

RATES OF DECK WATCHES

ON TRIAL

FOR PURCHASE BY THE BOARD OF ADMIRALTY,

AT THE

ROYAL OBSERVATORY, GREENWICH.

FROM 1902 OCTOBER 25 TO 1903 FEBRUARY 14.

(1) WEEKLY RATES IN ORDER OF TIME.

NAME OF MAKER.	No.	Oct 25 to Nov. 1.	Nov. 1-8.	Nov. 8-15.	Nov. 15-22.	Nov. 22-29.	Nov. 29 to Dec. 6.	Dec. 6-13.	Dec. 13-19.	Dec. 19-22.	Dec. 22-25.	Dec. 25-29.	Dec. 29 to Jan. 6.
		Watch Horizontal. Dial up.						Watch Vertical. Pendant up.	Watch Vertical. Pendant right.	Watch Vertical. Pendant left.	Watch Vertical. Pendant up.	Watch Horizontal. Dial up.	
Elhrhardt.....	190318	-15.6	-12.4	-14.5	-12.1	-11.9	-17.5	-16.7	-14.0	-16.1	-17.9	-18.7	-14.1
Yomans.....	76978	+2.5	+5.0	+4.2	+4.3	+1.8	+2.2	-2.7	-7.4	-11.7	-10.0	-4.8	-2.5
J. Player and Son, Ltd.	29516	-24.1	-20.0	-17.8	-22.0	-21.8	-24.7	-21.1	-15.7	-21.7	-17.1	-11.7	-14.5
Goldsmiths and Silversmiths Co.	73127	-1.0	-0.2	-0.2	-1.1	-0.9	-0.7	-0.6	-0.2	-0.2	-0.5	-0.5	-0.7
Seill.....	42285	-8.7	-0.6	-1.9	-6.6	-8.5	-11.8	-11.8	-11.8	-11.7	-0.7	-7.4	-0.7
J. Player and Son, Ltd.	30809	-3.9	-3.6	-1.8	-7.2	-8.8	-13.2	-6.0	+1.8	+0.9	-1.9	-11.2	-8.4
Reid and Sons.....	9611	-2.8	-2.0	-2.1	-4.8	-2.2	-1.0	-0.3	-14.0	-11.4	-11.4	-7.7	+11.9
Goldsmiths and Silversmiths Co.	50279	-17.5	-15.3	-15.2	-15.6	-12.9	-16.2	-22.2	-31.5	-29.4	-23.6	-18.5	-4.8
J. Player and Son, Ltd.	30814	+12.3	+13.8	+13.8	+9.7	+10.9	+10.0	+11.8	+14.5	+11.9	+12.1	+12.3	+12.1
J. Hewitt.....	58348	+17.6	+18.7	+15.4	+8.0	+10.5	+9.5	+8.7	+4.6	+5.6	-6.3	-8.9	-4.2
Klean and Co.	62437	+1.6	+4.1	+5.1	-2.9	-0.5	+3.8	+3.3	+21.9	+40.8	+13.1	+25.2	+17.1
Newsome and Co.	145698	+11.6	+11.5	+12.2	+10.6	+8.6	+9.5	+9.9	+20.3	+20.5	+3.6	+40.6	+19.5
Usher and Cole.....	30812	-15.4	-15.6	-19.4	-20.1	-17.7	-19.4	-24.9	-59.7	-16.1	-33.1	-68.1	-19.6
Chandler.....	12947	-2.7	-4.3	-7.8	-7.5	-15.7	-12.3	-12.5	-39.2	-41.7	-32.7	-32.0	-10.7
