

RATES OF CHRONOMETERS

ON TRIAL

FOR PURCHASE BY THE BOARD OF ADMIRALTY,

AT THE

ROYAL OBSERVATORY, GREENWICH.

1862.

(L) WEEKLY SUMS OF DAILY RATES

IN THE ORDER OF TIME.

				(I) WEEKLY SUMS OF DAILY RATES												IN THE ORDER OF TIME.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
NAME or MAKER.	No.	Description furnished by the Maker.	Whether placed in Division I or II.	The upper row of Temperature Indications refers												to the Chronometers placed in Division I, the lower row those placed in Division II.																								NAME or MAKER.	No.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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For Chronometers placed in Division I.	Chronometrical Thermometer	+ 2132.5	+ 2287.9	+ 1079.1	+ 955.9	+ 1839.6	+ 1162.0	+ 1548.0	+ 1800.1	- 1129.5	- 1894.0	- 2265.8	...	...	...	...	+ 489.4	+ 64.0	+ 84.1	- 182.1	- 18.7	- 222.7	- 225.7	...	...	...	...	...	...	- 99.5	- 129.5	Chronometrical Thermometer.
	Extremes of Temperature as shown by the Self-Registering Thermometers	23-52	21-51	46-57	34-57	32-49	42-56	36-57	32-59	65-90	62-97	65-99	54-61	47-60	47-59	54-65	56-68	58-72	73-94	62-98	82-105	78-100	60-49	36-60	60-47	56-67	61-70	62-70	(Extremes of Temperature as shown by the Self-Registering Thermometers.)			
For Chronometers placed in Division II.	Chronometrical Thermometer.....	+ 2132.5	+ 2287.9	+ 1079.1	+ 955.9	+ 1839.6	+ 1162.0	+ 1548.0	+ 1800.1	...	...	...	- 1994.2	- 1876.6	- 2289.0	+ 489.4	+ 64.0	+ 84.1	...	...	...	...	...	- 2309.8	- 2229.0	- 1932.0	- 1944.0	- 99.5	- 129.5	Chronometrical Thermometer.		
	Extremes of Temperature as shown by the Self-Registering Thermometers	23-52	21-51	46-57	34-57	32-49	42-56	36-57	32-59	51-59	47-62	49-63	65-99	75-97	76-100	54-65	56-68	58-72	56-64	67-68	60-69	62-70	98-104	104-78	76-93	78-96	61-70	62-70	(Extremes of Temperature as shown by the Self-Registering Thermometers.)			

(L) WEEKLY SUMS OF DAILY RATES

NAME OF MAKER.	No.	Construction of Escapement and Balance, from the Description furnished by the Maker.	Watches placed in Division L or II.	The upper row of Temperature Indications refers											
				Jan. 11-18	Jan. 18-25	Jan. 25 to Feb. 1	Feb. 1-8	Feb. 8-15	Feb. 15-22	Feb. 22 to Mar. 1	Mar. 1-8	Mar. 8-15			
				*	*	*	*	*	*	*	*	*	*	*	*
Crisp	440	2 Auxiliary compensation.	II.	-5.6	-4.3	-10.6	-14.8	-1.3	-7.7	-6.3	-5.3	-11.2			
Moore	3357	2 Poole's auxiliary.	II.	+3.8	+1.4	-6.8	-11.1	+2.0	-3.5	-1.9	+9.9	-8.0			
Owen Owens	380	2 May's centripetal balance.	I.	-14.7	-16.4	-12.4	-13.2	-13.0	-11.8	-13.9	-10.8	-4.8			
Crisp	380	2 Auxiliary compensation.	I.	+21.1	+21.3	+19.0	+14.5	+15.9	+18.8	+17.0	+12.3	+13.9			
Dent	3009	2 Dent's patent balance; see pamphlet "On the Errors of Chronometers," p. 23.	I.	+2.3	+3.4	-8.5	-12.2	-1.1	-7.9	-4.4	-1.6	-15.0			
Porthouse	7228	2 Auxiliary to balance.	I.	-10.9	-10.9	-13.7	-16.0	-4.3	-6.3	-3.4	-0.4	-2.6			
Gowland	2659	2 Auxiliary compensation.	II.	-12.5	-10.9	-9.0	-9.9	-7.4	-5.9	-6.8	-5.7	-5.8			
McGregor and Co.	3324	2 Poole's auxiliary.	I.	+15.7	+10.4	+2.5	-2.0	+14.4	+5.3	+4.7	+12.3	-0.9			
Hiatt	1050	2 Hartnup's gridiron balance.	II.	-15.5	-19.4	-14.6	-17.5	-16.8	-15.7	-16.9	-17.0	-16.6			
Glover	315	2 Auxiliary compensation acting in cold.	I.	-1.4	-1.4	+1.1	+3.8	+6.9	+9.5	+9.7	+11.0	+7.9			
Hemsey	3213	2 Poole's auxiliary.	II.	-14.9	-16.0	-12.5	-6.8	-4.0	-12.9	-6.2	-11.2	-13.8			
R. J. Dent	21319	2 Ordinary balance, with slight alteration.	II.	-2.4	-2.8	+3.3	-6.8	-1.8	-0.9	-6.4	-2.4	-3.2			
Parkinson & Bosts	3113	2 Ordinary construction, with a slight alteration to balance.	II.	-19.8	-23.8	-9.9	-13.5	-13.6	-9.5	-11.1	-13.2	-6.9			
Pennington and Co.	1537	2 Ordinary construction.	II.	-10.9	-3.5	-1.1	-20.0	-8.0	-15.1	-11.1	-5.7	-16.7			
McGregor and Co.	3324	2 Auxiliary acting in cold.	II.	-18.5	-14.4	-23.0	-19.5	-10.1	-13.6	-10.7	-10.4	-10.4			
Hiatt	985	2 Hartnup's gridiron balance.	I.	-37.9	-40.8	-28.1	-28.0	-33.6	-27.7	-32.1	-33.6	-14.7			
Sevill	1681	2 Auxiliary acting in both extremes.	I.	-31.3	-31.7	-25.8	-26.6	-26.4	-24.7	-24.9	-27.2	-14.8			
Wood	357	2 New arrangement of compensation.	I.	+12.1	+13.1	+14.2	+9.4	+15.9	+15.2	+15.6	+16.3	-6.1			
Cribb	722	2 Auxiliary compensation to the balance.	II.	+5.4	-0.5	-1.8	+1.4	-10.1	-9.3	-6.1	-0.2	-10.7			
Russell and Son	3523	2 Auxiliary compensation on Molyneux's principle.	II.	-0.1	-3.8	-1.6	-3.0	-0.5	-1.5	-3.9	-4.8	-2.4			
Dent	3024	2 Dent's patent balance; see pamphlet "On the Errors of Chronometers," p. 23.	II.	+4.2	+3.0	-4.0	-3.6	+6.9	+0.3	+5.0	+8.0	+1.1			
Dell, Brothers	1411	2 Original unpublished compensation.	I.	-22.9	-21.3	-6.9	-7.8	-12.6	-8.4	-9.9	-13.2	+8.4			
Hewitt and Son	2641	2 Hewitt's auxiliary compensation.	II.	-26.7	-23.7	-12.9	-11.5	-10.3	-10.4	-10.7	-13.3	-6.8			
Hyatt	6250	2 Auxiliary compensation.	II.	+9.0	+14.9	+5.6	-0.3	+11.9	+3.9	+3.9	+6.8	-4.8			
Joyce Murray	429	2 Molyneux's auxiliary.	I.	-10.9	-10.9	-1.1	-15.7	-7.1	-9.8	-6.0	-4.7	-24.9			
Froeham & Baker	829	2 Ordinary balance.	I.	-17.1	-16.9	-1.0	-5.8	-10.9	-1.0	-7.4	-13.8	-4.8			
Reynoldson	7245	2 Auxiliary to balance.	I.	-17.6	-15.0	+4.1	+4.1	+5.1	+10.8	+6.9	+5.6	+6.7			
Blackie	511	2 Auxiliary compensation to the balance.	I.	+2.1	+5.1	-25.5	-22.3	-7.7	-20.2	-14.9	-6.2	-6.8			
Pennington and Co.	1519	2 Ordinary construction.	I.	-38.1	-37.1	-13.9	-10.5	-24.1	-14.1	-17.9	-19.5	+3.3			
Dobble	2102	2 Ordinary construction.	I.	+11.3	+13.6	-3.8	+3.6	+15.4	+9.5	+20.1	+35.0	+3.7			
Hewitt and Son	2331	2 Hewitt's auxiliary compensation.	I.	-4.9	-8.9	+2.9	-3.5	+2.9	+4.7	+4.7	+3.0	-18.7			
Dell, Brothers	1449	2 Poole's auxiliary compensation.	II.	-6.9	-4.9	-0.1	-3.0	-30.0	-41.7	-47.0	-42.7	-35.5			
Jirgensen	8809	2 Anchor escapement.	II.	+15.9	+17.7	+4.1	+3.2	+18.4	+21.9	+14.4	+2.1	+1.6			
Jirgensen	8896	2 Anchor escapement.	I.	-9.0	-14.8	+4.8	-4.4	-24.8	-16.2	-25.9	-30.1	+8.9			
Froeham & Baker	8293	2 Auxiliary to balance.	II.	+10.5	+4.0	+11.5	+4.4	+3.9	+8.4	+7.3	+3.2	+12.7			
Millidge and Son	364	2 A new auxiliary, unpublished.	I.	-16.9	-17.3	-8.1	-9.5	-6.8	-4.8	-5.3	-4.1	-6.2			
Kulberg	375	2 Original balance, consisting of a bar and flat rim, without auxiliary.	I.	+3.4	+3.0	+1.6	+3.0	+9.5	+9.9	+12.8	+14.5	+12.9			

IN THE ORDER OF TIME—concluded.

