

RATES OF CHRONOMETERS
ON TRIAL
FOR PURCHASE BY THE BOARD OF ADMIRALTY,
AT THE
ROYAL OBSERVATORY, GREENWICH,
FROM 1901 JULY 6 TO 1902 JANUARY 25.

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Physics • Provided by the NASA Astrophysics Data System

NAME OF MAKER.	No.	Weather 3 or 4 Days.	Construction of Escapement and Balance, from the Description furnished by the Maker.	(1.) WEEKLY RATES											
				July 6-13	July 13-20	July 20-27	July 27 to Aug. 3	Aug. 3-10	Aug. 10-17	Aug. 17-24	Aug. 24-31	Aug. 31 to Sept. 7	Sept. 7-14	Sept. 14-21	Sept. 21-28
A. Johannsen & Co.	4861	2	Auxiliary to balance setting in test; palladium spring.	+5.2	+6.2	+5.5	+3.8	+4.6	+1.6	+2.9	+5.9	+7.3	+10.3	+9.8	+5.6
A. Johannsen & Co.	5106	2	Auxiliary to balance setting in test; palladium spring.	+9.8	+10.8	+9.7	+12.3	+11.3	+11.7	+11.4	+6.0	+1.2	-0.4	+2.2	+5.9
A. Johannsen & Co.	5212	2	Auxiliary to balance setting in test; palladium spring.	+1.9	+0.7	+0.7	+0.1	+1.0	+0.8	+0.7	+5.9	+2.6	+1.5	+1.3	+3.0
E. Dent & Co.	51039	2	Plain balance; palladium spring.	+2.9	+1.4	+2.6	+2.0	+3.0	+3.5	+4.1	+3.7	+2.1	+1.2	+2.7	+3.7
A. Johannsen & Co.	5216	2	Auxiliary to balance setting in test; palladium spring.	-4.0	-2.6	-1.8	-3.9	-4.5	-3.0	-3.8	+3.9	+5.3	+7.0	+7.4	+9.9
E. Dent & Co.	51647	2	Dent's balance; steel spring.	+9.9	+8.9	+10.9	+9.6	+8.3	+11.2	+7.8	+5.4	+9.0	+16.7	+20.4	+10.2
E. Dent & Co.	51649	2	Plain balance; palladium spring.	-10.2	-11.2	-11.2	-10.6	-10.9	-10.8	-9.2	-9.6	-11.8	-10.2	-8.2	-9.6
Webb	5686	2	Ordinary balance; palladium spring.	-13.5	-14.6	-14.5	-13.0	-13.6	-13.5	-14.0	-8.7	-5.3	-1.9	-2.6	-4.5
L. Hall	1705	2	Escaped's auxiliary balance; steel and brass spring.	+32.2	+31.1	+31.3	+35.2	+34.0	+38.8	+35.1	+32.2	+32.1	+40.7	+30.1	+8.4
S. Smith & Sons	7387	2	Auxiliary compensation setting in test; bright steel spring.	+4.5	+6.1	+7.4	+6.2	+7.9	+8.2	+7.5	+13.2	+13.3	+17.1	+17.1	+8.4
J. F. Cole	262	2	Auxiliary to balance setting in test; palladium spring.	-8.6	-9.4	-11.1	-7.0	-3.9	-7.1	-4.6	-5.1	+0.2	+5.6	+7.9	+6.5
E. Dent & Co.	51650	2	Dent's balance; steel spring.	-4.3	-3.6	-6.6	-4.1	-6.8	-3.9	-6.1	-5.3	-3.3	-3.2	-3.0	+0.4
Usher & Co.	8216	2	Auxiliary to balance setting in test and test; palladium spring.	-18.0	-19.0	-17.4	-7.6	-0.1	+1.0	+0.1	+0.3	+4.2	+5.0	+5.5	+5.4
Webb	5687	2	Ordinary balance; palladium spring.	-5.9	-6.2	-5.0	-4.1	-4.9	-2.1	-0.9	-4.1	-2.9	-2.8	-4.0	+10.2
A. Johannsen & Co.	5735	2	Auxiliary to balance setting in test; palladium spring.	-1.1	-0.7	+0.6	+0.2	-1.0	-0.2	+1.1	-2.1	+2.1	+8.0	+7.1	0.0
D. Keys, Ltd.	972	2	Auxiliary to balance setting in test; palladium spring.	-2.5	-4.5	-6.2	-2.2	+6.1	+7.9	+9.3	+8.5	+9.2	+12.3	+16.6	+24.2
Chronometrical thermometer	Ther.		.....	-145.9	-279.6	-304.4	-148.0	-155.7	-107.7	-82.8	-1786.4	-2648.6	-2821.9	-2029.5	-14.4
Mean Weekly Temperature	.....		.....	64.7	67.9	70.0	70.1	70.0	69.5	69.6	83.3	87.0	89.1	87.7	65.4
Extremes of Temperature as shown by the Self-Registering Thermometer	.....		.....	81.5-69.3	83.2-75.9	86.3-74.0	86.2-73.6	87.4-72.9	87.7-71.9	87.5-72.6	79.6-59.0	85.6-42.8	87.4-105.9	87.8-92.6	62.9-67.0

The sign + 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 temperature being regulated by Kellberg's automatic governor which controls the supply of gas. The gas flames are exterior to the chamber, into which 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 the compensating time being reversed. By this arrangement the effect of temperature is much magnified.

IN ORDER OF TIME.