Newsome and Co.	142972	+0.1	+1.9	+1.3	+0.5	+0.4	-2.1	-2.2	+12.8	+26.4	+24.5	+10.3	+16.4
Newsome and Co.	142068	+25.6	+27.7	+28.4	+29.6	+22.8	+15.3	+3.5	-2.9	-5.9	-15.9	+8.9	+0.8
Blockley.....	1751	-8.6	-11.2	-13.0	-11.3	-17.2	-12.4	-22.1	-9.8	-14.2	-27.5	-3.9	-0.8
Seill.....	44297	-12.2	-10.3	-13.5	-12.6	-16.0	-15.9	-23.7	-4.4	-26.1	-29.9	+1.1	-3.9
Kendall and Dent.....	12314	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
Kendall and Dent.....	31832	-22.6	-26.1	-20.8	-18.2	-16.0	+15.6	+28.4	+14.0	+2.3	+18.4	+17.7	+28.3
J. White and Sons.....	36398	+12.1	+13.9	+14.2	+12.6	+11.7	+13.5	+17.1	+36.6	-24.7	+22.9	+70.4	+24.8
Chandler.....	156489	-13.1	-7.1	-0.1	-9.3	-1.2	-8.5	-7.9	-23.0	-19.8	-26.9	-24.9	-5.1
Elhrhardt.....	190318	+14.7	+14.9	+14.9	+14.9	+14.9	+14.9	+14.9	+14.9	+14.9	+14.9	+14.9	+14.9
Carte.....	1064	+14.6	+14.2	+15.0	+13.1	+20.1	+19.9	-6.7	-10.3	-7.7	-4.4	-7.3	-7.3
L. Hall.....	1771	+13.6	+13.6	+15.0	+4.3	+10.1	-3.3	-5.2	-7.5	-10.3	+14.2	+2.5	+2.5
J. White and Sons.....	36309	+4.3	-9.2	-13.2	-17.9	-14.1	-11.2	+15.2	-28.9	+13.8	-13.8	-9.1	-9.1
Wright and Craighall.....	8181	+37.8	+38.1	+40.3	+23.9	+27.9	+22.7	+23.3	-1.4	-7.9	-38.0	-38.0	-38.0
J. Player and Son, Ltd.	30814	+17.7	+13.0	+2.9	+11.3	+5.8	+3.9	+2.3	+7.1	+4.4	+19.3	+23.0	+23.0
Usher and Cole.....	30777	-16.1	-15.5	-16.5	-15.4	-14.2	-15.9	-6.6	-49.0	-97.8	-40.8	-56.4	-59.2
Newsome and Co.	142070	-49.5	-41.4	-42.8	-52.1	-51.9	-59.7	-62.4	-47.4	-46.9	-51.5	-58.6	-58.6
Mean Weekly Temperature ...		58° 3	57° 8	56° 6	52° 5	53° 0	52° 4	51° 0	58° 6	58° 6	58° 6	58° 6	58° 6
Extremes of Temperature as shown by the Self-Registering Thermometer ...		57° 1-59° 5	55° 3-61° 4	55° 1-61° 4	46° 3-68° 1	46° 5-59° 3	45° 1-55° 7	46° 4-56° 5	69° 6-56° 7	68° 6-56° 7	68° 6-56° 7	64° 0-58° 4	64° 0-58° 4