NAME OF MAKER.	No.	Construction of Escapement and Balance, from the Description furnished by the Maker.	Watches placed in Division L or II.	The upper row of Temperature Indications refers											
				Jan. 11-18	Jan. 18-25	Jan. 25 to Feb. 1	Feb. 1-8	Feb. 8-15	Feb. 15-22	Feb. 22 to Mar. 1	Mar. 1-8	Mar. 8-15			
				*	*	*	*	*	*	*	*	*	*	*	*
Crisp	440	2 Auxiliary compensation.	II.	-5.6	-4.3	-10.6	-14.8	-1.3	-7.7	-6.3	-5.3	-11.2			
Moore	3357	2 Poole's auxiliary.	II.	+3.8	+1.4	-6.8	-11.1	+2.0	-3.5	-1.9	+9.9	-8.0			
Owen Owens	380	2 May's centripetal balance.	I.	-14.7	-16.4	-12.4	-13.2	-13.0	-11.8	-13.9	-10.8	-4.8			
Crisp	380	2 Auxiliary compensation.	I.	+21.1	+21.3	+19.0	+14.5	+15.9	+18.8	+17.0	+12.3	+13.9			
Dent	3009	2 Dent's patent balance; see pamphlet "On the Errors of Chronometers," p. 23.	I.	+2.3	+3.4	-8.5	-12.2	-1.1	-7.9	-4.4	-1.6	-15.0			
Porthouse	7228	2 Auxiliary to balance.	I.	-10.9	-10.9	-13.7	-16.0	-4.3	-6.3	-3.4	-0.4	-2.6			
Gowland	2659	2 Auxiliary compensation.	II.	-12.5	-10.9	-9.0	-9.9	-7.4	-5.9	-6.8	-5.7	-5.8			
McGregor and Co.	3324	2 Poole's auxiliary.	I.	+15.7	+10.4	+2.5	-2.0	+14.4	+5.3	+4.7	+12.3	-0.9			
Hiatt	1050	2 Hartnup's gridiron balance.	II.	-15.5	-19.4	-14.6	-17.5	-16.8	-15.7	-16.9	-17.0	-16.6			
Glover	315	2 Auxiliary compensation acting in cold.	I.	-1.4	-1.4	+1.1	+3.8	+6.9	+9.5	+9.7	+11.0	+7.9			
Hemsey	3213	2 Poole's auxiliary.	II.	-14.9	-16.0	-12.5	-6.8	-4.0	-12.9	-6.2	-11.2	-13.8			
R. J. Dent	21319	2 Ordinary balance, with slight alteration.	II.	-2.4	-2.8	+3.3	-6.8	-1.8	-0.9	-6.4	-2.4	-3.2			
Parkinson & Bosts	3113	2 Ordinary construction, with a slight alteration to balance.	II.	-19.8	-23.8	-9.9	-13.5	-13.6	-9.5	-11.1	-13.2	-6.9			
Pennington and Co.	1537	2 Ordinary construction.	II.	-10.9	-3.5	-1.1	-20.0	-8.0	-15.1	-11.1	-5.7	-16.7			
McGregor and Co.	3324	2 Auxiliary acting in cold.	II.	-18.5	-14.4	-23.0	-19.5	-10.1	-13.6	-10.7	-10.4	-10.4			
Hiatt	985	2 Hartnup's gridiron balance.	I.	-37.9	-40.8	-28.1	-28.0	-33.6	-27.7	-32.1	-33.6	-14.7			
Sevill	1681	2 Auxiliary acting in both extremes.	I.	-31.3	-31.7	-25.8	-26.6	-26.4	-24.7	-24.9	-27.2	-14.8			
Wood	357	2 New arrangement of compensation.	I.	+12.1	+13.1	+14.2	+9.4	+15.9	+15.2	+15.6	+16.3	-6.1			
Cribb	722	2 Auxiliary compensation to the balance.	II.	+5.4	-0.5	-1.8	+1.4	-10.1	-9.3	-6.1	-0.2	-10.7			
Russell and Son	3523	2 Auxiliary compensation on Molyneux's principle.	II.	-0.1	-3.8	-1.6	-3.0	-0.5	-1.5	-3.9	-4.8	-2.4			
Dent	3024	2 Dent's patent balance; see pamphlet "On the Errors of Chronometers," p. 23.	II.	+4.2	+3.0	-4.0	-3.6	+6.9	+0.3	+5.0	+8.0	+1.1			
Dell, Brothers	1411	2 Original unpublished compensation.	I.	-22.9	-21.3	-6.9	-7.8	-12.6	-8.4	-9.9	-13.2	+8.4			
Hewitt and Son	2641	2 Hewitt's auxiliary compensation.	II.	-26.7	-23.7	-12.9	-11.5	-10.3	-10.4	-10.7	-13.3	-6.8			
Hyatt	6250	2 Auxiliary compensation.	II.	+9.0	+14.9	+5.6	-0.3	+11.9	+3.9	+3.9	+6.8	-4.8			
Joyce Murray	429	2 Molyneux's auxiliary.	I.	-10.9	-10.9	-1.1	-15.7	-7.1	-9.8	-6.0	-4.7	-24.9			
Froeham & Baker	829	2 Ordinary balance.	I.	-17.1	-16.9	-1.0	-5.8	-10.9	-1.0	-7.4	-13.8	-4.8			
Reynoldson	7245	2 Auxiliary to balance.	I.	-17.6	-15.0	+4.1	+4.1	+5.1	+10.8	+6.9	+5.6	+6.7			
Blackie	511	2 Auxiliary compensation to the balance.	I.	+2.1	+5.1	-25.5	-22.3	-7.7	-20.2	-14.9	-6.2	-6.8			
Pennington and Co.	1519	2 Ordinary construction.	I.	-38.1	-37.1	-13.9	-10.5	-24.1	-14.1	-17.9	-19.5	+3.3			
Dobble	2102	2 Ordinary construction.	I.	+11.3	+13.6	-3.8	+3.6	+15.4	+9.5	+20.1	+35.0	+3.7			
Hewitt and Son	2331	2 Hewitt's auxiliary compensation.	I.	-4.9	-8.9	+2.9	-3.5	+2.9	+4.7	+4.7	+3.0	-18.7			
Dell, Brothers	1449	2 Poole's auxiliary compensation.	II.	-6.9	-4.9	-0.1	-3.0	-30.0	-41.7	-47.0	-42.7	-35.5			
Jirgensen	8809	2 Anchor escapement.	II.	+15.9	+17.7	+4.1	+3.2	+18.4	+21.9	+14.4	+2.1	+1.6			
Jirgensen	8896	2 Anchor escapement.	I.	-9.0	-14.8	+4.8	-4.4	-24.8	-16.2	-25.9	-30.1	+8.9			
Froeham & Baker	8293	2 Auxiliary to balance.	II.	+10.5	+4.0	+11.5	+4.4	+3.9	+8.4	+7.3	+3.2	+12.7			
Millidge and Son	364	2 A new auxiliary, unpublished.	I.	-16.9	-17.3	-8.1	-9.5	-6.8	-4.8	-5.3	-4.1	-6.2			
Kulberg	375	2 Original balance, consisting of a bar and flat rim, without auxiliary.	I.	+3.4	+3.0	+1.6	+3.0	+9.5	+9.9	+12.8	+14.5	+12.9			

* During these weeks the Chronometers were tried in cold; in the two weeks commencing January 71 they were exposed to the external air outside a North window; in the four weeks commencing February 8 (excepting the last two days of the week March 1) they remained in the Chronometer Room, the North windows being left open.

