

RATES OF CHRONOMETERS
ON TRIAL
FOR PURCHASE BY THE BOARD OF ADMIRALTY,
AT THE
ROYAL OBSERVATORY, GREENWICH.
FROM 1888 JULY 7 TO 1889 JANUARY 26.

IN ORDER OF TIME.															NAME OF MAKER		No.
Sept. 29 to Oct. 6	Oct. 6-13	Oct. 13-20	Oct. 20-27	Oct. 27 to Nov. 3	Nov. 3-10	Nov. 10-17	Nov. 17-24	Nov. 24 to Dec. 1	Dec. 1-8	Dec. 8-15	Dec. 15-22	Dec. 22-29	Jan. 5-12	Jan. 12-19	Jan. 19-26		No.
-0.3	-7.3	-7.1	-6.9	-6.5	-6.8	-6.8	-6.8	-6.8	-7.7	-7.5	-8.3	-8.0	-8.1	-8.7	-8.6	Kullberg	6918
-2.2	-9.9	-1.4	-4.1	-4.6	-6.8	-6.4	-1.4	-3.9	+0.2	-8.5	-8.2	-8.0	-8.6	-6.3	-8.0	Uhrig	6900
-1.9	-0.2	-0.1	+0.2	-1.2	-0.7	-1.6	-3.7	-2.7	+0.2	+5.2	+3.1	+2.0	+0.8	-1.8	-2.9	Kullberg	6314
-2.6	-0.8	-0.2	+0.2	-1.2	-0.7	-1.6	-3.7	-2.7	+0.2	+5.2	+3.1	+2.0	+0.8	-1.8	-2.9	Kullberg	6316
-2.6	-0.8	-0.2	+0.2	-1.2	-0.7	-1.6	-3.7	-2.7	+0.2	+5.2	+3.1	+2.0	+0.8	-1.8	-2.9	Kullberg	6903
-11.8	-11.6	-11.3	-11.4	-13.0	-11.5	-10.4	-11.9	-10.9	-4.8	-4.7	-5.4	-5.7	-7.4	-7.5	-5.3	Kullberg	6971
+2.4	+3.5	+7.0	+1.4	+7.7	+2.4	+1.1	-1.2	+3.2	+0.3	+6.4	-8.7	-7.4	-7.5	-6.3	-5.1	Uhrig	6909
+10.5	+11.9	+11.6	+11.7	+8.8	+12.5	+4.2	+6.2	+9.0	+8.4	+3.8	+10.7	+11.6	+11.0	+11.0	+10.0	Hume	8021
+14.0	+12.7	+12.6	+12.8	+10.0	+15.0	+6.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	Hume	8021
-2.9	-4.7	-8.1	-2.1	-3.2	-4.5	-2.2	-7.5	-7.8	-4.9	-10.7	-10.3	-8.9	-10.2	-10.5	-8.7	Mann	4918
+5.7	+2.9	+4.0	+4.0	+0.9	+3.0	-1.4	-6.9	+3.0	+2.6	+5.5	+0.9	+0.1	+0.7	+0.6	+1.0	Johnsamen & Co	3827
+10.2	+10.2	+12.8	+10.8	+10.7	+10.4	-10.7	+10.3	+10.8	+10.5	+10.8	+10.5	+10.5	+10.5	+10.5	+10.5	Johnsamen & Co	4682
+0.7	+0.3	-2.8	+0.4	-2.5	-0.1	-2.5	-0.0	+1.0	+3.9	+4.3	+3.5	+3.5	+3.5	+3.5	+3.5	Uhrig	5311
+14.0	+12.7	+12.6	+12.8	+10.0	+15.0	+6.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	+10.0	Uhrig	5311
+13.1	+11.0	+17.0	+10.8	+10.8	+13.7	+8.8	+8.8	+10.0	+10.2	+10.7	+10.7	+10.7	+10.7	+10.7	+10.7	Isaac	1879
+0.3	-0.3	+0.1	+0.2	+1.0	+2.1	+9.1	+0.7	+4.3	+8.1	-0.3	+5.8	+3.4	+2.4	+1.9	+0.1	Isaac	1780
-0.7	-0.5	+0.2	+0.2	+1.0	+2.1	+9.1	+0.7	+4.3	+8.1	-0.3	+5.8	+3.4	+2.4	+1.9	+0.1	Isaac	1780
-0.7	-0.5	+0.2	+0.2	+1.0	+2.1	+9.1	+0.7	+4.3	+8.1	-0.3	+5.8	+3.4	+2.4	+1.9	+0.1	Isaac	1780
-5.6	-5.6	-5.4	-6.0	+1.3	+2.9	+7.3	+3.2	+4.0	+0.4	-0.8	-2.1	-1.7	-0.8	-1.6	+0.1	Uhrig	5311
+8.0	+9.6	+6.7	+4.0	+1.6	+5.1	-1.5	-4.3	-4.4	-10.6	-10.6	-9.6	-8.1	-6.6	-5.7	-6.4	Hume	2018
+1.8	+5.6	+6.7	+4.0	+1.6	+5.1	-1.5	-4.3	-4.4	-10.6	-10.6	-9.6	-8.1	-6.6	-5.7	-6.4	Hume	2018
-4.2	-4.7	-4.9	-3.7	-3.7	-1.2	-3.5	-12.7	-10.0	-9.5	-14.2	-11.4	-6.5	-5.1	-3.5	-3.8	Glover	886
+2.4	+3.2	+3.1	+2.8	+1.3	+7.7	+8.8	-6.1	-3.7	+0.4	+9.4	+7.0	+6.0	+5.0	+4.0	+1.0	David Reid	886
-18.7	-20.9	-18.2	-10.8	-15.3	-10.6	-18.2	-27.9	-31.0	-23.5	-26.8	-23.7	-20.0	-25.6	-24.1	-22.2	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887
+2.6	+1.6	+1.1	+0.8	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	+0.9	Blair	1887