Sept. 28 to Oct. 5	Oct. 5-12	Oct. 12-19	Oct. 19-26	Oct. 26 to Nov. 2	Nov. 2-9	Nov. 9-16	Nov. 16-23	Nov. 23-30	Nov. 30 to Dec. 7	Dec. 7-14	Dec. 14-21	Dec. 21-28	Dec. 28 to Jan. 4	Jan. 4-11	Jan. 11-18	Jan. 18-25	NAME OF MAKER.	No.
+5.5	+1.4	-0.1	-3.2	-10.5	-7.7	-2.3	+2.0	+3.0	+3.8	-0.7	-7.9	-11.9	-5.6	-7.5	-8.4	-9.2	A. Johannsen & Co.	4861
+5.0	-0.2	-3.1	-6.0	-6.7	-8.8	+5.3	+8.1	+7.6	+12.2	+5.9	+3.6	+4.1	+0.6	-2.7	-3.8	-4.4	A. Johannsen & Co.	5106
+0.2	-1.7	-2.0	-3.5	-5.0	-6.8	-5.0	+2.6	+2.5	+4.7	+6.2	+4.7	+3.2	-1.8	-4.2	-5.7	-5.2	A. Johannsen & Co.	5212
+3.4	+2.1	+0.9	-1.3	-2.8	-2.0	+2.2	+3.8	+3.2	+9.3	+3.2	+0.9	-0.8	-9.6	-6.9	-8.7	-10.5	E. Dent & Co.	51039
+6.1	+9.3	+2.7	+1.1	+0.3	+1.4	+9.7	+10.0	+11.6	+12.0	+15.3	+15.9	+14.4	+9.6	+5.0	+6.7	+5.1	A. Johannsen & Co.	5216
+11.7	+7.8	+10.2	+9.5	+5.8	+3.7	+11.0	+6.9	+13.0	+12.8	+15.3	+21.1	+17.8	+19.3	+17.0	+14.9	+16.9	E. Dent & Co.	51647
-12.0	-10.7	-12.6	-2.2	-4.4	-7.1	-1.9	-5.7	-7.4	-5.2	-5.3	-5.2	-2.3	+1.3	-1.8	-2.0	-4.3	E. Dent & Co.	51649
-6.9	-6.9	-7.0	-6.5	-6.7	-5.9	-7.6	-5.2	+4.1	-0.4	+1.1	+2.1	+4.8	-8.8	-2.2	-1.3	-1.6	Webb	5686
+31.2	+31.0	+32.9	+31.1	+30.6	+31.7	+24.5	+22.2	+23.9	+23.6	+27.9	+22.1	+20.6	+27.7	+27.1	+22.9	+27.3	L. Hall	1705
+8.1	+7.1	+9.0	+6.2	+5.7	+4.0	+10.4	+13.6	+16.0	+21.0	+10.1	+4.9	+3.9	+7.5	+7.4	+4.6	+9.0	S. Smith & Sons	7387
+3.0	+1.7	+2.3	-1.3	-5.7	-6.9	-4.3	-0.2	+4.6	+0.5	-9.9	-12.5	-13.6	-4.3	-3.7	-8.1	-6.9	J. F. Cole	262
+2.7	+3.1	+2.7	+5.3	+4.3	+6.2	+0.8	-3.1	-0.4	+10.2	+11.7	+13.8	+12.0	+10.0	+11.1	+12.5		E. Dent & Co.	51650
-0.8	-4.7	-4.0	-8.0	-4.1	-3.7	-6.8	-5.4	-2.1	-2.3	+4.4	+4.4	+3.4	-1.3	-3.9	-6.0	-4.5	Usher & Co.	8216
+7.9	+12.9	+11.2	+11.4	+12.1	+15.4	+13.3	+17.3	+17.6	+15.4	+17.2	+6.4	+8.4	+8.9	+8.6			Webb	5687
-5.1	-5.9	-10.9	-13.2	-12.0	-10.6	-11.0	-6.0	-3.3	-2.8	-1.5	-7.6	-11.5	-17.4	-21.7	-24.4	-25.1	A. Johannsen & Co.	5735
+24.3	+21.6	+20.6	+16.2	+14.9	+16.7	+13.7	+13.6	+24.6	+25.8	+22.7	+22.3	+21.2	+19.9	+20.8	+19.8		D. Keys, Ltd.	972
+232.1	+498.4	+860.8	+803.9	+1045.7	+1274.8	-384.6	-1843.0	-1857.5	-2175.3	Stopped.	+1628.1	+1787.7	+1179.1	+1024.0	+1418.8	+1259.8	{ Chronometrical Thermometer.	
65.0	59.5	60.0	57.0	56.1	53.5	77.4	89.4	84.3	87.8	53.8	49.4	47.8	55.8	53.6	52.8	54.1	{ Mean Weekly Temperature.	
80.5-68.0	85.6-61.3	87.4-62.0	83.8-60.9	83.3-60.1	82.5-59.9	89.0-64.7	93.100-63.106	93.106-62.81	105.9-68.4	88.4-58.7	45.7-53.7	44.5-33.7	46.3-35.0	51.4-55.7	47.5-37.6	46.5-60.3	{ Extremes of Temperature as shown by the Self-Registering Thermometer.	

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

Only those Chronometers have been included in this list for which it did not exceed 12 seconds.

* Gas cut off from Monday morning Nov. 25, to Tuesday morning Nov. 26, gas mains being cleared out.