† During these weeks the Chronometers were placed in the chamber of a stove heated by gas. A larger number of Chronometers than usual having been at this time deposited for trial, it was found that the stove was not sufficiently large to contain the whole of them at the same time. They were in consequence formed into two divisions, and whilst one division was placed in the stove, the other remained in the ordinary temperature of the room. In all cases in which a maker had deposited two Chronometers for trial, one Chronometer was placed in each division.

The order of arrangement of the Chronometers in this Table is determined solely by consideration of their irregularities of rate, as expressed

During these weeks the Chronometers were tried in cold : in the two weeks commencing January 11 they were exposed to the external air outside a North window : in the four weeks commencing February 8 (excepting the last two days of the week, March 1 to 8) they remained in the Chronometer Room, the North windows being left open.

† During these weeks the Chronometers were placed in the chamber of a stove heated by gas. A larger number of Chronometers than usual having been this year deposited for trial, it was found that the stove was not sufficiently large to contain the whole of them at the same time. They were in consequence formed into two divisions, and while one division was placed in the stove, the other remained in the ordinary temperature of the room. In all cases in which a maker had deposited two Chronometers for trial, one Chronometer was placed in each division.

			(II).—WEEKLY SUMS OF DAILY RATES IN THE ORDER OF The upper order of Weeks refers to the Chronometers													
NAME or MAKER.	No.	Weather, 2 or 3 days.	Construction of Escapement and Balance, from the Description furnished by the Maker.	Division	Whether placed in Division											
					Jan. 18-25	Jan. 11-18	Feb. 8-15	Mar. 1-8	Feb. 22 to Mar. 1	Feb. 15-22	Jan. 25 to Feb. 1	Feb. 1-8	April 12-19	Whether placed in Division	N A M E or M A K E R.	No.
					Jan. 18-25	Jan. 11-18	Feb. 8-15	Mar. 1-8	Feb. 22 to Mar. 1	Feb. 15-22	Jan. 25 to Feb. 1	Feb. 1-8	April 12-19			
Crip	440	2	Auxiliary compensation.	II.	- 45 ⁺	54 ⁺	- 13 ⁺	0 ⁺	- 63 ⁺	77 ⁺	- 23 ⁺	- 14 ⁺	- 124 ⁺		Crip	440
Moore	3357	2	Poole's auxiliary.	II.	- 14 ⁺	38 ⁺	+ 20 ⁺	0 ⁺	- 19 ⁺	33 ⁺	- 68 ⁺	- 111 ⁺	- 36 ⁺		Moore	3357
Owen Owens	775	2	May's compensating balance.	I.	- 164 ⁺	- 174 ⁺	- 130 ⁺	- 108 ⁺	- 139 ⁺	- 118 ⁺	- 124 ⁺	- 132 ⁺	- 73 ⁺		Owen Owens	775
Crip	380	2	Auxiliary compensation.	I.	+ 212 ⁺	+ 221 ⁺	+ 155 ⁺	+ 124 ⁺	+ 170 ⁺	+ 188 ⁺	+ 190 ⁺	+ 148 ⁺	+ 217 ⁺		Crip	380
Dent	3009	2	Dent's patent balance; see pamphlet "On the Errors of Chronometers," p. 23.	I.	+ 34 ⁺	+ 25 ⁺	- 11 ⁺	- 16 ⁺	- 44 ⁺	- 73 ⁺	- 83 ⁺	- 122 ⁺	+ 24 ⁺		Dent	3009
Porthouse	7228	2	Auxiliary to balance.	I.	- 104 ⁺	- 109 ⁺	- 43 ⁺	- 04 ⁺	- 54 ⁺	- 62 ⁺	- 137 ⁺	- 160 ⁺	+ 49 ⁺		Porthouse	7228
Gowland	2659	2	Auxiliary compensation.	II.	- 100 ⁺	- 125 ⁺	- 74 ⁺	- 57 ⁺	- 68 ⁺	- 59 ⁺	- 90 ⁺	- 99 ⁺	- 43 ⁺		Gowland	2659
McGregor and Co.	3234	2	Poole's auxiliary.	I.	+ 180 ⁺	+ 157 ⁺	+ 144 ⁺	+ 125 ⁺	+ 94 ⁺	+ 55 ⁺	+ 25 ⁺	+ 20 ⁺	+ 86 ⁺		McGregor and Co.	3234
Hiatt	1050	2	Hartung's gridiron balance.	II.	- 105 ⁺	- 153 ⁺	- 168 ⁺	- 170 ⁺	- 169 ⁺	- 157 ⁺	- 143 ⁺	- 175 ⁺	- 166 ⁺		Hiatt	1050
Glover	315	2	Auxiliary compensation acting in cold.	I.	- 14 ⁺	- 14 ⁺	- 104 ⁺	+ 113 ⁺	+ 97 ⁺	+ 93 ⁺	+ 51 ⁺	+ 38 ⁺	+ 816 ⁺		Glover	315
Hennessey	2313	2	Poole's auxiliary.	II.	- 160 ⁺	- 140 ⁺	- 139 ⁺	- 138 ⁺	- 112 ⁺	- 62 ⁺	- 35 ⁺	- 49 ⁺	- 43 ⁺		Hennessey	2313
E. J. Dent	23182	2	Ordinary balance, with slight alteration.	II.	- 28 ⁺	- 24 ⁺	- 18 ⁺	- 24 ⁺	- 64 ⁺	- 05 ⁺	- 99 ⁺	- 135 ⁺	- 70 ⁺		E. J. Dent	23182
Parkinson & Bouts.	1331	2	Ordinary construction, with a slight alteration to balance.	II.	- 22 ⁺	- 19 ⁺	- 136 ⁺	- 132 ⁺	- 113 ⁺	- 95 ⁺	- 99 ⁺	- 135 ⁺	- 70 ⁺		Parkinson & Bouts.	1331
Pennington and Co.	1537	2	Ordinary construction.	II.	- 35 ⁺	- 109 ⁺	- 80 ⁺	- 57 ⁺	- 111 ⁺	- 151 ⁺	- 171 ⁺	- 200 ⁺	- 153 ⁺		Pennington and Co.	1537
McGregor and Co.	3234	2	Auxiliary acting in cold.	II.	- 144 ⁺	- 180 ⁺	- 107 ⁺	- 124 ⁺	- 160 ⁺	- 127 ⁺	- 281 ⁺	- 280 ⁺	- 70 ⁺		McGregor and Co.	3234
Hiatt	385	2	Hartung's gridiron balance.	I.	- 40 ⁺	- 37 ⁺	- 32 ⁺	- 30 ⁺	- 27 ⁺	- 27 ⁺	- 281 ⁺	- 280 ⁺	- 70 ⁺		Hiatt	385
Sevill	1681	2	Auxiliary acting in both extremes.	I.	- 317 ⁺	- 315 ⁺	- 264 ⁺	- 272 ⁺	- 243 ⁺	- 247 ⁺	- 288 ⁺	- 266 ⁺	- 234 ⁺		Sevill	1681
Wood	357	2	New arrangement of compensation.	I.	+ 131 ⁺	+ 121 ⁺	+ 183 ⁺	+ 163 ⁺	+ 157 ⁺	+ 152 ⁺	+ 142 ⁺	+ 94 ⁺	+ 106 ⁺		Wood	357
Cribb	3252	2	Auxiliary compensation to the balance.	I.	- 05 ⁺	+ 54 ⁺	+ 101 ⁺	+ 02 ⁺	+ 61 ⁺	+ 02 ⁺	+ 18 ⁺	+ 14 ⁺	+ 74 ⁺		Cribb	3252
Russell and Son	6223	2	Auxiliary compensation on Molyneux's principle.	II.	- 38 ⁺	- 01 ⁺	- 03 ⁺	- 48 ⁺	- 39 ⁺	- 13 ⁺	- 16 ⁺	- 30 ⁺	+ 01 ⁺		Russell and Son	6223
Dent	3004	2	Dent's patent balance; see pamphlet "On the Errors of Chronometers," p. 23.	II.	+ 30 ⁺	+ 42 ⁺	+ 66 ⁺	+ 80 ⁺	+ 50 ⁺	+ 03 ⁺	- 40 ⁺	- 36 ⁺	+ 41 ⁺		Dent	3004
Dell, Brothers	1441	2	Original unpublished compensation.	I.	- 213 ⁺	- 225 ⁺	- 126 ⁺	- 132 ⁺	- 95 ⁺	- 80 ⁺	- 69 ⁺	- 78 ⁺	- 260 ⁺		Dell, Brothers	1441
Hewitt and Son	2614	2	Hewitt's auxiliary compensation.	II.	- 237 ⁺	- 267 ⁺	- 130 ⁺	- 133 ⁺	- 107 ⁺	- 104 ⁺	- 129 ⁺	- 115 ⁺	- 103 ⁺		Hewitt and Son	2614
French	439	2	Auxiliary compensation.	II.	+ 145 ⁺	+ 99 ⁺	+ 119 ⁺	+ 64 ⁺	+ 36 ⁺	+ 35 ⁺	+ 58 ⁺	- 02 ⁺	- 11 ⁺		French	439
Joyce Murray	439	2	Molyneux's auxiliary.	I.	- 104 ⁺	- 106 ⁺	- 71 ⁺	- 47 ⁺	- 60 ⁺	- 98 ⁺	- 118 ⁺	- 157 ⁺	- 33 ⁺		Joyce Murray	439
Froeham & Baker	6220	2	Ordinary balance.	I.	- 164 ⁺	- 171 ⁺	- 109 ⁺	- 138 ⁺	- 74 ⁺	- 100 ⁺	- 100 ⁺	- 150 ⁺	- 35 ⁺		Froeham & Baker	6220
Reynolds	7245	2	Auxiliary to balance.	I.	- 150 ⁺	- 150 ⁺	+ 54 ⁺	+ 50 ⁺	+ 69 ⁺	+ 108 ⁺	+ 41 ⁺	+ 43 ⁺	+ 180 ⁺		Reynolds	7245
Blackie	511	2	Auxiliary compensation to the balance.	I.	+ 51 ⁺	+ 21 ⁺	- 70 ⁺	- 62 ⁺	- 140 ⁺	- 200 ⁺	- 225 ⁺	- 243 ⁺	- 245 ⁺		Blackie	511
Pennington and Co.	1519	2	Ordinary construction.	I.	- 371 ⁺	- 381 ⁺	- 241 ⁺	- 193 ⁺	- 179 ⁺	- 145 ⁺	- 139 ⁺	- 105 ⁺	- 140 ⁺		Pennington and Co.	1519
Dobble	1192	2	Ordinary construction.	I.	+ 135 ⁺	+ 133 ⁺	+ 134 ⁺	+ 350 ⁺	+ 201 ⁺	+ 35 ⁺	+ 38 ⁺	+ 36 ⁺	+ 290 ⁺		Dobble	1192
Hewitt and Son	2614	2	Hewitt's auxiliary compensation.	I.	- 89 ⁺	- 43 ⁺	+ 29 ⁺	+ 36 ⁺	+ 42 ⁺	+ 49 ⁺	+ 29 ⁺	+ 35 ⁺	+ 192 ⁺		Hewitt and Son	2614
Dell, Brothers	1449	2	Poole's auxiliary compensation.	II.	- 495 ⁺	- 623 ⁺	- 300 ⁺	- 427 ⁺	- 477 ⁺	- 417 ⁺	- 515 ⁺	- 530 ⁺	- 447 ⁺		Dell, Brothers	1449
Jürgensen	8899	2	Anchor escapement.	II.	+ 177 ⁺	+ 190 ⁺	+ 184 ⁺	+ 21 ⁺	+ 114 ⁺	+ 214 ⁺	+ 431 ⁺	+ 352 ⁺	+ 03 ⁺		Jürgensen	8899
Jürgensen	8898	2	Anchor escapement.	I.	- 148 ⁺	- 30 ⁺	- 248 ⁺	- 301 ⁺	- 253 ⁺	- 127 ⁺	- 48 ⁺	- 44 ⁺	- 22 ⁺		Jürgensen	8898
Froeham & Baker	6223	2	Auxiliary to balance.	II.	+ 40 ⁺	+ 105 ⁺	+ 35 ⁺	+ 32 ⁺	+ 79 ⁺	+ 84 ⁺	+ 115 ⁺	+ 44 ⁺	+ 111 ⁺		Froeham & Baker	6223
Millicand and Son	364	2	A new auxiliary, unpublished.	I.	- 173 ⁺	- 169 ⁺	- 08 ⁺	- 41 ⁺	- 53 ⁺	- 48 ⁺	- 81 ⁺	- 95 ⁺	+ 424 ⁺		Millicand and Son	364
Kulberg	375	2	Original balance, consisting of a bar and flat rim, without auxiliary.	I.	+ 35 ⁺	+ 34 ⁺	+ 93 ⁺	+ 145 ⁺	+ 122 ⁺	+ 99 ⁺	+ 16 ⁺	+ 30 ⁺	+ 136 ⁺		Kulberg	375
For Chronometers placed in Division I.					+ 2257.9	+ 2132.5	+ 1839.6	+ 1808.1	+ 1548.0	+ 1162.0	+ 1079.1	+ 959.9	...			
Extremes of Temperature as shown by the Self-Registering Thermometers.					21-51	23-52	32-49	32-59	36-57	42-56	46-57	34-57	47-59			
For Chronometers placed in Division II.					+ 2257.9	+ 2132.5	+ 1839.6	+ 1808.1	+ 1548.0	+ 1162.0	+ 1079.1	+ 959.9	...			
Extremes of Temperature as shown by the Self-Registering Thermometers.					21-51	23-52	32-49	32-59	36-57	42-56	46-57	34-57	47-59			
* During these weeks the Chronometers were tried in cold : in the two weeks commencing January 11 they were exposed to the external air outside a North window : in the four weeks commencing February 8 (excepting the last two days of the week, March 1 to 8) they remained in the Chronometer Room, the North windows being left open.																
† During these weeks the Chronometers were placed in the chamber of a stove heated by gas. A large number of Chronometers than usual having been tried during this period for trial, it was found that the stove was not sufficiently large to contain the whole of them at the same time. They were in consequence formed into two divisions, and whilst one division was placed in the stove, the other remained in the ordinary temperature of the room. In all cases in which a maker had deposited two Chronometers for trial, one																