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KLY RATES IN T

NAME of MAKER.	No. of shares.	Construction of Reapment and Balance, from the Description furnished by the Maker.	Jan. Dec. Dec. Dec. Dec. Nov. Jan. Oct. Sept. Oct. Oct. 5-12 15-22 to Jan. 8-15 22-29 3-10 19-26 6-13 29 Oct. 6 20-27 13-20											
			Jan. 5-12	Dec. 15-22	Dec. to Jan.	Dec. 8-15	Dec. 22-29	Nov. 3-10	Jan. 19-26	Oct. 6-13	Sept. 29 Oct. 6	Oct. 20-27	Oct. 13-20	
Kulberg.....	4915	2 Auxiliary; palladium spring; reversed.	-8-1	-7-5	-8-0	-6-7	-7-7	-8-6	-8-6	-8-6	-7-3	-6-3	-6-6	-7-1
Uhrig.....	500	3 Ubrig's continually acting auxiliary.	+1-8	+2-5	+2-5	+1-8	+2-9	+2-9	+2-9	+2-9	+0-3	+0-3	+0-3	+0-1
Kulberg.....	4915	2 Auxiliary; palladium spring; reversed.	+1-8	+2-5	+2-5	+1-8	+2-9	+2-9	+2-9	+2-9	+0-3	+0-3	+0-3	+0-1
Pennington.....	3210	3 Auxiliary compensation. (detent.)	+3-6	+3-6	+3-2	+2-8	+1-9	+1-3	+0-7	+0-5	-8-0	-8-0	-8-0	-8-0
Kulberg.....	4900	2 Auxiliary; palladium spring; reversed.	-7-8	-7-6	-8-3	-6-7	-7-7	-8-6	-8-6	-8-6	-7-3	-6-3	-6-6	-7-1
Kulberg.....	4915	2 Auxiliary; palladium spring; reversed.	-7-8	-7-6	-8-3	-6-7	-7-7	-8-6	-8-6	-8-6	-7-3	-6-3	-6-6	-7-1
Uhrig.....	499	3 Ubrig's continually acting auxiliary.	+1-8	+2-5	+2-5	+1-8	+2-9	+2-9	+2-9	+2-9	+0-3	+0-3	+0-3	+0-1
Uhrig.....	499	3 Ubrig's continually acting auxiliary.	+1-8	+2-5	+2-5	+1-8	+2-9	+2-9	+2-9	+2-9	+0-3	+0-3	+0-3	+0-1
Webster.....	18122	2 Auxiliary compensation.	-10-1	-10-5	-11-2	-9-3	-10-8	-9-7	-7-8	-7-8	-4-7	-4-9	-5-1	-5-1
Main.....	4818	2 Auxiliary compensation.	-10-5	-10-5	-10-3	-9-3	-10-7	-9-7	-7-8	-7-8	-4-7	-4-9	-5-1	-5-1
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Merco.....	4827	2 Auxiliary compensation.	+14-5	+10-5	+10-5	+10-5	+10-5	+10-5	+10-5	+10-5	+10-5	+10-5	+10-5	+10-5
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6	+0-9	+0-7	+1-0	+2-5	+0-1	+3-9	+0-9	+2-9	+5-7	+4-0	+4-9
Johnson & Co.	3837	2 Auxiliary compensation acting in heat.	+0-6											