* The Weekly Rates have been computed from the rates for three days.

† The Weekly Rates have been computed from the rates for five days.

During the period Dec. 6 to Jan. 5 the watches were placed in an oven heated by jets of gas, the temperature 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 Weekly Rates have been computed from the rates for four days.

† The Weekly Rates have been computed from the rates for four days.

During the period Dec. 6 to Jan. 5 the watches were placed in an oven heated by jets of gas, the temperature 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.

(2) ABSTRACT OF THE PRINCIPAL CHANGES OF RATES.

Jan. 5-10.	Jan. 10-17.	Jan. 17-24.	Jan. 24-31.	Jan. 31 Feb. 7.	Feb. 7-14.	Difference between greatest and least Weekly Rates.	Greatest difference between one week and the next.	Difference of Weekly Rates.				Trial Number.	NAME OF MAKER.	No.
Watch Horizontal. Dial up.						Dial up. a.	Dial up. b.	Pendant up. -Dial up. c.	Pendant right -Dial up. d.	Pendant left -Dial up. e.	a + b + c + (-d + e)			
- 6.7	- 6.0	-12.8	- 9.8	-10.5	-15.8	- 6.7	- 6.0	+ 1.5	- 0.7	- 2.5	27.5	*Rhurdt.....	190318	
-12.3	- 9.8	- 0.4	- 9.5	- 9.7	-12.0	-12.3	- 9.8	+ 0.3	- 7.0	- 3.7	31.4	*Yennans.....	767678	
- 2.0	- 0.4	- 4.6	- 5.0	- 5.2	-10.2	- 2.0	- 0.4	+ 2.4	-10.2	- 6.5	32.3	*J. Player & Son, Ltd.	29516	
-10.5	-10.6	-11.2	- 6.1	- 6.5	- 6.1	-10.5	-10.6	+ 13.0	- 5.7	+ 6.7	38.9	*Yennans.....	761657	
												*Sewill.....	45220	
-15.8	- 7.1	-19.9	-20.9	-23.5	-22.8	-15.8	- 7.1	+ 2.5	+ 8.1	+ 5.3	40.0	*J. Player & Son, Ltd.	33839	
- 4.2	+ 0.2	- 0.7	- 7.5	- 9.4	-14.1	- 4.2	- 0.2	+ 2.0	-15.9	-10.1	43.2	*Goldsmiths & Jewellers Co.	55273	
- 1.8	+ 3.0	-12.4	-12.3	- 6.9	-12.4	- 1.8	+ 3.0	+ 9.0	+ 0.1	+ 1.1	46.3	*J. Player & Son, Ltd.	30814	
- 8.5	-12.4	-12.3	- 6.9	-12.4	- 5.4	- 8.5	-12.4	- 4.5	+ 3.8	- 8.6	50.2	*J. Hewitt.....	58348	
+ 9.2	+24.1	-1.2	+ 3.2	+ 8.2	+ 8.8	+ 9.2	+24.1	+15.4	+32.6	+ 4.9	51.7	Klean and Co.....	624837	
-11.1	-22.0	-23.8	-15.6	-16.1	-15.8	-11.1	-22.0	-29.3	+10.3	-7.4	54.8	Newmans and Co.....	145698	
+23.5	+18.8	+10.7	+24.3	+20.1	+32.7	+23.5	+18.8	-27.6	-62.1	-57.1	57.1	Chandler.....	13941	
								+ 4.5	+19.3	+17.4	58.5	Newmans and Co.....	145732	
+16.1	+15.9	+15.6	+13.8	+19.8	+25.5	+16.1	+15.9	-5.8	-17.3	-27.6	60.1	Newmans and Co.....	142063	
-17.6	-11.2	-16.6	-23.0	-18.8	-28.2	-17.6	-11.2	+11.7	-12.7	-16.5	62.0	Ridley.....	54669	
-16.0	- 8.1	-16.8	-23.0	-18.8	-28.2	-16.0	- 8.1	+3.4	-13.9	-8.6	62.5	Kendal and Dist.....	12214	
+14.0	+9.0	+6.0	+10.9	+5.1	+12.9	+14.0	+9.0	-18.2	-10.7	-24.3	62.7	Kendal and Dist.....	31022	
+12.3	+10.1	+9.9	+13.3	+15.0	+17.0	+12.3	+10.1	+32.5	-45.7	+1.9	64.1	*J. White and Sons.	36998	
+ 0.6	- 9.8	-18.0	-10.6	-17.8	-10.6	+ 0.6	- 9.8	+10.4	-33.3	-32.8	64.0	*Chandler & Uniphase.	8181	
+13.2	+15.8	+1.9	+1.4	+7.2	+3.3	+13.2	+15.8	+21.1	-38.5	-2.3	65.0	*Rhurdt.....	19066	
+17.2	+19.6	+2.1	+2.9	+3.8	+11.9	+17.2	+19.6	+16.9	-19.7	+7.1	65.9	*J. Player & Son, Ltd.	36871	
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RATES OF DECK WATCHES ON TRIAL FOR PURCHASE BY THE ADMIRALTY AT THE

(1) WEEKLY RATES IN ORDER OF TIME.