* During these weeks the Chronometers were tried in cold: in the two weeks commencing January 11 they were exposed to the external air outside a North window; in the four weeks commencing February 9 days of the trial they resulted in the Chronometer Room, the North window being left open.

† During these weeks the Chronometers were placed in the chamber of a stove heated by gas. A large number of Chronometers than usual having been this year deposited for trial, it was found that the stove was not sufficiently large to contain the whole of them at the same time. They were in consequence formed into two divisions, and whilst one division was placed in the stove, the other remained in the ordinary temperature of the room. In all cases in which a maker had deposited two Chronometers for trial, one Chronometer was placed in each division.

TEMPERATURE, AS DETERMINED GENERALLY BY THE CHRONOMETRICAL THERMOMETER—continued.																							
placed in Division I., the lower order to those placed in Division II.																							
April 5-12	Mar. 29 April 5-12	April 19-26	June 14-21	June 28 July 5	May 3-10	May 23-30	June 6-13	June 20-27	July 4-11	July 18-25	Mar. 8-15	May 17-24	May 31 June 7	Mar. 15-22	May 23-30	Mar. 29-36	May 24-31	May 31 June 7	N A M E or M A K E R.	No.			
Mar. 15-22	Apr. 5-12	Apr. 19-26	Apr. 23-30	May 3-10	May 17-24	May 24-31	June 7-14	June 14-21	June 21-28	July 5-12	July 12-19	July 19-26	Aug. 2-9	Mar. 22-29	Apr. 5-12	Apr. 12-19	Apr. 19-26	May 6-13					
-11.2	-10.8	-1.9	-8.4	-8.0	-7.7	-8.2	-8.5	+0.7	-7.9	-2.6	0.0 ⁺	+4.7 ⁺	+6.7 ⁺	-5.2 ⁺	+4.0 ⁺	+3.6 ⁺	+1.6 ⁺	Crip	440				
-8.0	-6.4	-7.9	-15.4	-13.3	-11.0	-11.4	-17.2	-13.0	-11.3	-18.1	-15.7	-14.2	-16.9 ⁺	-14.9 ⁺	-19.4 ⁺	-16.6 ⁺	-16.6 ⁺	Moore	3357				
-7.5	-7.3	-7.8	-5.6	-6.7	-9.0	-6.1	-7.8	-7.3	-7.6	-8.3	-4.9 ⁺	-0.7 ⁺	-2.7 ⁺	-0.2 ⁺	+4.3 ⁺	+2.8 ⁺	+6.5 ⁺	Owen Owens	775				
+0.1	+1.85	+2.09	+2.95	+3.36	+2.93	+3.57	+3.35	+2.19	+3.42	+3.44	+13.9 ⁺	+24.7 ⁺	+20.3 ⁺	+1.97 ⁺	+21.6 ⁺	+22.8 ⁺	+35.0 ⁺	Crip	380				
+0.5	+0.4	-1.1	+7.4	+5.0	+0.3	+3.0	+3.1	+6.1	+4.0	+5.0	+1.3 ⁺	+2.9 ⁺	+6.0 ⁺	-1.60 ⁺	-14.17 ⁺	-4.8 ⁺	-0.8 ⁺	Dent	3009				
+3.2	+1.3	+0.9	+10.9	+12.4	+0.3	+1.5	+10.1	+11.5	+10.3	+7.1	+2.6 ⁺	+7.5 ⁺	+5.2 ⁺	-3.2 ⁺	+0.9 ⁺	+6.1 ⁺	+6.1 ⁺	Porthouse	7228				
-9.8	-2.5	+2.8	+4.2	+2.7	+1.6	+4.6	+6.0	+1.9 ⁺	+8.5	+25.4	-7.0 ⁺	+1.53 ⁺	+1.53 ⁺	-1.09 ⁺	-5.37 ⁺	-5.4 ⁺	+0.6 ⁺	Gowland	2659				
+5.8	+3.9	+5.6	+13.5	+15.9	+7.6	+5.8	+12.8	+10.6	+16.9	+17.6	0.0 ⁺	+2.8 ⁺	+6.7 ⁺	+1.71 ⁺	+3.88 ⁺	+9.51 ⁺	+11.91 ⁺	McGregor and Co.	3234				
-1.66	-1.56	-14.2	-10.5	-10.9	-12.9	-10.5	-10.1	-11.7	-11.6	-23.9 ⁺	-23.9 ⁺	-31.2 ⁺	-23.9 ⁺	-23.9 ⁺	-24.5 ⁺	-26.7 ⁺	-27.41 ⁺	Hiatt	1050				
+1.97	+1.71	+2.20	+3.10	+3.38	+2.23	+2.09	+3.0	+2.8	+2.1	+3.4	+7.3	+25.7 ⁺	+1.07 ⁺	+0.1 ⁺	+0.8 ⁺	+2.22 ⁺	+2.90 ⁺	Gowland	315				
-1.5	-1.2	-1.2	+6.1	+8.5	+7.1	+7.5	+9.9	+12.7	+11.8	+11.8	+11.8	+12.9 ⁺	+12.9 ⁺	+12.9 ⁺	+12.9 ⁺	+12.9 ⁺	+12.9 ⁺	Hannay	3215				
-3.2	+0.7	-3.6	+4.0	+3.6	+1.0	+2.8	+3.5	+6.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	E. J. Dent	8162				
-6.9	-3.7	-4.7	-0.2	-0.4	-1.4	-0.2	-0.2	+2.0	+2.3	-2.8	-19.2 ⁺	-8.7 ⁺	-6.3 ⁺	-14.0 ⁺	-10.7 ⁺	-15.3 ⁺	-12.7 ⁺	Parkinson and Bents	1137				
-1.67	-1.21	-1.39	-15.2	-15.0	-13.8	-14.4	-19.4	-19.9	-19.8	-11.5	-23.2 ⁺	-26.9 ⁺	-16.6 ⁺	-26.9 ⁺	-24.9 ⁺	-27.3 ⁺	-27.4 ⁺	Pennington and Co.	1531				
-10.4	-5.5	-8.9	+9.5	+11.6	+10.5	+10.9	+12.6	+3.1	+3.7	+22.5	+2.2	+1.93 ⁺	+1.80 ⁺	+3.3	+1.38 ⁺	+4.3	+5.4 ⁺	McGregor and Co.	2324				
-2.59	-2.55	-2.28	-1.17	-1.69	-1.74	-1.79	-1.95	-2.61	-1.59	-14.2 ⁺	-16.7 ⁺	-23.9 ⁺	-17.9 ⁺	-22.3 ⁺	-25.6 ⁺	-24.0 ⁺	-24.0 ⁺	Hiatt	985				
-2.90	-1.93	-2.28	+5.4	-1.62	-2.03	-2.04	-1.81	-1.03	-1.43	-8.8	-14.8 ⁺	-11.0 ⁺	-12.2 ⁺	-7.0 ⁺	-3.5 ⁺	+1.3 ⁺	+3.3 ⁺	Sevill	1681				
+7.0	+1.0	+7.2	+13.5	+12.4	+6.6	+5.9	+11.0	+11.8	+10.5	+11.0	-0.1 ⁺	+8.1 ⁺	+6.9 ⁺	-3.6 ⁺	+1.4 ⁺	+1.18 ⁺	+1.88 ⁺	Wood	307				
-6.4	-6.6	-2.96	-2.44	-2.39	-3.11	-2.47	-2.49	-4.08	-1.87	-11.1	-10.1 ⁺	-7.0 ⁺	-5.1 ⁺	-7.6 ⁺	-6.0 ⁺	-12.9 ⁺	-10.3 ⁺	Cripp	737				