NAME OF MAKER.	No.	Winding days.	Construction of Escapement and Balance, from the Description furnished by the Maker.	(11.) WEEKLY RATES IN											
				Dec. 21-28	Dec. 14-21	Jan. 11-18	Nov. 2-9	Dec. 7-14	Jan. 18-25	Dec. 28 to Jan. 4	Oct. 26 to Nov. 2	Jan. 4-11	Oct. 19-19	Oct. 12-19	Oct. 5 to Oct. 12
A. Johansen & Co.	5219	2	Auxiliary to balance acting in heat; [spring]	+1.3	+2.8	+3.5	+6.6	+3.9	+4.2	+3.2	+4.9	+4.1	+6.8	+5.4	+4.3
E. Dent & Co.	5107	2	Plain balance; palladium spring.	+12.0	+13.4	+10.6	+10.6	+12.4	+12.7	+10.1	+11.7	+13.2	+12.7	+13.0	
Kullberg	6732	2	Kullberg's auxiliary balance, reversed detent; palladium spring.	+1.2	+1.0	+0.7	+1.4	+1.1	+0.9	+0.8	+1.1	+0.8	+1.1	+0.8	
Kullberg	6736	2	Kullberg's auxiliary balance, reversed detent; palladium spring.	+1.3	+1.0	+0.7	+1.4	+1.1	+0.9	+0.8	+1.1	+0.8	+1.1	+0.8	
Kullberg	6804	2	Kullberg's auxiliary balance, reversed detent; [palladium spring]	+3.0	+4.1	+7.5	+8.5	+6.7	+6.7	+6.7	+7.2	+8.1	+8.7	+3.4	
A. Johansen & Co.	5184	2	Auxiliary to balance acting in heat; palladium [spring]	+2.0	+3.6	+1.5	+2.2	+3.6	+0.8	+1.3	+3.8	+0.8	+2.1	+0.5	+3.9
Kullberg	6731	2	Kullberg's auxiliary balance, reversed detent; palladium spring.	+4.9	+3.8	+0.4	+1.2	+3.1	+0.8	+1.2	+3.1	+0.8	+1.2	+0.4	+3.8
Kullberg	6738	2	Kullberg's auxiliary balance, reversed detent; palladium spring.	+2.0	+2.2	+3.7	+1.6	+1.4	+2.2	+0.5	+2.2	+1.6	+0.0	+1.9	+1.5
Pyott	9668	2	Ordinary balance with additions; bright steel spring.	+3.0	+2.8	+0.6	+2.3	+0.0	+6.0	+1.6	+0.8	+4.5	+1.1	+0.2	+0.8
A. Johansen & Co.	4894	2	Auxiliary to balance acting in heat; palladium [spring]	+4.8	+5.5	+1.0	+4.1	+2.4	+0.8	+3.6	+2.1	+0.9	+3.2	+1.3	
A. Johansen & Co.	4873	2	Auxiliary to balance acting in heat; palladium [spring]	-2.2	-2.2	-6.6	-5.5	-1.7	-6.6	-4.8	-7.4	-5.5	-3.8	-6.1	-3.2
A. Johansen & Co.	4974	2	Kullberg's auxiliary balance, reversed detent; palladium spring.	+3.4	+4.8	+5.4	+7.8	+5.3	+5.8	+5.9	+1.1	+8.5	+3.6	+2.2	+3.2
A. Johansen & Co.	4974	2	Auxiliary to balance acting in heat; palladium spring.	+3.7	+5.1	+0.8	+1.8	+0.8	+2.2	+0.1	+2.1	+3.6	+0.2	+0.1	+3.9
A. Johansen & Co.	5181	2	Auxiliary to balance acting in heat; palladium spring.	+2.2	-2.2	-8.1	+2.3	+1.5	-5.9	-2.8	-2.4	-5.1	-0.7	+1.3	+1.8
L. Hall	1705	2	Garrard's auxiliary balance; palladium spring.	+10.4	+16.0	+17.5	+10.2	+12.6	+19.0	+20.6	+9.7	+10.8	+15.1	+8.1	+11.3
A. Johansen & Co.	5107	2	Auxiliary to balance acting in heat; palladium [spring]	+8.4	+10.2	+4.4	+2.0	+11.4	+7.4	+7.6	+1.7	+6.4	+5.8	+9.6	+2.1
E. Dent & Co.	5107	2	Plain balance; palladium spring.	+11.2	+11.2	+7.1	+2.1	+9.1	+7.0	+6.7	+0.1	+5.9	+2.7	+1.4	+4.9
Farber & Sons	8283	2	Auxiliary to balance acting in heat and cold; palladium spring.	+6.6	+8.2	+0.9	-2.6	+7.1	+0.2	+3.2	-3.1	+0.8	-2.2	-2.7	-1.9
Kullberg	6738	2	Kullberg's auxiliary balance, reversed detent; palladium spring.	+8.7	+8.5	+1.8	+7.7	+8.8	+7.7	+8.4	+3.6	+6.1	+3.9	+6.6	+2.8
Lindqvist	0104	2	Kullberg's auxiliary balance, reversed detent; [steel spring]	+3.8	+5.0	+1.5	+7.6	+5.4	+3.7	+2.4	+4.3	+3.8	+2.2	+4.6	+2.8
A. Johansen & Co.	5008	2	Auxiliary to balance acting in heat; palladium [spring]	+12.8	+13.4	+7.4	+7.1	+14.1	+8.9	+10.5	+5.6	+8.1	+8.7	+5.6	+8.8
Kullberg	6738	2	Kullberg's auxiliary balance, reversed detent; palladium spring.	+12.5	+12.4	+20.7	+17.6	+23.9	+14.2	+22.0	+15.5	+21.5	+15.6	+14.3	
Farber & Sons	4064	2	Auxiliary to balance acting in heat; palladium spring.	+2.6	+0.8	+3.8	+0.1	+1.0	+10.7	+2.6	+6.1	+5.8	+6.6	+6.3	
A. Johansen & Co.	4974	2	Auxiliary to balance acting in heat; palladium spring.	+17.6	+16.4	+14.0	+10.0	+13.9	+15.1	+14.3	+10.2	+13.7	+12.0	+11.0	+12.1
A. Johansen & Co.	5045	2	Auxiliary to balance acting in heat; palladium [spring]	+34.9	+36.1	+18.6	+18.1	+24.9	+18.6	+20.0	+14.2	+18.6	+16.2	+13.8	+18.8
Reid & Sons	4001	2	Loebly's auxiliary balance; palladium spring.	+17.8	+18.1	+12.9	+12.8	+13.9	+15.4	+14.3	+10.4	+13.4	+9.9	+12.1	+16.2
A. Johansen & Co.	4888	2	Auxiliary to balance acting in heat; palladium spring.	+18.5	+16.3	+16.7	+11.8	+11.2	+15.1	+11.9	+10.1	+15.5	+10.9	+11.9	+8.2
E. Dent & Co.	5107	2	Dunt's balance; steel spring.	+10.5	+9.8	+6.2	+5.9	+9.0	+7.7	+9.8	+5.9	+6.5	+8.9	+1.4	+6.6
Farber & Sons	8283	2	Kullberg's auxiliary balance, reversed detent; [palladium spring]	+1.9	+0.3	+1.8	+1.7	+1.8	+3.8	+1.4	+12.7	-2.7	+13.1	+12.3	+11.9
Kullberg	6736	2	Kullberg's auxiliary balance, reversed detent; [palladium spring]	+10.2	+9.7	+13.1	+7.7	+7.9	+11.9	+8.7	+6.9	+10.8	+4.2	+6.0	+4.3
A. Johansen & Co.	5108	2	Auxiliary to balance acting in heat; palladium [spring]	-3.8	-3.8	+4.1	+1.5	+3.6	-3.3	-2.6	+1.8	-2.9	+2.4	+2.4	+8.7
A. Johansen & Co.	5153	2	Auxiliary to balance acting in heat; palladium spring.	+15.0	+14.3	+9.8	+5.8	+16.8	+10.7	+6.9	+4.9	+10.1	+6.4	+8.0	+7.7
Gardner	1168	2	Compensation for extremes; steel spring.	+10.0	+9.8	+1.4	+2.4	+25.0	+43.9	+9.0	+12.2	+22.0	+25.1	+26.1	
E. Dent & Co.	5107	2	Plain balance; palladium spring.	+18.6	+19.0	+15.4	+15.2	+16.5	+14.5	+17.2	+13.8	+11.0	+11.9	+13.7	+12.5
Pyott	9668	2	Ordinary balance with additions; bright steel [spring]												
Chronometrical Thermometer				+1787.7	+1628.1	+1418.6	+1274.8	Stopped	+1259.8	+1179.1	+1046.7	+1024.0	+860.8	+803.9	+698.4
Mean Weekly Temperature				47.8	49.4	52.8	53.5	53.8	54.1	55.8	56.1	53.6	60.0	57.0	59.5
Extremes of Temperature as shown by the Self-Registering Thermometer				44.5-59.7	47.5-57.4	57.5-63.9	59.4-65.6	58.7-65.5	60.9-66.8	63.5-69.0	62.3-69.1	51.4-55.7	64.2-69.3	60.9-65.8	61.8

The sign + 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 temperatures being regulated by Kullberg's automatic governor which controls the supply of gas. The gas flames are exterior to the chamber, into which 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 the compensating rim being reversed. By this arrangement the effect of temperature is much magnified.