NAME OF MAKER	No.	Oct 25 to Nov. 1.	Nov. 1-8.	Nov. 8-15.	Nov. 15-22.	Nov. 22-29.	Nov. 29 to Dec. 6.	Dec. 6-13.	Dec. 15-19.	Dec. 19-22.	Dec. 22-25.	Dec. 25-29.	Dec. 29 to Jan. 5.
		Watch Horizontal. Dial up.				Watch Vertical. Dial up.				Watch Vertical. Dial up.			
		Watch Horizontal. Dial up.				Watch Vertical. Dial up.				Watch Vertical. Dial up.			
Elhrardt.....	190968	+ 10.6	+ 12.7	+ 13.9	+ 6.4	+ 5.3	+ 8.3	+ 11.1	+ 40.1	+ 29.2	+ 15.4	+ 43.6	+ 44.8
Chandler.....	56802	+ 14.7	+ 23.9	+ 20.8	+ 37.5	+ 27.5	+ 32.0	+ 28.8	+ 38.8	+ 35.0	+ 39.2	+ 40.6	+ 34.5
Mathews.....	57946	+ 17.8	+ 12.9	+ 12.2	+ 17.8	+ 17.8	+ 17.8	+ 17.8	+ 17.8	+ 17.8	+ 17.8	+ 17.8	+ 17.8
Birch and Gaydon.....	2447	+ 18.0	+ 20.1	+ 22.2	+ 10.2	+ 10.7	+ 13.9	+ 29.7	+ 21.7	+ 60.0	+ 49.2	+ 39.4	+ 40.2
		+ 18.0	+ 20.1	+ 22.2	+ 23.5	+ 28.1	+ 27.7	+ 6.0	+ 2.3	+ 3.0	+ 6.1	+ 1.8	+ 4.0
Newsome and Co.....	138998	+ 6.8	+ 0.9	+ 5.1	+ 0.6	+ 1.7	+ 11.4	+ 3.8	+ 18.0	+ 37.3	+ 3.5	+ 27.5	+ 8.2
Newsome and Co.....	140251	+ 20.9	+ 19.0	+ 3.3	+ 9.4	+ 5.2	+ 6.3	+ 21.6	+ 48.1	+ 29.4	+ 31.3	+ 31.7	+ 8.2
Fridlander.....	25615	+ 8.9	+ 9.1	+ 7.3	+ 8.4	+ 3.3	+ 1.2	+ 7.9	+ 11.6	+ 1.6	+ 13.3	+ 9.6	+ 14.4
Street and Co.....	48934	+ 16.9	+ 7.1	+ 4.0	+ 9.5	+ 1.4	+ 1.5	+ 7.1	+ 15.4	+ 10.7	+ 13.3	+ 9.6	+ 14.4
Goldsmiths and Silver- smiths Co.....	50988	+ 17.1	+ 7.4	+ 14.8	+ 11.3	+ 26.1	+ 28.8	+ 8.0	+ 0.4	+ 2.3	+ 0.0	+ 4.0	+ 4.7
J. Hewitt.....	57677	+ 28.2	+ 31.4	+ 25.4	+ 11.0	+ 17.9	+ 14.9	+ 17.3	+ 30.6	+ 41.8	+ 7.2	+ 27.3	+ 21.7
Newsome and Co.....	145734	+ 5.9	+ 3.6	+ 1.9	+ 3.9	+ 3.3	+ 3.3	+ 3.8	+ 19.8	+ 24.0	+ 2.9	+ 24.9	+ 9.9
E. White.....	7347	+ 0.9	+ 3.0	+ 2.6	+ 5.7	+ 6.2	+ 4.9	+ 28.8	+ 32.0	+ 16.3	+ 20.1	+ 24.5	+ 9.9
C. Frodsham and Co. Ltd.....	08956	+ 18.6	+ 16.9	+ 17.5	+ 21.6	+ 22.3	+ 19.8	+ 2.0	+ 16.5	+ 7.9	+ 10.0	+ 11.4	+ 4.9
Newsome and Co.....	145735	+ 9.2	+ 6.6	+ 7.1	+ 8.9	+ 10.1	+ 9.0	+ 20.7	+ 30.0	+ 21.0	+ 14.7	+ 11.6	+ 3.8
