0	— 3·8
Carter.....	535	2	Ordinary construction.	+ 8·0	+ 4·0	+ 3·3	+ 4·3	+ 0·3	+ 1·9	+ 6·4	— 2·4	....	— 0·4
Wieland.....	788	2	Balance with auxiliary compensating lever, acting throughout every change of tem- perature, to counteract the variation of the pendulum spring.	....	—22·3	— 3·7	....	....	....	....	—24·8	....	—10·4
Chorley.....	851	2	Some improvement in the construc- tion of the balance.	—20·2	—12·0	—18·9	— 8·3	— 6·0	— 5·5	+ 1·7	+ 2·7	+ 6·3	+17·1
Roskell.....	1411 58137	2	Original auxiliary compensation to the balance.	—56·2 *	—51·2 *	—40·9 *	—45·2 *	—42·9 *	—38·0 *	—23·9 *	—20·8	 *	— 8·6
Chronometrical Ther- mometer.....	}... ..	..	.....	+2499·0	+2321·0	+2213·0	+2050·0	+1959·5	+1878·0	+1539·0	+1433·5	+1288·7	+1142·0
Extremes of Tempera- ture as shown by the Self-Registering Ther- mometer.....	}... ..	..	.....	o o 22—36	o o 22—41	o o 24—42	o o 30—44	o o 30—44	o o 33—44	o o 34—53	o o 39—56	o o 38—53	o o 45—53

* During these weeks the Chronometers were exposed to the external air outside a North window.

† During these weeks the Chronometers were placed in the chamber of a stove heated by gas.

The rate given by the first five days of trial is in every case omitted.

IN THE ORDER OF TEMPERATURE.