ORDER OF TEMPERATURE AS DETERMINED GENERALLY BY THE CHRONOMETRIC THERMOMETER.

NAME OF MAKER.																	No.	
Sept. 25 to Oct. 5	Sept. 21-28	Aug. 17-24	Aug. 10-17	July 6-13	July 27 to Aug. 3	Aug. 3-10	July 30-27	July 18-20	Nov. 9-16	Aug. 31-10	Nov. 16-23	Nov. 23-30	Sept. 14-21	Nov. 30 to Dec. 7	Aug. 31 to Sept. 7	Sept. 7-14		
+ 3.4 +13.9 - 2.1 - 2.1	+ 5.1 +14.9 - 1.9 - 1.2	+ 5.2 +11.2 + 0.2 0.0	+ 4.5 +11.5 + 0.4 + 0.8	+ 3.9 +11.6 + 0.6 + 0.1	+ 3.7 +11.1 + 0.1 + 1.2	+ 4.2 +11.8 - 2.1 + 0.1	+ 3.9 +11.4 - 3.2 + 0.1	+ 2.7 +11.9 + 0.3 - 0.3	+ 6.3 +11.4 - 2.4 + 0.5	+ 5.0 +11.4 - 2.8 - 1.8	+ 5.3 +14.9 - 2.3 - 2.9	+ 5.2 +13.6 - 1.9 - 3.0	+ 3.4 +13.7 - 1.7 - 1.1	+ 6.4 +14.7 - 1.4 - 4.9	+ 4.0 +11.6 - 0.1 - 1.3	+ 2.5 +10.5 - 0.4 - 2.3	A. Johansen & Co. E. Dent & Co. Kullberg Kullberg	5219 5107 6732 6736
+ 4.0 + 7.8 - 1.0 - 1.2 + 3.1	+ 4.9 + 9.9 + 0.0 + 2.4 + 4.3	+ 1.1 + 3.1 - 0.2 - 2.4 - 0.5	+ 0.6 + 2.6 + 0.1 - 3.5 + 0.6	+ 0.7 + 2.6 + 0.7 - 1.6 + 0.2	+ 0.7 + 2.6 + 0.7 - 1.6 + 0.2	+ 0.8 + 3.4 + 0.1 - 0.8 0.0	- 0.3 + 3.4 + 0.1 - 0.7 - 1.2	- 0.5 + 3.0 + 0.4 - 0.7 + 4.5	+ 2.5 + 3.4 - 0.3 - 0.1 + 4.5	+ 2.6 + 3.0 - 0.2 - 0.5 + 4.0	+ 3.5 + 8.6 - 3.0 1.2 - 3.9	+ 3.1 + 8.1 - 4.0 - 3.8 - 6.6	+ 2.0 + 8.6 - 3.1 - 3.0 + 6.1	+ 5.6 + 1.8 - 0.1 - 0.5 + 6.3	+ 4.2 + 4.3 - 0.4 - 0.5 + 3.2	+ 1.8 + 1.1 - 0.1 - 4.9 + 5.1	A. Johansen & Co. Kullberg Kullberg Pyott A. Johansen & Co.	5184 6731 6738 966 4894
- 1.0 + 3.8 + 3.8 + 1.0 +11.6	+ 2.0 + 5.1 + 5.1 + 0.5 +11.0	- 3.6 + 4.0 + 4.6 + 0.5 +12.5	- 5.5 + 2.8 + 2.8 + 0.1 +13.1	- 5.1 + 1.9 + 1.5 - 1.0 +15.2	- 5.4 + 3.8 + 7.0 + 0.7 +15.5	- 5.8 + 3.1 + 5.7 + 0.7 +15.6	- 4.7 + 2.4 + 5.1 + 0.4 +17.1	- 4.9 + 2.6 + 5.0 + 0.4 +15.5	- 2.4 + 3.0 - 0.2 - 0.5 +13.4	+ 0.1 + 3.8 + 1.0 - 1.0 +10.4	+ 1.8 + 3.0 + 2.5 - 1.7 + 8.6	+ 2.1 + 3.1 + 3.0 - 4.0 +11.5	+ 4.4 + 8.0 + 8.0 - 3.0 +14.0	+ 3.0 +11.9 + 1.2 - 3.8 + 8.5	+ 2.1 + 2.1 - 0.5 - 0.5 + 8.0	+ 2.6 + 2.1 + 1.1 + 1.1 + 8.1	A. Johansen & Co. Kullberg A. Johansen & Co. Kullberg L. Hall	4873 5159 4874 6738 1701
+ 6.8 + 5.2 - 1.7 - 2.3 + 1.0	+ 6.9 + 9.7 + 8.6 + 1.3 + 0.4	+ 3.0 + 3.7 - 8.6 - 3.1 + 0.7	+ 2.0 + 3.1 - 0.4 - 3.6 - 0.4	+ 2.2 + 1.6 -11.1 - 0.7 + 8.2	+ 2.0 + 3.8 -11.9 - 0.8 + 4.0	+ 1.4 + 3.4 - 9.6 - 3.8 + 4.0	+ 2.5 + 3.9 - 9.4 - 4.4 + 5.5	+ 3.9 + 4.0 - 10.6 - 10.6 + 8.5	+ 6.7 + 5.3 - 1.7 - 3.9 +10.0	+ 5.3 + 8.0 - 3.8 - 1.9 + 9.1	+ 8.0 + 5.8 + 0.9 + 7.4 + 7.4	+ 5.8 + 3.0 + 0.9 + 8.9 + 9.7	+ 6.4 +13.0 + 1.8 + 3.2 + 7.2	+13.0 + 0.8 - 1.3 +10.2 +12.2	+ 4.7 + 1.2 + 2.4 - 1.0 + 7.4	+ 8.2 + 3.0 - 0.4 + 8.1 + 4.8	A. Johansen & Co. E. Dent & Co. Usher & Cole Kullberg Lindqvist	5107 5107 8283 6739 0104
+ 4.3 +13.3 + 6.4 +11.8 +17.3	+12.0 +16.6 + 3.8 +14.0 +17.9	+ 8.7 +11.6 + 0.2 + 4.7 +10.0	+ 6.2 + 6.8 - 0.7 + 0.7 +10.0	+ 2.6 + 6.5 + 0.7 + 0.7 + 4.7	+ 6.5 + 8.1 + 0.7 + 3.8 + 4.7	+ 6.0 + 9.1 + 0.3 + 4.0 + 2.6	+ 6.2 + 7.6 + 0.3 + 2.6 + 7.4	+ 5.8 + 8.0 - 0.3 + 1.0 + 6.1	+13.5 +14.1 + 2.4 +16.4 +18.0	+10.3 +12.4 + 1.8 + 8.6 + 9.9	+15.6 +16.8 - 3.8 +13.9 +20.0	+16.8 +13.9 +13.9 +13.9 +14.1	+13.9 +12.4 + 3.0 +14.0 +14.1	+19.8 +2.7 - 4.1 +20.9 +24.1	+10.1 +12.2 + 3.0 + 9.4 +12.5	+12.0 +12.0 + 0.4 +12.2 +13.5	A. Johansen & Co. Kullberg Kullberg A. Johansen & Co. A. Johansen & Co.	5008 7094 4064 4974 5045
+12.8 - 7.1 + 8.4 +13.2 - 8.7	+15.1 - 9.0 + 8.0 +10.8 - 2.7	+ 8.7 - 5.0 + 1.2 +11.7 - 2.0	+ 7.7 - 5.3 + 1.2 +11.8 - 2.8	+ 4.6 - 3.1 + 3.1 +11.7 - 0.7	+ 8.1 - 5.7 + 1.7 +12.5 - 1.8	+ 8.0 - 4.8 + 2.4 +12.5 - 2.1	+ 7.0 - 1.6 + 3.0 +12.9 - 2.0	+ 4.5 - 5.6 - 1.0 +15.7 - 2.4	+11.7 - 5.6 + 9.3 +10.6 + 2.8	+ 9.9 - 4.0 + 2.0 - 11.7 + 2.8	+14.5 +21.5 - 4.0 - 11.7 + 0.1	+12.5 + 3.5 + 3.5 - 6.1 + 1.3	+14.0 - 4.5 + 8.0 - 6.1 + 2.4	+22.1 - 2.9 +16.1 + 9.9 + 0.2	+ 8.3 - 3.5 + 0.4 - 0.9 + 3.2	+14.8 - 3.4 + 4.6 + 1.8 + 3.6	Reid & Sons A. Johansen & Co. E. Dent & Co. Farber & Sons Kullberg	4001 4888 5107 8283 6730
+ 7.3 + 5.3 + 7.9 + 2.5 + 7.0	+10.7 + 7.2 + 2.4 + 8.0 + 0.8	+ 7.2 +10.0 + 0.4 - 0.8 + 0.8	+10.0 + 0.4 - 0.8 + 0.8 + 0.2	+ 8.1 +10.5 + 0.2 + 2.3 + 0.2	+ 9.9 + 7.5 + 0.2 + 3.7 + 1.0	+ 6.9 + 7.1 - 0.2 + 3.7 + 0.5	+ 6.9 + 7.5 + 0.2 + 3.7 + 0.5	+ 7.5 +10.7 + 0.1 + 2.4 + 2.5	+10.7 + 9.0 + 7.0 + 1.7 + 9.3	+ 9.0 + 7.0 + 5.4 + 1.7 + 9.1	+ 7.0 + 8.7 + 2.9 + 2.3 + 6.7	+ 8.0 + 7.6 + 5.8 +11.8 + 1.1	+ 8.0 + 7.6 + 2.9 +11.8 + 1.1	+ 7.6 + 5.0 + 11.8 +16.3 +11.8	+ 5.0 + 2.5 + 3.6 +13.5 + 8.6	+ 5.4 + 3.4 + 1.8 +18.6 + 9.2	A. Johansen & Co. A. Johansen & Co. Gardner E. Dent & Co. Pyott	5168 5168 1168 5159 964
+232.1	- 14.4	- 82.8	-107.7	-145.9	-148.0	-150.7	-304.4	-379.6	-384.6	-1736.4	-1348.0	-1857.6	-2029.0	-2175.3	-2648.6	-2821.9	Chromometer Ther- mometer.	
65.0	65.4	69.6	69.5	61.7	70.1	70.0	70.0	67.3	77.4	85.3	89.4	84.3	87.7	87.8	97.0	99.1	Mean Weekly Tem- perature.	
90.5-68.0	62.9-67.0	67.5-72.0	77.7-110.1	61.5-69.0	66.6-78.0	67.4-72.0	66.3-74.5	63.2-75.6	68.4-84.7	69.6-87.7	77.9-100.0	82.1-102.7	84.9-98.3	84.1-105.8	84.4-102.8	87.4-103.9	Extremes of Tempera- ture as shown by the Self-Registering	