Olivant and Bedford.....	31179	+ 11.3	+ 9.3	+ 12.9	+ 29.3	+ 20.9	+ 21.0	+ 20.9	+ 54.4	+ 37.3	+ 49.7	+ 41.1	+ 22.1
Reid and Sons.....	9612	+ 2.3	+ 5.5	+ 3.2	+ 1.6	+ 5.3	+ 3.6	+ 15.8	+ 35.0	+ 38.0	+ 49.4	+ 28.0	+ 5.5
L. Hall.....	1672	+ 8.1	+ 7.0	+ 9.4	+ 2.4	+ 8.0	+ 4.0	+ 17.7	+ 11.1	+ 15.6	+ 3.9	+ 18.1	+ 11.1
Wright and Craighead.....	8204	+ 80.2	+ 32.1	+ 31.0	+ 29.7	+ 31.5	+ 31.0	+ 7.8	+ 12.9	+ 30.3	+ 46.2	+ 31.3	+ 8.6
		+ 80.2	+ 32.1	+ 31.0	+ 29.7	+ 31.5	+ 31.0	+ 7.8	+ 12.9	+ 30.3	+ 46.2	+ 31.3	+ 8.6
Goldsmiths and Silver- smiths Co.....	50940	+ 4.7	+ 7.0	+ 7.7	+ 5.2	+ 6.7	+ 10.0	+ 6.1	+ 20.3	+ 29.7	+ 15.2	+ 18.6	+ 7.0
Newsome and Co.....	145736	+ 10.5	+ 11.2	+ 9.6	+ 8.2	+ 10.8	+ 8.8	+ 14.5	+ 10.3	+ 7.7	+ 21.7	+ 18.2	+ 10.0
Elhrardt.....	190967	+ 10.0	+ 7.3	+ 4.8	+ 2.7	+ 2.3	+ 6.2	+ 3.9	+ 20.7	+ 1.1	+ 0.7	+ 17.3	+ 38.4
Olivant and Bedford.....	31180	+ 4.0	+ 3.2	+ 6.5	+ 7.7	+ 8.4	+ 7.8	+ 1.5	+ 40.3	+ 18.2	+ 52.5	+ 5.1	+ 2.5
Usher and Cole.....	30829	+ 8.8	+ 7.4	+ 10.4	+ 21.4	+ 14.1	+ 20.0	+ 9.6	+ 18.2	+ 46.7	+ 7.9	+ 16.6	+ 6.0
Goldsmiths and Silver- smiths Co.....	50941	+ 14.4	+ 19.6	+ 25.8	+ 25.5	+ 27.3	+ 26.3	+ 8.9	+ 20.7	+ 15.2	+ 29.1	+ 27.8	+ 33.2
P. and A. Goye, Ltd.....	11671	+ 1.4	+ 2.1	+ 0.4	+ 4.8	+ 4.1	+ 3.2	+ 11.5	+ 54.8	+ 2.6	+ 27.1	+ 54.6	+ 29.2
C. Frodsham and Co. Ltd.....	08902	+ 18.9	+ 19.4	+ 18.2	+ 14.7	+ 11.5	+ 10.5	+ 15.0	+ 12.6	+ 20.8	+ 9.1	+ 6.1	+ 32.8
J. Hewitt.....	57678	+ 40.9	+ 40.7	+ 38.9	+ 25.3	+ 30.8	+ 27.0	+ 28.4	+ 38.4	+ 45.7	+ 42.2	+ 56.5	+ 66.6
Yoomans.....	76679	+ 10.9	+ 9.3	+ 10.2	+ 1.1	+ 8.1	+ 7.2	+ 25.1	+ 55.8	+ 62.6	+ 46.4	+ 48.8	+ 22.7
Mean Weekly Temperature		58.3	57.8	56.6	52.5	58.0	52.4	81.0	83.6		79.8		77.7
Extremes of Temperature as shown by the Self-Regis- tering Thermometer		57.1-59.5	55.3-61.4	55.0-58.9	46.3-68.1	45.6-59.3	42.1-55.7	68.4-86.5	69.6-96.7		68.6-89.7		64.0-98.4