-24	-9.8	-10.2	+13.5	+13.5	+10.8	+13.1	+13.4	+20.1	+13.0	+20.7 ⁺	+17.5 ⁺	+31.9 ⁺	+35.2 ⁺	+11.2 ⁺	+32.9 ⁺	+44.6 ⁺	+28.5 ⁺	Russell and Son	625				
+1	+2.6	+2.34	+21.0	+1.94	+1.85	+1.95	+1.90	+3.59	+2.08	-37.9 ⁺	-24.1 ⁺	+21.7 ⁺	+24.7 ⁺	-3.0 ⁺	+2.0 ⁺	+7.1 ⁺	+13.3 ⁺	Dent	3009				
-2.25	-2.44	-2.51	-1.64	-21.0	-21.4	-19.2	-1.88	-1.38	-11.1	+8.1 ⁺	-8.7 ⁺	-8.7 ⁺	-8.7 ⁺	-11.1	-16.1 ⁺	-8.0 ⁺	-7.2 ⁺	Del. Brothers	1441				
-6.8	-6.7	+1.62	+1.11	+1.31	+1.45	+7	+10.0	+33.5	+13.5	+20.0	+25.8	+26.0	+30.6 ⁺	-0.11	+21.0 ⁺	+5.8 ⁺	+23.1 ⁺	Herwit and Son	2614				
-4.0	-0.6	+1.39	+1.59	+1.73	+1.63	+1.67	+1.68	+3.01	+1.96	+20.4	+26.4	+31.31	+35.9	+21.31	+34.1	+31.0	+29.1 ⁺	French	9719				
+4	+3	+3	+12	+5.3	+3.2	+1.9	-2.6	+2.8	-2.8	-1.0	-0.74	-17.8 ⁺	-18.3 ⁺	-19.0 ⁺	-23.7 ⁺	-20.7 ⁺	-18.5 ⁺	Joey Murray	4230				
-2.8	-10.0	-14.5	-2.0	-0.8	+14.6	-0.8	-0.8	-0.8	-0.8	-12.4	-6.7 ⁺	-13.9 ⁺	-15.9 ⁺	-2.9 ⁺	-0.11	-2.9 ⁺	-0.11	Friedman and Baker	6220				
+1.56	+1.27	+1.93	+27.0	+27.8	+18.4	+1.67	+3.01	+3.20	+2.92	+2.95	+5.7 ⁺	+15.8 ⁺	+18.1 ⁺	-2.8 ⁺	-11.3 ⁺	-12.8 ⁺	-12.7 ⁺	Reynolds	7245				
-2.25	-2.04	-21.4	-1.65	-1.95	-1.76	-1.70	-1.74	-1.04	-1.75	-1.75	-6.8 ⁺	-6.7 ⁺	-6.7 ⁺	-5.2 ⁺	-0.11	-5.1 ⁺	-5.7 ⁺	Blackie	511				
-12.0	-11.8	-6.1	+3.7	+8.3	+3.1	-0.4	+5.4	+2.3	+11.2	+11.8	+9.5 ⁺	+7.7 ⁺	+3.7 ⁺	-0.4 ⁺	-6.7 ⁺	+5.6 ⁺	+2.2 ⁺	Pennington and Co.	1519				
+2.41	+2.46	+2.04	+2.50	+2.40	+2.66	+2.51	+2.12	+31.2	+31.4	+21.5	+7.3 ⁺	+7.3 ⁺	+4.7 ⁺	+0.8 ⁺	-0.2 ⁺	-0.3 ⁺	-1.9 ⁺	Debit	2192				
+1.83	+1.62	+1.91	+27.8	+27.0	+1.82	+1.88	+2.55	+2.29	+2.66	+2.44	-15.7 ⁺	-2.0 ⁺	-6.2 ⁺	-20.4 ⁺	-13.3 ⁺	-0.8 ⁺	-4.7 ⁺	Hovell and Son	2531				
-3.85	-3.69	-1.7	-2.6	+1.5	+0.6	-3.0	0.0	+2.2	+4.1	+6.8	-17.0 ⁺	-1.2 ⁺	-0.8 ⁺	-1.87 ⁺	-10.9 ⁺	-12.9 ⁺	-10.7 ⁺	Del. Brothers	1449				
+1.6	+1.84	-1.69	-0.9	-6.9	-7.4	-2.0	-0.5	-3.5	+1.9	-11.1 ⁺	-11.1 ⁺	-9.1 ⁺	-9.1 ⁺	-9.1 ⁺	-10.9 ⁺	-19.2 ⁺	-8.2 ⁺	Jürgensen	8899				
+0.6	+7.7	+0.2	+1.63	+1.43	+3.3	+7.3	+13.4	+17.6	+11.0	+9.7 ⁺	-8.3 ⁺	-0.1 ⁺	+1.60 ⁺	+8.0 ⁺	+12.9 ⁺	+13.5 ⁺	+17.1 ⁺	Jürgensen	8898				
+1.27	+1.13	+2.9	+0.4	+5.4	+7.2	-3.0	-8.6	+5.3	+2.2	+6.3	-10.7 ⁺	+2.95 ⁺	+3.97 ⁺	+44.4 ⁺	+13.0 ⁺	+3.4 ⁺	+3.4 ⁺	Friedman and Baker	6223				
+1.41	+3.77	+4.40	+8.45	+8.95	+4.70	+4.43	+5.81	+7.87	+8.96	+9.13	-6.2 ⁺	+32.0 ⁺	+45.0 ⁺	-0.4 ⁺	+22.9 ⁺	+3.7 ⁺	+6.57 ⁺	Middle and Son	564				
+1.58	+1.67	+5.8	...	...	+17.6	+1.41	...	...	+1.62	...	...	+1.29 ⁺	+1.28 ⁺	+1.31 ⁺	+1.29 ⁺	+1.25 ⁺	+0.33 ⁺	+1.31 ⁺	Kullberg	375			
...	...	+48.94	...	...	+8.41	+6.40	...	...	-9.95	...	-12.95	-12.95	-12.95	-18.08	-18.21 ⁺	-18.94	-22.95	-22.96 ⁺	Chronometrical Thermometer.				
47-60	54-61	54-62	56-66	56-67	58-72	56-68	60-67	60-69	61-70	70-73	70-75	70-75	72-75	75-76	62-97	63-99	62-105	78-105	(Extremes of Temperature to show the Greatest and Least and "Greatest Difference between one Week and the next," given in Table III.)				
...	...	+48.94	...	...	+8.41	+6.40	...	...	-9.95	...	-12.95	-12.95	-12.95	-18.08	-18.21 ⁺	-18.94	-22.95	-22.96 ⁺	Chronometrical Thermometer.				
51-59	49-63	54-65	56-64	58-72	56-68	57-68	60-69	61-70	70-73	70-75	72-75	75-76	78-79	65-99	78-102	76-100	78-104	78-105	(Extremes of Temperature to show the Greatest and Least and "Greatest Difference between one Week and the next," given in Table III.)				
The order of arrangement of the Chronometers in this Table 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," given in Table III.																							
The Chronometer Jürgensen 8898 ran down on May 18, the winding having been inadvertently omitted. The rate for the week May 17 to 24 is in consequence deficient.																							
The Chronometer Kullberg 375 changed, in error 39 ⁺ between May 10 and 15, and was moved from the 17th to the 24th on May 13. Its rate in consequence not comparable with those of the other Chronometers, and it is placed by itself at the foot of the Table, instead of being included in the general list.																							
NOTE.—It will be seen from the Rates of the Chronometrical Thermometer that the maximum temperatures in the three last weeks were exceptional; the readings above 100																							