NAME OF MAKER.	No.	Winter 2 or 3 Days.	Construction of Escapement and Balance, from the Description furnished by the Maker.	(II.) WEEKLY RATES IN											
				Dec. 21-28	Dec. 18-21	Jan. 11-18	Nov. 2-9	Dec. 7-14	Jan. 18-25	Dec. 25 to Jan. 4	Oct. 28 to Nov. 2	Oct. 4-11	Oct. 12-19	Oct. 19-25	Oct. 5-12
A. Johannsen & Co.	4961	2	Auxiliary to balance acting in heat; palladium spring.	-11.9	-7.9	-8.4	-7.7	-0.7	-9.2	-5.6	-10.5	-7.5	-0.1	-2.2	+1.4
A. Johannsen & Co.	5106	2	Auxiliary to balance acting in heat; palladium spring.	+4.1	+3.8	+3.3	+3.5	+5.9	+4.4	+0.5	-6.7	-2.7	-8.1	-6.0	-0.2
A. Johannsen & Co.	5212	2	Auxiliary to balance acting in heat; palladium spring.	+2.2	+4.7	+5.7	+6.9	+6.2	+5.2	+1.8	-0.8	-4.2	-2.6	-3.5	-1.7
E. Dent & Co.	5109	2	Plain balance; palladium spring.	-0.8	+0.9	+8.7	+2.0	+3.2	+10.5	+9.6	+3.8	+6.9	+0.9	+1.3	+2.1
A. Johannsen & Co.	5216	2	Auxiliary to balance acting in heat; palladium spring.	-14.4	+16.5	+6.7	+1.4	+15.8	+5.1	+9.6	+0.8	+5.0	+2.7	+1.1	+3.8
E. Dent & Co.	51647	2	Dent's balance; steel spring.	+17.8	+21.1	+14.9	+3.7	+15.3	+16.9	+19.2	+5.8	+17.0	+10.2	+9.5	+7.8
E. Dent & Co.	51040	2	Plain balance; palladium spring.	-2.3	-5.2	-2.0	-7.1	-5.3	+3.6	+1.9	-4.4	-1.8	-12.6	-2.3	-13.7
Webb	5686	2	Ordinary balance; palladium spring.	+4.8	+2.1	+1.8	+3.8	+1.1	+1.6	+9.6	-6.7	-2.2	-7.0	-5.6	-5.9
L. Hall	1705	2	Garnard's auxiliary balance; steel brogue spring.	+20.6	+22.4	+22.9	+31.7	+27.9	+27.8	+27.7	+30.6	+27.1	+32.9	+31.1	+31.0
S. Smith & Sons	7987	2	Auxiliary compensation acting in cold; bright steel spring.	+2.8	+4.9	+4.6	+4.0	+10.1	+8.0	+7.2	+5.7	+7.4	+9.0	+6.2	+7.1
J. F. Cole	262	2	Auxiliary to balance acting in cold; palladium spring.	-13.6	-12.5	-8.1	-6.8	-9.9	-6.9	-4.3	-5.7	-3.7	+2.8	-1.3	+1.7
E. Dent & Co.	51650	2	Dent's balance; steel spring.	+13.8	+11.7	+11.1	+6.8	+10.2	+12.5	+12.0	+4.8	+10.0	+6.7	+8.3	+3.1
Usher & Cole	8216	2	Auxiliary to balance acting in heat and cold; palladium spring.	+3.4	+4.4	+6.0	+3.7	+4.8	+4.6	+1.3	-4.1	-3.9	-4.6	-3.0	-4.7
Webb	5687	2	Ordinary balance; palladium spring.	+17.2	+17.2	+8.9	+15.4	+15.4	+8.6	+6.4	+12.1	+8.4	+11.2	+11.4	+12.9
A. Johannsen & Co.	4765	2	Auxiliary to balance acting in heat; palladium spring.	-11.5	-7.6	-24.4	-10.6	-1.5	-25.1	-17.4	-12.0	-21.7	-10.9	-13.2	-5.9
D. Keys, Ltd.	972	2	Auxiliary to balance acting in heat; palladium spring.	+22.3	+22.7	+20.8	+13.7	+25.8	+19.8	+21.2	+14.9	+19.9	+30.6	+16.2	+21.6
Chronometrical meter	Ther-		.....	+1787.7	+1628.1	+1418.8	+1274.8	Stopped	+1259.8	+1179.1	+1045.7	+1024.0	+880.8	+803.9	+698.4
Mean Weekly Tempera- ture	.....		.....	47.8	49.4	52.8	53.5	53.8	54.1	55.8	56.1	58.6	60.0	57.0	59.5
Extremes of Tempera- ture as shown by the Self-Registering Ther- mometer	.....		.....	44.5-53.7	45.7-53.7	47.5-57.5	49.8-59.9	48.6-58.7	48.5-60.6	46.8-58.3	52.8-60.1	51.4-57.7	57.4-62.0	55.8-60.6	55.5-61.8