April 9-16	May 7-14	April 16-23	April 2-9	April 30 to May 7	May 14-21	May 21-28	June 18-25	June 25 to July 2	July 2-9	May 28 to June 4	Feb. 26 to March 5	March 5-12	March 12-19	June 11-18	June 4-11	NAME OF MAKER.	Num ber.
†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†		
+ 1.4	+ 2.3	+ 2.8	+ 0.7	+ 1.0	+ 3.8	+ 10.0	+ 10.0	+ 11.8	+ 12.7	+ 11.4	+ 13.3	+ 9.1	+ 9.1	+ 6.7	+ 4.9	Lister and Son	508
+ 0.9	+ 3.3	+ 2.1	0.0	+ 1.7	+ 5.5	+ 5.6	- 1.5	+ 1.0	- 0.5	- 3.1	+ 1.4	+ 1.6	+ 2.9	- 1.0	- 2.0	Poole.	1585
- 6.6	- 5.8	- 8.1	- 5.9	- 10.1	- 8.6	- 5.1	- 2.6	- 4.9	- 0.5	+ 8.2	+ 7.0	+ 11.2	+ 14.2	+ 10.0	+ 8.5	Woolf.	5237
- 3.4	+ 3.2	- 3.3	- 6.0	- 0.7	+ 1.4	+ 1.0	- 7.5	- 7.0	- 7.8	- 0.5	- 1.4	- 8.0	- 6.4	- 3.5	- 3.0	Loseby.	126
+ 5.6	+ 6.3	+ 7.7	+ 7.4	+ 7.3	+ 4.8	+ 6.3	+ 22.0	+ 21.5	+ 18.0	+ 18.2	+ 17.2	+ 21.8	+ 23.0	+ 26.9	+ 25.6	Dent.	2375
- 0.2	+ 4.0	+ 3.5	- 0.3	+ 3.6	....	....	....	....	....	....	- 2.1	- 8.3	- 7.7	....	....	C. Frodsham.	2484
- 3.1	- 0.1	- 3.7	- 9.6	- 8.2	- 4.0	- 3.0	- 3.4	- 1.5	- 2.9	- 28.5	- 24.0	- 26.3	- 25.1	- 23.9	- 27.5	Reid and Son	1092
+ 25.2	+ 29.9	+ 26.8	+ 24.0	+ 26.2	+ 28.0	+ 28.4	+ 42.0	+ 45.5	+ 46.8	+ 19.5	- 2.0	- 3.0	+ 4.3	+ 31.4	+ 24.2	Glover.	275
- 29.7	- 26.7	- 26.7	- 26.7	- 25.7	- 23.0	- 22.2	- 10.5	- 8.5	- 9.5	- 38.8	- 40.0	- 39.3	- 35.5	- 31.0	- 38.0	Hewitt and Son ...	1999
+ 1.0	- 8.0	+ 11.5	- 8.0	- 8.5	- 6.5	+ 5.1	+ 23.5	+ 25.0	+ 20.0	- 4.6	+ 5.6	+ 7.0	+ 9.5	- 4.0	- 14.5	Dixon.	380
- 26.7	- 20.0	- 20.8	- 23.4	- 17.4	- 10.0	- 7.5	- 3.5	- 1.5	0.0	- 2.4	- 4.1	+ 4.0	- 2.0	- 2.5	- 5.1	Lawson.	1152
- 7.4	- 4.4	- 6.2	- 8.4	- 5.6	- 6.5	- 11.8	- 12.0	- 9.5	- 11.5	+ 19.2	+ 14.7	+ 16.7	+ 19.1	+ 21.0	+ 13.6	Eiffe.	482
- 24.2	- 22.0	- 20.5	- 20.0	- 19.3	- 15.5	- 14.1	- 22.5	- 19.5	- 18.0	- 27.9	- 23.6	- 27.4	- 26.5	- 27.0	- 32.5	Hewitt.	520
+ 35.0	+ 51.2	+ 37.5	+ 37.8	+ 37.6	+ 42.0	+ 40.8	+ 64.5	+ 69.0	+ 81.0	+ 24.3	+ 29.1	+ 29.7	+ 29.0	+ 27.5	+ 19.7	M'Clellan.	148
- 2.4	- 0.6	+ 0.5	- 7.6	- 0.7	+ 5.6	+ 8.0	+ 24.5	+ 22.0	+ 21.0	- 4.0	- 1.9	- 3.3	- 0.9	- 3.5	- 12.0	Parkinson and Bouts	850
- 1.0	+ 1.5	+ 1.3	- 0.5	+ 1.5	+ 3.5	+ 3.3	+ 1.0	+ 1.5	- 0.5	+ 37.9	+ 23.3	+ 22.7	+ 25.7	+ 49.5	+ 52.3	Carter.	535
- 16.5	- 18.8	- 20.1	- 30.0	- 32.2	- 47.1	- 53.8	- 2.9	- 1.2	- 25.9	- 54.4	- 0.1	- 47.9	- 47.4	- 52.6	- 38.4	Wieland.	788
+ 14.1	+ 21.7	+ 22.9	+ 16.5	+ 24.4	+ 30.3	+ 35.3	+ 38.0	+ 45.1	+ 45.0	+ 32.7	+ 27.5	+ 24.2	+ 26.5	+ 32.4	+ 28.5	Chorley.	851
- 8.2	- 4.6	- 3.8	- 6.3	- 1.9	+ 4.6	+ 6.5	+ 23.7	+ 25.8	+ 33.0	+ 10.4	- 11.5	- 3.8	+ 4.5	+ 25.6	+ 11.5	Roskell.	$\frac{1111}{66187}$
										†	†	†	†	†	†		
+ 993.0	+ 928.5	+ 808.5	+ 747.0	+ 529.0	+ 208.5	- 85.3	- 116.5	- 148.5	- 340.7	- 1903.7	- 2288.0	- 2454.0	- 2553.5	- 2968.5	- 3451.5		
° °	° °	° °	° °	° °	° °	° °	° °	° °	° °	° °	° °	° °	° °	° °	° °		
47-54	47-57	48-56	48-58	51-58	55-65	57-70	58-70	60-69	59-74	66-105	70-104	75-105	80-104	85-104	77-107		