NAME OF MAKER.	No.	ADDRESS OF MAKER.	Construction of Equipment and Balance, from the Description furnished by the Maker.	(III).—ABSTRACT OF THE			
				First Day of First Week of Rating.	Last Day of Last Week of Rating.	Number of Weeks.	Least Weekly Sum.
Simpson & Roberts.	747 ^r	34, Strand Street, Liverpool.	Kullberg's balance, consisting of a bar and two rims without auxiliary.	II. January 11	July 19	27	-11.1
Kullberg	457	12, Clonades Terrace, Islington, London.	Original balance, consisting of a bar and two rims, "reversed arrangement," without auxiliary.	II. January 11	July 19	27	-10.0
Poole	3315	27, Fenchurch Street, London.	Auxiliary compensation to the balance.	I. January 11	July 19	27	-2.7
Poole	3325	27, Fenchurch Street, London.	Auxiliary compensation to the balance.	II. January 11	July 19	27	-6.4
J. Muirhead & Son.	3129	2, Glasgow.	Poole's auxiliary.	I. January 11	July 19	27	-3.0
J. Campbell	897	7, South Castle Street, Liverpool.	Ordinary construction of balance with a slight alteration.	I. January 11	July 19	27	+0.9
Lister and Sons.	589	Newcastle-upon-Tyne.	Poole's auxiliary.	I. January 11	July 19	27	-5.1
Reid and Sons	1230	41, Grey Street, Newcastle-upon-Tyne.	Ordinary construction.	I. January 11	July 19	27	-7.7
Edie	562	7, Orange Street, Red Lion Square, London.	Auxiliary compensating power for the chro- nometer by application to the pendulum spring.	I. January 11	July 19	27	-27.3
Parkinson and Bouts	1084	59, Gracechurch Street, London.	Ordinary construction, with a slight alteration to balance.	I. January 11	July 19	27	-15.9
C.M. Frodsham, Jun.	3378	84, Strand, London.	[No information received.]	II. January 11	July 19	27	-2.1
C. Frodsham	3153	84, Strand, London.	[No information received.]	I. January 11	July 19	27	-4.6
Timewell	1236	22, Stanley Road, Ball's Pond Road, London.	Improved griffin balance.	I. January 11	July 19	27	-1.5
Parkinson and Frodsham	3474	4, Change Alley, Cornhill, London.	Auxiliary to ordinary construction of balance.	I. January 11	July 19	27	+3.0
Webb	2448	4, Pullen's Row, Islington, London.	Auxiliary compensation to the balance.	I. January 11	July 19	27	-20.4
T. Campbell	904	7, South Castle Street, Liverpool.	Balance of ordinary construction, with a slight alteration acting in extreme temperatures.	II. January 11	July 19	27	-3.4
Cribb	696	30, Southampton Row, Russell Square, London.	Auxiliary compensation to the balance.	I. January 11	July 19	27	-4.3
Parkinson and Frodsham	3701	4, Change Alley, Cornhill, London.	Auxiliary to ordinary construction of balance.	II. January 11	July 19	27	-9.3
Drumton	555	3, America Square, John Street, Minster, London.	A new auxiliary to balance.	II. January 11	July 19	27	-14.0
C.M. Frodsham, Jun.	3378	84, Strand, London.	[No information received.]	I. January 11	July 19	27	-11.4
Hutton	548	10, Mark Lane, London.	Hutton's balance.	II. January 11	July 19	27	+7.1
Lister and Sons	592	Newcastle-upon-Tyne.	Poole's auxiliary.	II. January 11	July 19	27	-10.3
Mercer	656	45, Spencer Street, Gower Road, London.	Original auxiliary compensation.	II. January 11	July 19	27	-15.1
Wood	490	69, Lord Street, Liverpool.	New arrangement of compensation.	II. January 11	July 19	27	+13.4
Reid and Sons	1238	41, Grey Street, Newcastle-upon-Tyne.	Ordinary construction.	II. January 11	July 19	27	-4.6
Webb	5458	4, Pullen's Row, Islington, London.	Auxiliary compensation to the balance.	II. January 11	July 19	27	-12.5
Glover	321	4, Swinston Street, Gray's Inn Road, London.	Auxiliary compensation acting in cold.	II. January 11	July 19	27	-16.7
Rockell	2155 ^r	21 and 23, Church Street, Liverpool.	Harrison's balance.	I. January 11	July 19	27	+5.5
French	2134	3, Royal Exchange, London.	Auxiliary compensation.	I. January 11	July 19	27	-0.5
C. Frodsham	3188	84, Strand, London.	[No information received.]	II. January 11	July 19	27	-6.3
Sevill	1742	61, South Castle Street, Liverpool.	Auxiliary acting in cold.	II. January 11	July 19	27	-3.9
Clark and Son	3135	Greenock.	Poole's auxiliary.	I. January 11	July 19	27	-3.2
J. J. Muirhead	7278	90, Buchanan Street, Glasgow.	Auxiliary to balance.	II. January 11	July 19	27	-11.8
Gowland	2658	Sunderland.	Auxiliary compensation.	I. January 11	July 19	27	-20.1
Rockell	2155 ^r	21 and 23, Church Street, Liverpool.	Auxiliary compensation on Molyneux's principle.	II. January 11	July 19	27	-24.8
Timewell	1238	22, Stanley Road, Ball's Pond Road, London.	New auxiliary compensation.	II. January 11	July 19	27	+0.8
Crip	440	81, St. John Street Road, London.	Auxiliary compensation.	II. January 11	July 19	27	-14.8
Moore	3357	114, High Street, Belfast.	Poole's auxiliary.	II. January 11	July 19	27	-19.4
Owen Owens	380	4, South Castle Street, Liverpool.	May's centripetal balance.	I. January 11	July 19	27	-10.4
Crip	380	81, St. John Street Road, London.	Auxiliary compensation.	I. January 11	July 19	27	+12.2
Dent	3009	61, Strand, London.	Dent's patent balance; see pamphlet, "On the Errors of Chronometers," p. 23.	I. January 11	July 19	27	-10.6