The sign + 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 temperature being regulated by Kallberg's automatic governor which controls the supply of gas. The gas flames are exterior to the chamber, into which 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 the 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.
A. Johannsen & Co.	4961	5106
A. Johannsen & Co.	5212	5109
E. Dent & Co.	5109	5216
A. Johannsen & Co.	5216	51647
E. Dent & Co.	51040	51650
Webb	5686	5687
L. Hall	1705	7987
S. Smith & Sons	7987	
J. F. Cole	262	51650
E. Dent & Co.	51650	8216
Usher & Cole	8216	5687
Webb	5687	4765
A. Johannsen & Co.	4765	
D. Keys, Ltd.	972	
Chronometrical Ther- mometer		
Mean Weekly Tempera- ture		
Extremes of Tempera- ture as shown by the Self-Registering Ther- mometers		

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

Only those Chronometers have been included in this list for which 3 did not exceed 12 seconds.

* Gas cut off from Monday morning Nov. 25 to Tuesday morning Nov. 26, gas mains being cleared out.

NAME OF MAKER.	No.	Whether a or B Days.	ADDRESS OF MAKER.	Construction of Escapement and Balance, from the Description furnished by the Maker.	(III.) ABSTRACT OF	
					Least of Weekly Sum.	Extremes of Temperature.
A. Johansen & Co.	5219	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	+ 1.8	44.5 - 53.7
E. Dent & Co.	51087	2	61, Strand, W.C.	Plain balance; palladium spring.	+ 10.1	52.3 - 60.1
Kullberg	6712	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	- 4.6	52.3 - 60.1
Kullberg	6736	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	- 10.1	47.5 - 57.5
Kullberg	6694	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	- 7.5	47.5 - 57.5
A. Johansen & Co.	5184	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 2.3	52.3 - 60.1
Kullberg	6721	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	+ 0.4	47.5 - 57.5
Kullberg	6728	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	- 3.7	47.5 - 57.5
Pyott	598	2	Manor Lodge, Hyde Vale, Greenwich.	Ordinary balance with additions; bright steel spring.	- 4.9	47.5 - 57.5
A. Johansen & Co.	4694	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 9.6	52.3 - 60.1
A. Johansen & Co.	4673	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 7.4	52.3 - 60.1
Kullberg	6954	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	+ 1.1	52.3 - 60.1
A. Johansen & Co.	4674	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 7.1	47.5 - 57.5
A. Johansen & Co.	5185	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 8.1	47.5 - 57.5
L. Hall	1701	2	17, Mercer Row, Louth, Lincolnshire.	Garratt's auxiliary balance; palladium spring.	+ 8.0	84.0 - 102.8
A. Johansen & Co.	5107	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	+ 1.4	67.4 - 72.9
E. Dent & Co.	51519	2	61, Strand, W.C.	Plain balance; palladium spring.	- 3.0	87.4 - 108.9
Usher & Cole	8282	2	105, St. John Street Road, E.C.	Auxiliary to balance acting in heat and cold; palladium spring.	- 11.1	61.5 - 69.3
Kullberg	6739	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	- 4.5	61.5 - 69.3
Lindqvist	6194	2	15, Aldersay Street, Frinton, W.	Kullberg's auxiliary balance, reversed detent; steel spring.	- 0.4	67.7 - 71.9
A. Johansen & Co.	5008	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	+ 2.6	61.5 - 69.3
Kullberg	7034	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	+ 4.7	61.5 - 69.3
Usher & Cole	8289	2	105, St. John Street Road, E.C.	Auxiliary to balance acting in heat; palladium spring.	- 5.3	87.4 - 108.9
A. Johansen & Co.	4667	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	+ 0.7	61.5 - 69.3
A. Johansen & Co.	5045	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	+ 4.7	61.5 - 69.3
Reid & Sons	4601	2	41, Grey Street, Newcastle-on-Tyne.	Loesly's auxiliary balance; palladium spring.	+ 4.5	62.9 - 75.9
A. Johansen & Co.	4688	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 16.7	47.5 - 57.5
E. Dent & Co.	51245	2	61, Strand, W.C.	Dent's balance; steel spring.	- 3.1	61.5 - 69.3
Furber & Sons	8282	2	1, Queen's Circus, Cheltenham.	Auxiliary to balance acting in heat and cold; palladium spring.	- 15.7	68.0 - 84.6
Kullberg	6730	2	105, Liverpool Road, N.	Kullberg's auxiliary balance, reversed detent; palladium spring.	- 13.1	47.5 - 57.5
A. Johansen & Co.	5158	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 4.0	47.5 - 57.5
A. Johansen & Co.	5163	2	149, Minorie, E.	Auxiliary to balance acting in heat; palladium spring.	- 5.1	49.9 - 69.9
Gardner	5157	2	20, Lloyd's Square, W.C.	Compensation for extremes; steel spring.	- 1.6	67.5 - 72.6
E. Dent & Co.	51520	2	61, Strand, W.C.	Plain balance; palladium spring.	+ 15.3	84.0 - 102.8
Pyott	594	2	Manor Lodge, Hyde Vale, Greenwich.	Ordinary balance with additions; bright steel spring.	+ 0.2	67.7 - 71.9