The sign $\pm$ indicates that the rate is gaining

† During these weeks the Chronometers were placed in the chamber of a stove heated by jets of gas. The gas flames are exterior to the chamber, into none of the injurious products of combustion can enter.

The Chronometrical Thermometer differs from an ordinary Chronometer only in the construction of the balance, the positions of the metals forming compensating rims being reversed. By this arrangement the effect of temperature is much magnified.

ORDER OF TEMPERATURE AS DETERMINED GENERALLY BY THE CHRONOMETRICAL THERMOMETER

													NAME OF MAKER.		No.			
Oct. 27 to Nov. 2.	July 7-14	Sept. 22-29	July 14-21	July 28 to Aug. 4	Aug. 18-25	Aug. 11-18	July 21-28	Aug. 4-11	Dec. 1-8	Nov. 10-17	Sept. 15-22	Aug. 25 to Sept. 1	Nov. 17-24	Nov. 24 to Dec. 1	Sept. 8-15	Sept. 1-8		
																	+	-
- 0.6	- 8.7	- 0.8	- 8.8	- 8.1	- 7.5	- 8.2	- 8.6	- 7.4	- 4.0	- 4.2	- 5.6	- 6.1	- 4.3	- 3.5	- 6.3	- 5.3	Kullberg	4015
- 0.9	- 8.8	- 1.1	- 8.2	- 8.2	- 8.0	- 8.7	- 8.1	- 8.6	- 4.8	- 4.0	- 5.6	- 6.1	- 4.3	- 3.5	- 6.3	- 5.3	Uberg	4990
- 1.2	- 2.1	- 0.6	- 8.3	- 4.7	- 4.6	- 5.3	- 4.6	- 1.8	- 0.2	- 1.4	- 0.0	- 0.8	- 0.9	- 0.2	- 2.7	- 0.7	Kullberg	4016
- 1.3	- 2.1	- 0.6	- 8.3	- 4.7	- 4.6	- 5.3	- 4.6	- 1.8	- 0.2	- 1.4	- 0.0	- 0.8	- 0.9	- 0.2	- 2.7	- 0.7	Pennington	2510
+ 1.4	- 2.8	- 1.6	- 0.1	- 0.7	- 3.7	- 5.3	- 4.6	- 1.8	+ 2.3	+ 0.8	+ 0.3	- 0.2	+ 0.6	+ 4.3	+ 1.0	- 0.0	Pennington	2510
+ 0.5	- 8.9	- 0.8	- 8.4	- 6.7	- 5.1	- 5.8	- 4.8	- 4.4	- 1.6	- 2.8	- 1.7	- 5.8	- 7.8	- 1.7	- 1.2	- 0.0	Kullberg	4017
-13.0	- 8.8	- 8.9	-12.0	-12.2	-12.0	-13.9	-13.3	-13.2	-4.5	-10.4	- 6.8	-15.5	-11.2	-10.3	-10.5	-11.7	Kullberg	4071