* The Weekly Rates have been computed from the rates for three days.

† The Weekly Rates have been computed from the rates for five days.

‡ During the period Dec. 6 to Jan. 5, the watches were placed in an oven heated by jets of gas, the temperature 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.

ROYAL OBSERVATORY, GREENWICH, FROM 1902 OCTOBER 25 TO 1903 FEBRUARY 14.

(2) ABSTRACT OF THE PRINCIPAL CHANGES OF RATES.

NAME OF MAKER	No.	Jan. 5-10.	Jan. 10-17.	Jan. 17-24.	Jan. 24-31.	Jan. 31 to Feb. 7.	Feb. 7-14.	Difference between greatest and least one week rates.	Difference of Weekly Rates.	Trial Number.	NAME OF MAKER	No.
		Watch Horizontal. Dial up.				Watch Vertical. Dial up.				Trial Number.		
		Watch Horizontal. Dial up.				Watch Vertical. Dial up.				Trial Number.		
Elhrardt.....	190968	+ 34.2	+ 30.6	+ 19.1	+ 25.0	+ 25.1	+ 27.0	39.5	+ 13.9	+ 1.2	71.9	190968
Chandler.....	56802	+ 47.2	+ 52.4	+ 55.1	+ 46.9	+ 45.7	+ 39.7	24.3	+ 11.5	+ 5.8	72.5	56802
Mathews.....	57946	+ 17.8	+ 17.8	+ 17.8	+ 17.8	+ 17.8	+ 17.8	30.0	+ 11.9	+ 2.7	72.6	57946
Birch and Gaydon.....	2447	+ 30.0	+ 24.3	+ 20.0	+ 32.4	+ 27.9	+ 35.7	30.0	+ 11.9	+ 2.7	72.6	2447
		+ 9.1	+ 16.6	+ 31.1	+ 16.7	+ 24.8	+ 35.7	27.1	+ 11.5	+ 5.8	72.5	
Newsome and Co.....	138998	+ 12.7	+ 0.2	+ 4.1	+ 13.8	+ 13.9	+ 19.0	30.4	+ 15.2	+ 3.3	74.9	138998
Newsome and Co.....	140251	+ 22.1	+ 18.0	+ 6.5	+ 8.9	+ 12.9	+ 39.3	26.5	+ 17.4	+ 23.0	75.3	140251
Fridlander.....	25615	+ 1.4	+ 6.9	+ 0.3	+ 3.1	+ 6.9	+ 9.8	30.4	+ 15.0	+ 10.0	75.5	25615
Street and Co.....	48934	+ 14.0	+ 2.2	+ 10.4	+ 7.2	+ 7.3	+ 5.6	33.5	+ 20.8	+ 3.9	77.5	48934
Goldsmiths and Silver- smiths Co.....	50988	+ 17.2	+ 8.1	+ 4.9	+ 7.7	+ 1.9	+ 2.9	29.5	+ 14.6	+ 9.5	77.8	50988
J. Hewitt.....	57677	+ 17.1	+ 18.7	+ 3.1	+ 5.6	+ 11.4	+ 10.9	28.5	+ 15.4	+ 24.4	80.4	57677
Newsome and Co.....	145734	+ 26.7	+ 7.1	+ 29.8	+ 24.1	+ 18.0	+ 18.6	27.9	+ 23.8	+ 8.9	80.8	145734
E. White.....	7347	+ 0.9	+ 3.0	+ 2.6	+ 5.7	+ 6.2	+ 4.9	30.4	+ 15.0	+ 10.0	80.8	7347