* During these weeks the Chronometers were tried in cold: in the two weeks commencing January 11 they were exposed to the external air outside a North window: in the four weeks commencing February 8 (excepting the last two days of the week March 1 to 8) they remained in the Chronometer Room, the North windows being left open. During these weeks the Chronometers were placed in the chamber of a stove heated by gas. A larger number of Chronometers than usual having been thus deposited for trial, it was found that the stove was not sufficiently large to contain the whole of them at the same time. They were in consequence formed into two divisions, and whilst one division was placed in the stove the other remained in the ordinary temperature of the room. In all cases in which a maker had deposited two Chronometers for trial, one Chronometer was placed in each division.

PRINCIPAL CHANGES OF RATE.							NAME OF MAKER.	No.
In what Week.	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.			
April 12 to 19†	- 0.2	May 31 to June 7	+ 10.9	5.7	February 8*	Simpson and Roberts	747 ^r	
January 11 to 18*	+ 1.1	March 29 to April 5†	11.1	6.8	† April 12†	Kullberg	457	
March 29 to April 5	+ 9.8	May 31 to June 7†	11.5	6.7	February 8*	Poole	3315	
April 26 to May 3	+ 5.8	June 28 to July 5†	12.2	6.9	† July 5	Poole	3325	
May 24 to 31†	+ 9.9	April 5 to 12	12.9	7.6	* January 25	J. Muirhead and Son	3129	
January 11 to 18*	+ 15.4	May 31 to June 7†	14.5	7.1	† June 7	J. Campbell	897	
February 1 to 8	+ 11.7	June 14 to 21	16.8	6.2	February 8*	Lister and Sons	589	
March 15 to 22†	+ 4.9	June 14 to 21	12.0	8.9	* March 8†	Reid and Sons	1230	
March 15 to 22†	- 12.1	July 12 to 19	15.2	7.9	February 1	Edie	562	
January 18 to 25*	- 0.3	May 3 to 10	15.6	7.7	* March 8†	Parkinson and Bouts	1084	
April 19 to 26	+ 12.7	May 31 to June 7	14.8	8.3	† April 12†	C.M. Frodsham, Jun.	3378	
March 8 to 15†	+ 7.9	January 11 to 18*	12.4	10.3	* January 25	C. Frodsham	3153	
February 1 to 8	+ 22.0	July 12 to 19	23.5	5.0	† May 31†	Timewell	1236	
May 31 to June 7†	+ 20.6	July 12 to 19	17.6	8.2	† June 7	Parkinson and Frodsham	3474	
March 15 to 22†	- 4.9	June 14 to 21	15.5	9.5	† March 29	Webb	5448	
April 5 to 12†	+ 11.4	July 12 to 19	14.8	10.0	March 29†	T. Campbell	904	
March 8 to 15†	+ 12.7	May 31 to June 7†	17.0	8.9	June 28	Cribb	696	
February 1 to 8	+ 3.7	June 14 to 21†	15.0	10.9	June 7†	Parkinson and Frodsham	3701	
February 1 to 8	+ 4.6	July 12 to 19	18.6	9.2	June 7†	Drumton	555	
January 18 to 25*	+ 9.4	July 12 to 19	20.8	8.3	April 26	C.M. Frodsham, Jun.	3378	
April 12 to 19†	+ 26.2	March 1 to 8*	19.1	9.2	June 7†	Hutton	548	
April 19 to 26	+ 6.2	June 28 to July 5†	16.5	11.9	† July 5	Lister and Sons	592	
April 12 to 19†	+ 3.2	July 5 to 12	18.3	11.0	* January 25	Mercer	656	
January 1 to 8	+ 28.3	June 28 to July 5†	24.9	7.9	* January 25	Wood	490	
January 18 to 25*	+ 24.2	July 12 to 19	28.8	6.1	* February 15*	Reid and Sons	1238	
April 5 to 12†	+ 6.6	July 5 to 12	19.1	11.4	February 8*	Webb	5458	
March 29 to April 5†	+ 4.1	July 12 to 19	20.8	10.8	June 7†	Glover	321	
January 11 to 18*	+ 47.7	June 7 to 14	31.3	5.5	February 8*	Rockell	2155 ^r	
March 8 to 15†	+ 14.9	May 31 to June 7†	25.4	9.7	* March 8†	French	2134	
March 29 to April 5†	+ 17.0	July 12 to 19	23.3	11.0	† April 19	C. Frodsham	3188	
January 25 to Feb. 1	+ 17.8	July 12 to 19	23.7	10.9	* January 25	Sevill	1742	
February 1 to 8	+ 18.7	July 5 to 12	21.9	12.2	February 8*	Clark and Son	3135	
February 1 to 8	+ 5.5	June 28 to July 5†	17.3	14.6	February 8*	J. J. Muirhead	7278	
January 18 to 25*	+ 9.9	July 12 to 19	30.0	8.7	* March 8†	Gowland	2658	
April 5 to 12†	- 12.6	May 10 to 17	22.2	12.7	† April 19	Rockell	2155 ^r	
February 1 to 8	+ 27.6	June 28 to July 5†	26.8	10.4	February 8*	Timewell	1238	
February 1 to 8	+ 6.7	June 28 to July 5†	21.5	13.5	February 8*	Crip	440	
April 12 to 19†	+ 3.8	January 11 to 18*	23.2	13.1	February 8*	Moore	3357	
January 18 to 25*	+ 6.5	May 31 to June 7†	22.9	13.7	† June 7	Owen Owens	380	
March 1 to 8*	+ 35.6	[May 31 to June 7†] [June 28 to July 5†]	23.4	13.7	† June 7	Crip	380	
March 15 to 22†	+ 7.4	June 14 to 21	24.0	13.7	† March 29	Dent	3009	

The order of arrangement of the Chronometers in this Table 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."