+ 8.4	+ 1.4	+ 2.2	+ 0.3	- 2.0	+ 0.8	+ 0.8	+ 0.7	+ 0.4	+ 3.3	+ 3.4	+ 0.8	+ 1.5	- 1.1	- 1.6	- 3.9	- 2.1	Uberg	4990
- 2.6	-11.9	+ 0.6	-11.8	- 2.6	- 1.3	- 0.8	- 1.2	- 7.0	- 3.8	- 0.5	- 1.1	+ 2.2	- 0.9	- 3.4	- 5.5	- 0.4	Kullberg	4016
- 7.4	- 8.9	- 0.6	- 7.6	- 8.2	- 8.1	- 8.7	-11.1	- 6.0	- 3.4	- 3.7	+ 0.8	+ 1.5	- 1.7	- 3.8	- 0.0	- 7.7	Whitner	18122
- 9.2	- 1.7	- 0.4	- 1.2	- 0.3	- 0.3	- 0.5	- 1.5	- 0.6	- 4.9	- 3.2	- 1.1	- 6.6	- 7.5	- 7.8	- 1.7	- 2.8	Mann	4018
+ 0.9	+ 2.9	+ 4.3	+ 3.0	+ 2.5	+ 3.0	+ 2.1	+ 1.3	+ 2.3	+ 2.6	+ 1.4	+ 1.3	+ 1.7	+ 4.9	- 3.6	- 3.1	- 3.4	Johnsen & Co.	3327
+17.0	+ 4.7	+14.1	+ 6.6	+ 4.0	+ 9.4	+ 7.4	+ 6.7	+ 8.2	+10.9	+10.9	+11.9	+12.5	+10.5	+12.1	+ 9.0	+ 7.6	Merz	4937
+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	+ 0.8	Uberg	4991
+ 6.8	+ 2.1	+ 0.5	- 1.2	- 2.7	- 8.0	- 1.7	- 2.9	- 3.3	- 8.0	- 8.2	- 2.9	- 1.3	- 0.8	+ 1.3	+ 4.2	+ 0.0	Uberg	4991
+15.0	+ 8.9	+15.8	+ 6.4	+ 5.7	+ 6.7	+ 6.8	+ 4.5	+ 6.8	+15.2	+13.7	+11.5	+ 9.3	+ 0.8	+ 9.0	+10.0	+ 8.0	Johnsen & Co.	3328
+ 1.0	- 3.2	+ 0.6	- 0.5	- 0.7	- 0.7	+ 1.6	+ 0.3	+ 1.1	- 1.1	+ 9.1	+ 4.0	+ 4.5	+ 0.7	+ 4.9	- 0.9	- 1.7	Isaac	1870
+ 1.4	+ 0.6	+ 3.6	+ 3.5	+ 1.5	+ 2.6	+ 0.9	+ 0.3	+ 1.0	+ 3.9	+ 1.2	+ 0.8	+ 3.0	- 1.5	- 1.1	+ 1.8	- 1.4	Swill	4517
- 2.6	-11.9	+ 0.6	-11.8	- 2.6	- 1.3	- 0.8	- 1.2	- 7.0	- 3.8	- 0.5	- 1.1	+ 2.2	- 0.9	- 3.4	- 5.5	- 0.4	Swill & Co.	4518
-19.0	- 8.8	- 8.9	-12.0	-12.2	-12.0	-13.9	-13.3	-13.2	-4.5	-10.4	- 6.8	-15.5	-11.2	-10.3	-10.5	-11.7	Swill	4518
+ 1.2	- 1.5	+ 0.9	+ 1.0	- 4.4	- 0.1	- 2.3	- 2.0	- 3.0	+ 0.4	+ 7.3	- 1.8	+ 2.1	- 3.2	+ 4.0	- 0.3	- 0.3	Tainish Rock	1870
+ 1																		

The Chronometers are placed in order of merit, their respective positions being determined by consideration of the irregularities of rate exhibited

IN TABLE III.