C. Frodsham and Co. Ltd.....	08956	+ 18.6	+ 16.9	+ 17.5	+ 21.6	+ 22.3	+ 19.8	29.9	+ 21.9	+ 12.5	82.3	08956
Newsome and Co.....	145735	+ 9.2	+ 6.6	+ 7.1	+ 8.9	+ 10.1	+ 9.0	45.9	+ 16.6	+ 9.5	83.2	145735
Olivant and Bedford.....	31179	+ 11.3	+ 9.3	+ 12.9	+ 29.3	+ 20.9	+ 21.0	37.2	+ 19.2	+ 26.9	84.1	31179
Reid and Sons.....	9612	+ 2.3	+ 5.5	+ 3.2	+ 1.6	+ 5.3	+ 3.6	27.1	+ 13.4	+ 20.8	84.6	9612
L. Hall.....	1672	+ 8.1	+ 7.0	+ 9.4	+ 2.4	+ 8.0	+ 4.0	38.0	+ 21.7	+ 1.2	85.0	1672
Wright and Craighead.....	8204	+ 80.2	+ 32.1	+ 31.0	+ 29.7	+ 31.5	+ 31.0	37.2	+ 23.2	+ 2.9	85.8	8204
		+ 80.2	+ 32.1	+ 31.0	+ 29.7	+ 31.5	+ 31.0	37.2	+ 23.2	+ 2.9	85.8	
Goldsmiths and Silver- smiths Co.....	50940	+ 4.7	+ 7.0	+ 7.7	+ 5.2	+ 6.7	+ 10.0	35.2	+ 16.1	+ 20.0	86.1	50940
Newsome and Co.....	145736	+ 10.5	+ 11.2	+ 9.6	+ 8.2	+ 10.8	+ 8.8	39.8	+ 16.7	+ 18.7	86.2	145736
Elhrardt.....	190967	+ 10.0	+ 7.3	+ 4.8	+ 2.7	+ 2.3	+ 6.2	42.3	+ 10.1	+ 35.3	86.4	190967
Olivant and Bedford.....	31180	+ 4.0	+ 3.2	+ 6.5	+ 7.7	+ 8.4	+ 7.8	29.8	+ 24.4	+ 24.9	87.4	31180
Usher and Cole.....	30829	+ 8.8	+ 7.4	+ 10.4	+ 21.4	+ 14.1	+ 20.0	26.4	+ 18.3	+ 9.1	87.5	30829
Goldsmiths and Silver- smiths Co.....	50941	+ 14.4	+ 19.6	+ 25.8	+ 25.5	+ 27.3	+ 26.3	48.9	+ 19.3	+ 3.7	88.1	50941
P. and A. Goye, Ltd.....	11671	+ 1.4	+ 2.1	+ 0.4	+ 4.8	+ 4.1	+ 3.2	34.0	+ 16.2	+ 34.3	88.6	11671
C. Frodsham and Co. Ltd.....	08902	+ 18.9	+ 19.4	+ 18.2	+ 14.7	+ 11.5	+ 10.5	22.3	+ 18.4	+ 33.3	88.8	08902
J. Hewitt.....	57678	+ 40.9	+ 40.7	+ 38.9	+ 25.3	+ 30.8	+ 27.0	47.1	+ 19.3	+ 0.5	88.9	57678
Yoomans.....	76679	+ 10.9	+ 9.3	+ 10.2	+ 1.1	+ 8.1	+ 7.2	29.1	+ 17.9	+ 25.4	89.3	76679
		+ 10.9	+ 9.3	+ 10.2	+ 1.1	+ 8.1	+ 7.2	29.1	+ 17.9	+ 25.4	89.3	
Mean Weekly Temperature		58.3	57.8	56.6	52.5	58.0	52.4	81.0	83.6		79.8	
Extremes of Temperature as shown by the Self-Regis- tering Thermometer		57.1-59.5	55.3-61.4	55.0-58.9	46.3-68.1	45.6-59.3	42.1-55.7	68.4-86.5	69.6-96.7		68.6-89.7	

The sign + indicates a gaining rate.