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NAME OF MAKER.	Number.	Whether Pocket, 1, 2, or 8 Days.	Construction of Escapement and Balance, from the description furnished by the Maker.	(III.)—ABSTRACT OF THE PRINCIPAL				
				First Day of First Week of Rating.	Last Day of Last Week of Rating.	Number of Weeks.	Least Weekly Sum.	In what Week.
Lister and Son	508	2	Auxiliary compensation to the balance, as in former years.	January 8	July 9	26	- 3 ^s ·1	January 8 to 15 *
Poole	1585	2	Auxiliary compensation to the balance, as in former years.	January 8	July 9	26	-14·8	January 22 to 29 *
Woolf	5237	2	Auxiliary compensation to the balance, acting at low temperatures.	January 15	July 9	25	-10·1	April 30 to May 7
Loseby	126	2	Loseby's patented auxiliary mercurial compensation to balance.	January 8	July 9	26	- 8·0	March 5 to 12 †
Dent	2375	2	Dent's patent balance: see pamphlet, "On the Errors of Chronometers," p.23.	January 15	July 9	25	+ 4·8	May 14 to 21
C. Frodsham	2484	2	Ordinary construction.	January 8	May 14	18	-25·1	February 12 to 19 *
Reid and Son	1092	2	Auxiliary compensation to the balance, acting at low temperatures.	January 15	July 9	25	-28·5	May 28 to June 4 †
Glover	275	2	Auxiliary compensation to the balance, somewhat differing from Eiffe's.	January 8	July 9	26	- 3·0	March 5 to 12 †
Hewitt and Son	1999	2	Eiffe's auxiliary to balance, with a small original alteration.	January 8	July 9	26	-54·4	February 12 to 19 *
Dixon	380	2	Auxiliary compensation to the balance, unpublished.	January 15	July 9	25	-26·3	January 15 to 22 *
Lawson	1152	2	Auxiliary compensation to the balance, acting at low temperatures.	January 15	July 9	25	-39·6	March 19 to 26 *
Eiffe	482	2	Eiffe's auxiliary to balance by application to pendulum spring, as in former years.	January 15	July 9	25	-22·9	February 12 to 19 *
Hewitt	1520	2	Eiffe's auxiliary to balance, with a small original alteration.	January 8	July 9	26	-65·0	March 19 to 26 *
M'Clellan	148	2	Auxiliary compensation to the balance at extreme temperatures.	January 8	July 9	26	+11·5	January 29 to February 5 *
Parkinson and Bouts	850	2	Ordinary construction.	January 8	July 9	26	-41·2	March 19 to 26 *
Carter	535	2	Ordinary construction.	January 15	July 9	25	- 2·4	March 26 to April 2
Wieland	788	2	Balance with auxiliary compensating lever, acting throughout every change of temperature, to counteract the variation of the pendulum spring.	February 19	July 9	20	-54·4	May 28 to June 4 †
Chorley	851	2	Some improvement in the construction of the balance.	January 8	July 9	26	-20·2	February 12 to 19 *
Roskell	$\frac{1411}{55187}$	2	Original auxiliary compensation to the balance.	January 15	July 9	25	-56·2	February 12 to 19 *

* During these weeks the Chronometers were exposed to the external air outside a North window.

† During these weeks the Chronometers were placed in the chamber of a stove heated by gas.

The rate given by the first five days of trial is in every case omitted.

CHANGES OF RATE.

Greatest Weekly Sum.	In what Week.	Difference between the Greatest and Least.	Greatest difference between one Week and the next.	Before and after what Day.	NAME OF MAKER.	Number.
+ 13.3	February 26 to March 5 †	16.4	11.6	† March 19 *	Lister and Son	508
+ 5.6	May 21 to 28	20.4	14.9	† March 19 *	Poole	1585
+ 14.2	March 12 to 19 †	24.3	13.3	May 28 †	Woolf	5237
+ 14.7	February 12 to 19 *	22.7	15.2	* February 26 †	Loseby	126
+ 26.9	June 11 to 18 †	22.1	15.5	† March 19 *	Dent	2375
+ 4.0	May 7 to 14	29.1	19.5	* February 26 †	C. Frodsham	2484
- 0.1	May 7 to 14	28.4	25.5	May 28 †	Reid and Son	1092
+ 46.8	July 2 to 9	49.8	18.3	* March 26	Glover	275
- 8.5	June 25 to July 2	45.9	20.5	† June 18	Hewitt and Son	1999
+ 25.0	June 25 to July 2	51.3	27.5	† June 18	Dixon	380
+ 4.0	March 5 to 12 †	43.6	37.6	† March 19 *	Lawson	1152
+ 21.0	June 11 to 18 †	43.9	39.0	† March 19 *	Eiffe	482
- 14.1	May 21 to 28	50.9	38.5	† March 19 *	Hewitt	1520
+ 81.0	July 2 to 9	69.5	37.0	† June 18	M'Clellan	148
+ 24.5	June 18 to 25	65.7	40.3	† March 19 *	Parkinson and Bouts	850
+ 52.3	June 4 to 11 †	54.7	48.5	† June 18	Carter	535
- 0.1	February 26 to March 5 †	54.3	49.7	† June 18	Wieland	788
+ 45.1	June 25 to July 2	65.3	45.4	† March 19 *	Chorley	851
+ 33.0	July 2 to 9	89.2	45.4	† March 19 *	Roskell	1411 58187

The Chronometer C. Frodsham 2484 was withdrawn at the request of the Maker on May 16.

The Chronometer Wieland 788 was deposited on January 10; but its rates being so irregular as to imply some accidental cause of failure, it was taken away for examination on January 22, and returned for further trial on February 12.

The order of arrangement of the Chronometers in these Tables is determined solely by consideration of their irregularities of rate as expressed in the columns "Difference between the Greatest and Least," and "Greatest Difference between one Week and the next," without reference to the duration of the Trial. The position of C. Frodsham 2484, and of Wieland 788, is therefore not necessarily correct.