NAME OF MAKER.	No.	Whether on Days.	ADDRESS OF MAKER.	Construction of Escapement and Balance, from the Description furnished by the Maker.	(III.) ABSTRACT OF	
					Least Weekly Rate.	Extremes of Temperature.
Kullberg	4915	2	105, Liverpool Road, N.	Auxiliary; palladium spring; reversed detent.	- 5.8	60.7-84.9
Uhlig	500	2	8, Quadrant Road, Essex Road, N.	Uhlig's continually acting auxiliary.	- 5.2	50.1-61.1
Kullberg	4914	2	105, Liverpool Road, N.	Auxiliary; palladium spring; reversed detent.	- 5.1	59.2-68.8
Penington	2515	2	2 & 3, St. George's Crescent, Liverpool.	Auxiliary compensation.	- 5.3	54.3-60.1
Kullberg	4903	2	105, Liverpool Road, N.	Auxiliary; palladium spring; reversed detent.	- 8.5	46.3-55.2
Kullberg	4971	2	105, Liverpool Road, N.	Auxiliary; palladium spring; reversed detent.	- 12.9	59.2-68.8
Uhlig	490	2	8, Quadrant Road, Essex Road, N.	Uhlig's continually acting auxiliary.	- 12.9	59.2-68.8
Hume	2021	2	No. 6 Side, near the Quay, Newcastle-on-Tyne.	Auxiliary compensation.	+ 3.8	80.0-81.4
Wolbach	5003	2	5, Queen Victoria Street, E.C.	Improved compensation balance.	- 11.2	49.2-56.6
Mann	4918	2	The Cross, Gloucester.	Auxiliary compensation.	- 10.7	46.3-55.2
Johannsen and Co.	3827	2	149, Minories, E.C.	Auxiliary compensation acting in heat.	- 4.9	94.9-99.2
Mercer	4267	2	Prospect Road, St. Albans, Herts.	Auxiliary compensation.	+ 4.7	50.1-61.1
Uhlig	511	2	8, Quadrant Road, Essex Road, N.	Uhlig's continually acting auxiliary.	- 11.9	50.1-61.1
Wells and Son	3023	2	21, High Street, Newport.	Improved compensation balance.	- 3.3	89.6-79.6
Isaac	1879	2	10, Spencer Street, Clerkenwell, E.C.	Auxiliary compensation.	+ 4.5	68.1-65.6
Isaac	1780	2	10, Spencer Street, Clerkenwell, E.C.	Solid auxiliary balance.	- 4.4	48.9-59.9
Sewill	4218	2	30, Cornhill, E.C.	Auxiliary compensation.	- 3.0	84.3-86.1
Usher and Cole	5517	2	105, St. John's Street Road, E.C.	Auxiliary acting in heat and cold.	- 16.9	62.1-65.6
Sewill	4510	2	30, Cornhill, E.C.	Auxiliary compensation.	- 17.0	52.8-64.0
Tatish Bros.	1879	2	5, High Street, Cardiff.	Auxiliary acting in heat and cold.	- 8.9	58.2-63.2
Hume	2018	2	No. 6 Side, near the Quay, Newcastle-on-Tyne.	Auxiliary compensation.	- 10.6	80.0-81.4
Usher and Cole	5507	2	105, St. John's Street Road, E.C.	Auxiliary acting in heat and cold.	- 9.0	60.7-64.9
Glover	366	2	8, Wrotham Road, Camden New Town.	Ordinary balance with auxiliary acting in heat.	- 14.2	42.9-55.2
David Reid	850	2	39, Grey Street, Newcastle-on-Tyne.	Auxiliary compensation.	- 18.9	94.9-99.2
Keys	584	2	15, Craven Street, Strand, W.C.	Auxiliary compensation.	- 7.8	60.0-69.2
Blair	1887	2	45, Prince Street, Bristol.	Auxiliary compensation.	- 32.0	46.3-55.2
Johannsen and Co.	3792	2	149, Minories, E.C.	Auxiliary compensation acting in heat.	+ 3.6	50.1-61.1
Keys	4909	2	15, Craven Street, Strand, W.C.	Improved balance.	- 3.1	12.9-49.9
Kendall and Dent	4430	2	106, Chesham, E.C.	Auxiliary to balance, palladium spring.	- 2.1	94.9-99.2
Reid and Sons	867	2	41, Grey Street, Newcastle-on-Tyne.	Auxiliary compensation.	- 11.6	50.3-59.2
Johannsen and Co.	3841	2	149, Minories, E.C.	Auxiliary compensation acting in heat.	- 9.1	90.0-99.2
Mann	4903	2	The Cross, Gloucester.	Ordinary balance.	- 10.9	94.9-99.2
Edward and Sons	4903	2	62, Buchanan Street, Glasgow.	Ordinary balance.	- 20.6	41.0-54.3
Isaac	1785	2	10, Spencer Street, Clerkenwell, E.C.	Ordinary balance with slight additions.	- 14.3	41.0-54.3
Wells and Son	3553	2	22, High Street, Newport.	Improved compensation balance.	- 4.0	59.2-69.2
Pyott	886	2	74, West India Dock Road, E.	Ordinary balance, with auxiliary.	- 7.1	41.0-54.3
Blair	1888	2	46, Prince Street, Bristol.	Auxiliary compensation.	- 9.1	40.0-55.2
Penington	2517	2	2 & 3, St. George's Crescent, Liverpool.	Auxiliary compensation.	+ 1.7	47.0-57.2
Kendall and Dent	4465	2	106, Chesham, E.C.	Ordinary balance; palladium spring.	- 12.9	48.0-61.8
Mercer	4904	2	Prospect Road, St. Albans, Herts.	Auxiliary compensation.	- 7.5	60.0-69.2
David Reid	1788	2	39, Grey Street, Newcastle-on-Tyne.	Auxiliary compensation.	- 17.4	80.0-82.0
Brookbank and Co.	2053	2	6, Cowper's Court, Cornhill, E.C.	Auxiliary compensation.	- 10.3	49.2-60.1
J. Poole and Co.	5813	2	35, Spencer Street, Clerkenwell, E.C.	Pool's auxiliary.	+ 1.7	50.1-61.1
Pyott	903	2	74, West India Dock Road, E.	Ordinary balance, with auxiliary.	- 1.3	62.1-65.6
Hesp.	7591	2	124, New North Road, London.	Auxiliary for cold, Airy's compensation.	- 28.9	47.0-67.2
J. Poole and Co.	5814	2	35, Spencer Street, Clerkenwell, E.C.	Pool's auxiliary.	- 13.9	62.1-65.6
Glover	280	2	8, Wrotham Road, Camden New Town.	Ordinary balance, with auxiliary acting in heat.	- 10.8	94.9-99.2