The sign + indicates that the rate is gaining.

THE PRINCIPAL CHANGES OF RATE DURING THE 29 WEEKS.

Mean Temperature.	Greatest Sum.	Extremes of Temperature.	Mean Temperature.	Difference between the Greatest and Least.	Greatest Difference between one Week and the next.	Mean Temperature for these two Weeks.	Trial No. a + 29.	NAME OF MAKER.	No.
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
47.8	+ 6.6	49.3 - 59.9	53.5	5.3	2.5	87.8 - 69.8	10.3	A. Johansen & Co.	5219
56.1	+ 15.6	48.6 - 58.7	53.8	5.5	3.2	99.1 - 87.7	11.9	E. Dent & Co.	51087
56.1	+ 1.9	79.9 - 39.0	55.3	6.7	4.3	53.5 - 77.4	15.2	Kullberg	6712
52.8	- 2.1	66.3 - 73.5	70.1	8.0	4.1	53.5 - 77.4	16.3	Kullberg	6736
52.8	+ 1.8	79.8 - 89.0	85.3	9.3	3.8	53.5 - 77.4	16.9	Kullberg	6694
56.1	+ 5.6	81.4 - 105.8	87.8	7.9	4.7	53.5 - 77.4	17.3	A. Johansen & Co.	5184
52.8	+ 9.9	62.0 - 67.0	65.4	9.5	4.0	87.8 - 53.8	17.5	Kullberg	6721
52.8	- 6.1	81.4 - 105.8	87.8	4.7	8.0	87.8 - 53.8	19.2	Kullberg	6728
56.1	+ 6.0	48.0 - 60.3	54.1	10.0	4.6	87.8 - 53.8	20.1	Pyott	598
56.1	+ 6.6	59.0 - 106.2	94.3	10.2	0.5	53.5 - 77.4	21.2	A. Johansen & Co.	4694
56.1	+ 4.4	78.8 - 92.8	87.7	11.8	5.6	53.5 - 77.4	23.0	A. Johansen & Co.	4673
56.1	+ 11.9	81.4 - 105.8	87.8	10.8	7.0	33.0 - 77.4	24.8	Kullberg	6954
52.8	+ 7.0	66.2 - 73.5	70.1	14.1	5.0	47.5 - 57.5	25.1	A. Johansen & Co.	4674
52.8	+ 2.2	44.5 - 53.7	49.4	4.4	7.4	87.8 - 53.8	25.1	A. Johansen & Co.	5185
97.0	+ 20.6	45.0 - 63.7	55.8	12.6	6.7	87.8 - 53.8	26.0	L. Hall	1701
70.0	+ 13.0	81.4 - 105.8	87.8	11.6	7.2	94.1 - 87.8	26.0	A. Johansen & Co.	5107
99.1	+ 11.2	45.7 - 53.7	49.4	14.2	6.9	99.1 - 87.7	28.0	E. Dent & Co.	51519
64.7	+ 8.2	45.7 - 53.7	49.4	19.3	4.7	69.6 - 85.3	28.7	Usher & Cole	8282
64.7	+ 10.2	81.4 - 105.8	87.8	14.7	7.0	53.5 - 77.4	28.7	Kullberg	6739
69.5	+ 12.2	81.4 - 105.8	87.8	12.6	8.4	69.6 - 85.3	29.4	Lindqvist	6194
64.7	+ 19.8	81.4 - 105.8	87.8	17.2	6.4	53.5 - 77.4	30.0	A. Johansen & Co.	5008
64.7	+ 27.2	81.4 - 105.8	87.8	22.0	3.8	63.5 - 77.4	30.1	Kullberg	7034
99.1	+ 10.7	48.0 - 60.3	54.1	16.0	7.4	87.7 - 65.4	30.8	Usher & Cole	8289
64.7	+ 20.9	81.4 - 105.8	87.8	20.2	5.4	53.5 - 77.4	31.0	A. Johansen & Co.	4667
64.7	+ 26.1	45.7 - 53.7	49.4	21.4	4.9	47.5 - 57.5	31.2	A. Johansen & Co.	5045
67.9	+ 22.1	81.4 - 105.8	87.8	17.6	6.0	89.4 - 88.8	31.6	Reid & Sons	4601
62.9	- 1.1	61.0 - 69.3	64.7	15.6	7.9	87.8 - 53.8	32.2	A. Johansen & Co.	4688
64.7	+ 15.1	81.4 - 105.8	87.8	18.4	9.8	87.8 - 53.8	32.8	E. Dent & Co.	51245
77.4	+ 1.9	44.5 - 53.7	47.8	17.6	7.6	87.8 - 53.8	32.8	Furber & Sons	8282
52.8	+ 3.6	67.4 - 108.9	99.1	16.7	8.1	87.8 - 53.8	32.9	Kullberg	6730
52.8	+ 10.7	62.9 - 67.0	65.4	4.7	9.2	53.5 - 77.4	33.1	A. Johansen & Co.	5158
53.5	+ 8.2	68.0 - 84.6	77.4	14.7	10.6	53.5 - 77.4	34.5	A. Johansen & Co.	5163
69.6	+ 16.8	48.0 - 58.7	57.8	13.3	18.4	87.8 - 53.8	34.6	E. Dent & Co.	51520
69.6	+ 25.0	48.0 - 58.7	53.8	16.7	7.8	87.7 - 65.4	35.3	E. Dent & Co.	51520
69.5	+ 13.0	45.7 - 53.7	49.4	18.8	8.8	69.6 - 85.3	35.4	Pyott	594

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. The Trial No. a + 29 is taken as a measure of the irregularities of rate.