NAME or MAKER.	No.	ADDRESS or MAKER.	Construction of Escapement and Balance, from the Description furnished by the Maker.	Whether placed in Division I. or II.	(III).—ABSTRACT OF THE			
					First Day of Rating.	Last Day of Rating.	Number of Weeks.	Last Weekly Sum.
Porthouse	7228	16, Northampton Square, Goswell Road, London.	Auxiliary to balance.	I.	January 11	July 19	27	-16.0
Gowland	2659	2 Sunderland.	Auxiliary compensation.	II.	January 11	July 19	27	-12.5
McGregor and Co.	3324	38, Clyde Place, Glasgow, and 8, William Street, Greenwich.	Poole's auxiliary.	I.	January 11	July 19	27	-2.0
Hiatt	1050	5, Bath Street, Liverpool.	Hartman's gridiron balance.	II.	January 11	July 19	27	-27.1
Glover	315	4, Swinton Street, Gray's Inn Road, London.	Auxiliary compensation acting in cold.	I.	January 11	July 19	27	-1.4
Hennessy	3213	5, Wind Street, Swansea.	Poole's auxiliary.	II.	January 11	July 19	27	-16.0
E. J. Dent	25182	33, Cockspur Street, London.	Ordinary balance, with slight alteration.	II.	January 11	July 19	27	-16.3
Parkinson & Bonta	1131	59, Greenwich Street, London.	Ordinary construction, with a slight alteration to balance.	II.	January 11	July 19	27	-22.8
Pennington and Co.	1537	7, Wignmore Street, Cavendish Square, London.	Ordinary construction.	II.	January 11	July 19	27	-27.4
McGregor and Co.	2534	38, Clyde Place, Glasgow, and 8, William Street, Greenwich.	Auxiliary, acting in cold.	II.	January 11	July 19	27	-23.0
Hiatt	985	5, Bath Street, Liverpool.	Hartman's gridiron balance.	I.	January 11	July 19	27	-40.8
Sewill	1681	61, South Castle Street, Liverpool.	Auxiliary acting in both extremes.	I.	January 11	July 19	27	-31.7
Wood	357	69, Lord Street, Liverpool.	New arrangement of compensation.	I.	January 11	July 19	27	-6.1
Cribb	727	30, Southampton Row, Russell Square, London.	Auxiliary compensation to the balance.	II.	January 11	July 19	27	-31.1
Russell and Son	6325	30 and 32, Slater Street, Liverpool.	Auxiliary compensation on Molyneux's principle.	II.	January 11	July 19	27	-4.8
Dent	3024	61, Strand, London.	Dent's patent balance; see pamphlet "On the Errors of Chronometers," p. 25.	II.	January 11	July 19	27	-4.0
Dell, Brothers	1441	2 Broad Street, Bristol.	Original unpublished compensation.	I.	January 11	July 19	27	-26.0
Hewitt and Son	2614	12, John Street, Midway Park, Kingsland, London.	Hewitt's auxiliary compensation.	II.	January 11	July 19	27	-26.7
French	71787	9, Royal Exchange, London.	Auxiliary compensation.	II.	January 11	July 19	27	-4.0
Joyce Murray	439	8, Wood Street North, King's Square, London.	Molyneux's auxiliary.	I.	January 11	July 19	27	-24.5
Frodsham & Baker	6220	31, Greenwich Street, London.	Ordinary balance.	I.	January 11	July 19	27	-28.1
Reynoldson	7245	18, Queen Street, Hull.	Auxiliary to balance.	I.	January 11	July 19	27	-17.6
Blackie	511	24, Anwell Street, Clerkenwell, London.	Auxiliary compensation to the balance.	I.	January 11	July 19	27	-25.5
Pennington and Co.	1519	7, Wignmore Street, Cavendish Square, London.	Ordinary construction.	I.	January 11	July 19	27	-28.1
Dobbie	2192	2 Clyde Place, Glasgow.	Ordinary construction.	I.	January 11	July 19	27	-1.9
Hewitt and Son	2531	12, John Street, Midway Park, Kingsland, London.	Hewitt's auxiliary compensation.	I.	January 11	July 19	27	-20.4
Dell, Brothers	1449	2 Broad Street, Bristol.	Poole's auxiliary compensation.	II.	January 11	July 19	27	-62.9
Jürgensen	8899	1 Copenhagen.	Anchor escapement.	II.	January 11	July 19	27	-19.2
Jürgensen	8898	1 Copenhagen.	Anchor escapement.	I.	January 11	July 19	26	-80.1
Frodsham & Baker	6223	31, Greenwich Street, London.	Auxiliary to balance.	II.	January 11	July 19	27	-9.6
Millidge and Son	364	28, Princes Street, Edinburgh.	A new auxiliary, unpublished.	I.	January 11	July 19	27	-17.3
Kullberg	375	12, Cloudeley Terrace, Basington, London.	Original balance, consisting of a bar and flat rim, without auxiliary.	I.	January 11	June 14	22	+1.6

* During these weeks the Chronometers were tried in cold: in the two weeks commencing January 11 they were exposed to the external air outside a North window; in the four weeks commencing February 8 (excepting the last two days of the week, March 1 to 3), they remained in the Chronometer Room, the North windows being left open. During these weeks the Chronometers were placed in the chamber of a stove heated by gas. A larger number of Chronometers than usual having been this year deposited for trial, it was found that the stove was not sufficiently large to contain the whole of them at the same time. They were in consequence formed into two divisions, and whilst one division was placed in the stove, the other remained in the ordinary temperature of the room. In all cases in which a maker had deposited two Chronometers for trial, one Chronometer was placed in each division.

PRINCIPAL CHANGES OF RATE.—concluded.							NAME or MAKER.	No.
In what Week.	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.			
February 1 to 8	+ 12.4	June 28 to July 5	38.4	11.7	February 8*	Porthouse	7228	
January 11 to 18	+ 23.4	July 12 to 19	35.9	8.3	March 29†	Gowland	2659	
February 1 to 8	+ 18.0	January 18 to 25*	20.0	16.4	February 8*	McGregor and Co.	3324	
June 7 to 14†	- 9.3	May 31 to June 7	17.8	17.8	June 7†	Hiatt	1050	
January 18 to 25*	+ 34.9	July 12 to 19	36.3	9.1	† March 29	Glover	315	
January 18 to 25*	+ 13.7	July 12 to 19	29.7	12.5	* January 25	Hennessy	3213	
March 29 to April 5†	+ 6.6	May 31 to June 7	22.9	17.0	March 29†	E. J. Dent	25182	
January 18 to 25*	+ 2.8	July 12 to 19	25.6	16.0	June 7†	Parkinson and Bonta	1131	
June 7 to 14†	- 3.5	January 18 to 25*	23.9	17.2	June 7†	Pennington and Co.	1537	
January 25 to Feb. 1	+ 23.1	July 5 to 12	46.1	8.7	† April 29	McGregor and Co.	2534	
January 18 to 25*	- 14.2	July 12 to 19	26.6	18.9	* March 29	Hiatt	985	
January 18 to 25*	+ 3.3	May 31 to June 7†	35.0	13.8	† March 29	Sewill	1681	
March 5 to 12†	+ 18.5	February 8 to 15*	24.6	22.4	* March 29	Wood	357	
April 26 to May 3	+ 5.4	January 11 to 18*	36.5	16.7	† April 19	Cribb	727	
March 1 to 8*	+ 35.2	June 28 to July 5†	40.0	15.2	June 7†	Russell and Son	6325	
January 25 to Feb. 1	+ 37.9	July 12 to 19	41.9	16.3	† April 19	Dent	3024	
April 12 to 19	+ 8.4	March 8 to 15†	34.4	21.6	* March 29	Dell, Brothers	1441	
January 11 to 18*	+ 3.5	July 5 to 12	60.2	10.8	* January 25	Hewitt and Son	2614	
March 8 to 15	+ 35.9	June 28 to July 5†	39.9	21.9	March 29†	French	71787	
March 8 to 15†	+ 5.3	{ April 12 to 19 } { June 14 to 21 }	29.8	27.0	† March 29	Joyce Murray	439	
May 31 to June 7†	+ 13.0	April 19 to 26	43.1	20.7	* March 29	Frodsham and Baker	6220	
January 11 to 18*	+ 29.5	July 12 to 19	47.1	19.1	* January 25†	Reynoldson	7245	
January 25 to Feb. 1	+ 5.1	January 18 to 25*	30.6	20.6	* January 25	Blackie	511	
January 11 to 18*	+ 11.8	July 12 to 19	49.9	23.2	* January 25	Pennington and Co.	1519	
May 31 to June 7†	+ 35.0	March 1 to 8*	36.9	21.3	* March 29	Dobbie	2192	
March 15 to 22†	+ 27.8	June 14 to 21	48.2	22.5	† March 29	Hewitt and Son	2531	
January 11 to 18*	+ 6.8	July 12 to 19	69.7	20.8	June 7†	Dell, Brothers	1449	
April 12 to 19†	+ 49.1	January 25 to Feb. 1	62.5	25.4	* January 25	Jürgensen	8899	
March 1 to 8*	+ 19.5	July 12 to 19	46.6	28.4	* March 29	Jürgensen	8898	
May 24 to 31	+ 44.3	June 14 to 21†	25.9	36.6	June 7†	Frodsham and Baker	6223	
January 18 to 25*	+ 91.3	July 12 to 19	108.6	17.7	† March 29†	Millidge and Son	364	
January 25 to Feb. 1	+ 17.6	May 3 to 10	16.0	8.3	April 26	Kullberg	375	

The order of arrangement of the Chronometers in this Table 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." The Chronometer Kullberg 375 changed its error 89.1 between May 29 and May 30, and was removed from trial by the maker on June 16. Its rates are in consequence not comparable with those of the other Chronometers, and it is placed by itself at the foot of the Table, instead of being included in the general list. In forming the numbers for this Chronometer given in the above Table, the rate for the week in which the great change of error took place is not taken into consideration.