The sign + indicates that the rate is gaining.

THE PRINCIPAL CHANGES OF RATE DURING THE 29 WEEKS.

Mean Temperature.	Greatest Weekly Rate.	Extremes of Temperature.	Mean Temperature.	Difference between Greatest and Least.	Greatest Difference between Greatest and Least.	Mean Temperature for these two Weeks.	a + 2 b.	NAME OF MAKER.	No.
62.2	- 2.5	94.2 - 96.1	94.2	5.3	8.7	85.5 - 85.7	12.7	Kullberg	4915
59.0	+ 0.9	94.2 - 96.1	95.0	6.1	8.8	85.7 - 86.8	13.7	Uhlig	500
63.7	+ 2.8	46.3 - 55.2	50.7	8.3	8.0	85.5 - 86.7	14.3	Kullberg	4914
58.5	+ 4.3	94.9 - 96.1	95.0	9.0	4.0	65.7 - 63.7	17.6	Penington	2515
63.7	- 1.2	95.0 - 98.2	97.1	7.3	6.0	85.8 - 95.2	19.3	Kullberg	4903
63.7	- 4.5	80.0 - 81.4	89.5	9.4	6.7	95.0 - 89.5	30.8	Kullberg	4971
97.0	+ 8.5	44.3 - 53.9	49.8	11.4	4.7	95.0 - 89.5	30.9	Uhlig	490
80.5	+ 12.3	52.3 - 61.9	56.9	8.7	6.1	83.7 - 80.9	30.9	Hume	2021
49.8	+ 2.4	80.0 - 81.4	80.0	7.8	7.1	80.5 - 80.7	32.0	Wolbach	5003
80.7	+ 0.6	84.3 - 86.1	85.3	11.3	5.8	80.5 - 80.7	32.9	Mann	4918
95.2	+ 5.7	52.2 - 61.9	56.9	10.6	6.4	95.0 - 89.5	33.6	Johannsen and Co.	3827
95.0	+ 19.4	49.9 - 68.0	62.7	14.7	0.1	80.9 - 85.2	36.9	Mercer	4267
95.0	+ 6.0	45.8 - 55.8	50.2	17.9	4.6	97.1 - 97.0	37.1	Uhlig	511
65.7	+ 18.4	60.0 - 68.1	69.0	15.3	8.0	85.1 - 69.3	38.3	Wells and Son	3023
68.4	+ 17.1	49.3 - 55.2	50.7	12.6	7.5	48.5 - 50.2	37.6	Isaac	1879
53.8	+ 9.1	80.0 - 82.0	80.8	13.6	8.4	80.8 - 85.2	39.3	Isaac	1780
63.4	+ 13.6	49.8 - 68.0	50.2	10.6	7.6	80.8 - 85.2	31.3	Sewill	4218
63.4	+ 5.6	55.8 - 55.8	50.2	20.4	4.0	52.7 - 50.8	32.8	Usher and Cole	5517
61.0	+ 0.3	99.2 - 97.9	97.0	16.3	8.0	85.1 - 69.3	38.3	Wells and Son	4510
60.3	+ 7.3	80.0 - 82.0	80.8	16.2	8.4	80.5 - 80.7	33.0	Tatish Bros.	1879
80.5	+ 9.6	48.6 - 61.8	54.8	20.2	6.6	59.7 - 50.8	33.4	Hume	2018
62.2	+ 12.8	41.0 - 54.3	48.5	22.8	0.4	61.4 - 48.9	35.6	Usher and Cole	5507