Only those Chronometers have been included in this list for which 3 did not exceed 12 seconds.

NAME OF MAKER.	No.	Whether a or b Days.	ADDRESS OF MAKER.	Construction of Escapement and Balance, from the Description furnished by the Maker.	(III.) ABSTRACT OF		
					Least Weekly Sum.	Extremes of Temperature.	
A. Johansen & Co.	4961	2	149, Minories, E.	Auxiliary to balance acting in heat; palladium spring.	- 11.9	44.5 - 58.7	
A. Johansen & Co.	5106	2	149, Minories, E.	Auxiliary to balance acting in heat; palladium spring.	- 6.7	52.3 - 60.1	
A. Johansen & Co.	5212	2	149, Minories, E.	Auxiliary to balance acting in heat; palladium spring.	- 6.9	49.3 - 59.3	
E. Dent & Co.	51039	2	61, Strand, W.C.	Plain balance; palladium spring.	- 10.5	48.5 - 60.3	
A. Johansen & Co.	5216	2	149, Minories, E.	Auxiliary to balance acting in heat; palladium spring.	- 4.5	67.4 - 72.9	
E. Dent & Co.	51647	2	61, Strand, W.C.	Dent's balance; steel spring.	+ 3.7	49.3 - 59.9	
E. Dent & Co.	51940	2	61, Strand, W.C.	Plain balance; palladium spring.	- 13.7	55.8 - 61.8	
Webb	5686	2	23, Ansell Street, E.C.	Ordinary balance; palladium spring.	- 14.6	63.2 - 75.9	
L. Hall	1765	2	17, Mercer Row, Louth, Lincolnshire.	Garnett's auxiliary balance; steel breguet spring.	+ 22.2	77.5 - 100.0	
S. Smith & Sons.	7867	2	4, Strand, W.C.	Auxiliary compensation acting in cold; bright steel spring.	+ 2.8	44.5 - 58.7	
J. F. Cole	262	2	21, Thornhill Road, N.	Auxiliary to balance acting in cold; palladium spring.	- 13.6	44.5 - 58.7	
E. Dent & Co.	51650	2	61, Strand, W.C.	Dent's balance; steel spring.	- 8.8	84.0 - 102.8	
Usher & Cole	8216	2	105, St. John Street Road, E.C.	Auxiliary to balance acting in heat and cold; palladium spring.	- 19.0	63.2 - 75.9	
Webb	5687	2	23, Ansell Street, E.C.	Ordinary balance; palladium spring.	- 6.2	63.2 - 75.9	
A. Johansen & Co.	4785	2	149, Minories, E.	Auxiliary to balance acting in heat; palladium spring.	- 25.1	49.5 - 60.3	
D. Keys, Ltd.	972	2	91, Piccadilly, W.	Auxiliary to balance acting in heat; palladium spring.	- 6.2	66.3 - 74.5	

The sign + indicates that the rate is gaining.

THE PRINCIPAL CHANGES OF RATE DURING THE 26 WEEKS.

Mean Temperature.	Greatest Weekly Sum.	Extremes of Temperature.	Mean Temperature.	Difference between the Greatest and Least. (a)	Greatest Difference between one Week and the next. (b)	Mean Temperature for these two Weeks.	Trial No. a + 2b.	NAME OF MAKER.	No.
47.8	+ 10.3	87.4 - 103.9	99.1	22.2	7.3	57.0 - 56.1	36.8	A. Johansen & Co.	4961
56.1	+ 12.5	81.4 - 103.9	87.8	19.2	8.3	53.5 - 77.4	36.8	A. Johansen & Co.	5106
53.5	+ 6.2	48.6 - 58.7	53.8	13.1	11.9	53.5 - 77.4	36.9	A. Johansen & Co.	5212
54.1	+ 9.3	81.4 - 103.9	87.8	19.3	8.8	47.8 - 55.8	37.4	E. Dent & Co.	51039
70.0	+ 16.5	45.7 - 63.7	49.4	21.0	8.3	53.5 - 77.4	37.6	A. Johansen & Co.	5216
53.5	+ 21.1	45.7 - 53.7	49.4	17.4	10.2	87.7 - 65.4	37.8	E. Dent & Co.	51647
53.5	+ 3.6	44.5 - 60.3	54.1	17.3	10.3	60.0 - 57.0	37.9	E. Dent & Co.	51940
67.9	+ 4.8	44.5 - 53.7	47.8	19.4	9.3	89.4 - 84.3	38.0	Webb	5686
89.4	+ 40.7	78.8 - 92.8	87.7	18.5	10.7	89.4 - 84.3	39.9	L. Hall	1765
47.6	+ 21.0	81.4 - 103.9	87.8	18.2	11.4	53.5 - 77.4	41.0	S. Smith & Sons.	7867
47.8	+ 7.9	78.8 - 92.8	87.7	21.5	10.4	87.8 - 53.8	42.3	J. F. Cole	262
67.0	+ 13.8	44.5 - 53.7	47.8	22.1	10.6	87.8 - 53.8	43.3	E. Dent & Co.	51650
67.9	+ 6.5	78.8 - 92.8	87.7	25.5	9.8	70.0 - 70.1	45.1	Usher & Cole	8216
54.1	+ 17.6	81.4 - 103.9	87.8	23.8	10.8	47.8 - 53.8	45.4	Webb	5687
	+ 8.0	87.4 - 103.9	99.1	33.1	7.1	87.7 - 65.4	47.3	A. Johansen & Co.	4785
70.0	+ 25.8	48.6 - 58.7	53.8	32.0	8.3	70.1 - 70.0	48.6	D. Keys, Ltd.	972

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. The Trial No. a + 2b is taken as a measure of the irregularities of rate.

Only those Chronometers have been included in this list for which b did not exceed 12 seconds.