60.7	+ 4.0	45.8 - 55.8	50.2	13.2	9.2	80.8 - 48.2	36.6	Glover	366
95.2	- 2.6	44.2 - 53.9	49.8	16.3	12.1	80.8 - 85.2	40.5	David Reid	850
97.1	+ 11.0	45.8 - 55.8	59.2	19.8	10.9	80.8 - 85.2	40.6	Keys	584
50.7	- 11.6	62.1 - 65.6	63.4	21.3	9.7	80.5 - 80.7	40.7	Blair	1887
50.0	+ 30.0	48.6 - 61.8	54.8	15.8	9.7	97.1 - 88.8	40.8	Johannsen and Co.	3792
112.9	+ 11.3	80.0 - 88.0	80.8	10.3	11.7	97.1 - 88.8	40.8	Keys	4909
85.3	+ 13.7	41.0 - 54.3	48.5	21.4	13.5	80.8 - 85.2	42.4	Kendall and Dent	4430
60.3	+ 8.8	45.8 - 55.8	50.2	20.4	11.4	80.5 - 80.7	43.2	Reid and Sons	867
97.1	+ 10.1	49.9 - 58.0	52.7	19.2	12.1	59.7 - 80.8	43.4	Johannsen and Co.	3841
95.0	+ 3.8	80.0 - 82.0	80.8	14.7	14.7	80.8 - 85.2	44.1	Mann	4903
60.6	- 0.4	68.8 - 68.0	61.0	30.0	13.3	85.3 - 67.1	46.3	Edward and Sons	4903
48.5	+ 4.0	80.0 - 81.4	80.8	18.2	14.0	80.5 - 80.7	47.0	Isaac	1785
95.0	+ 16.3	49.9 - 58.0	52.7	20.3	13.4	52.7 - 89.8	47.1	Wells and Son	3553
48.5	+ 10.9	80.0 - 82.0	80.8	18.0	15.3	80.5 - 80.7	48.6	Pyott	886
97.1	+ 9.9	45.8 - 55.8	50.2	19.0	15.0	59.7 - 80.8	49.0	Blair	1888
54.2	- 18.0	80.0 - 81.4	80.5	30.5	13.3	85.1 - 69.3	49.1	Penington	2517
97.1	+ 14.7	49.9 - 58.0	52.7	22.2	15.9	80.8 - 95.2	54.0	Mercer	4904
80.8	+ 2.6	45.8 - 55.8	50.2	20.0	19.9	59.7 - 82.8	59.8	David Reid	1788
95.0	+ 10.3	80.0 - 81.4	80.8	20.6	25.0	80.8 - 85.2	78.4	Brookbank and Co.	2053
95.0	+ 10.1	80.0 - 81.4	80.5	41.2	56.1	80.5 - 80.7	113.3	J. Poole and Co.	5813
54.2	+ 20.6	84.3 - 86.1	85.3	55.5	37.9	52.7 - 89.8	113.4	Hesp	7591
47.0	+ 75.0	80.0 - 81.4	80.2	88.9	85.0	80.8 - 85.2	155.9	J. Poole and Co.	5814
95.2	+ 61.7	41.0 - 54.3	48.5	72.5	60.9	80.8 - 85.2	174.3	Glover	280

The Chronometers are placed in order of merit, their respective positions being determined by consideration of the irregularities of rate exhibited in the Table above.