The quantities a , b , c , d , e , in the formula $a + b + c + d + e$ ($\pm \frac{d+e}{2}$), are taken numerically, without regard to sign.

Only those watches have been included in this list for which the trial number did not exceed 100.

* Watches thus marked have the "Karnell" movement.

(1) WEEKLY RATES IN ORDER OF TIME.

NAME OF MAKER.	No.	Oct. 25 to Nov. 1.	Nov. 1-8.	Nov. 8-15.	Nov. 15-22.	Nov. 22-29.	Nov. 29 to Dec. 6.	Dec. 6-13.	Dec. 15-19.	Dec. 19-22.	Dec. 22-25.	Dec. 25-29.	Dec. 29 to Jan. 5.
		Watch Horizontal. Dial up.						Watch Vertical. Pendant up.	Watch Vertical. Pendant right.	Watch Vertical. Pendant left.	Watch Vertical. Pendant up.	Watch Horizontal. Dial up.	
J. Hewitt.....	57241	- 54.3	- 66.9	- 64.9	- 71.8	- 49.2	- 62.5	- 69.1	- 38.9	- 40.4	- 44.3	- 45.3	- 45.2
Thorneol.....	1062	-107.9	-109.1	-109.4	-117.0	-113.6	-112.8	- 97.0	-105.2	-118.5	-117.1	-108.3	-105.9
Goldsmith and Silver- smith Co.....	59448	- 19.3	- 20.2	- 22.0	- 30.3	- 25.3	- 30.8	- 8.2	- 2.3	- 6.3	- 5.6	- 5.8	- 25.8
P. and A. Gey, Ltd.,	12846	+ 7.5	+ 11.1	+ 13.6	+ 3.1	+ 14.3	+ 11.3	- 12.9	- 4.2	- 40.4	- 28.3	- 5.3	- 1.7
J. White and Sons	36310	- 4.4	- 5.6	- 3.5	+ 9.9	- 4.3	- 4.2	- 30.0	- 42.9	- 50.4	- 29.3	- 29.9	- 26.0
Usher and Cole.....	30694	- 26.0	- 24.0	- 30.2	- 22.9	- 29.4	- 25.5	- 7.1	- 20.7	+ 17.5	+ 11.0	- 37.3	+ 6.1
Carroll.....	190394	+ 17.4	+ 13.2	+ 12.8	+ 9.3	- 1.2	- 4.1	- 0.9	+ 5.6	- 7.5	- 16.3	+ 15.2	+ 31.4
Roberts.....	30992	- 23.0	- 33.7	+ 26.4	+ 17.3	+ 12.2	+ 17.0	+ 39.9	+ 38.5	+ 37.3	+ 20.8	+ 13.1	- 26.6
J. White and Son.....	36312	- 16.3	- 16.9	- 19.3	- 17.8	- 12.1	- 13.6	- 34.8	- 45.0	- 31.0	- 22.4	- 22.8	- 9.3
Chandler.....	55169	+ 3.3	+ 5.6	- 5.0	- 7.0	- 2.8	- 6.4	+ 19.9	+ 28.4	+ 31.3	+ 35.2	+ 34.1	+ 29.6
R. Smith.....	385	+ 30.0	+ 38.0	+ 43.8	+ 42.4	+ 32.6	+ 21.2	+ 10.5	- 11.9	- 14.9	- 14.7	- 14.7	+ 9.3
Wolffenden.....	31387	- 29.1	- 30.4	- 32.0	- 32.0	- 42.3	- 43.3	- 22.9	- 19.3	- 24.8	- 30.8	- 31.5	- 39.4
Thorneol.....	1084	- 50.9	- 51.3	- 51.0	- 66.0	- 58.4	- 62.3	- 49.0	- 80.7	- 84.7	- 83.8	- 80.4	- 55.3
Frillander.....	25614	- 20.9	- 19.1	- 22.5	- 29.5	- 21.3	- 24.3	- 8.6	- 15.2	- 15.2	- 13.5	- 1.9	- 1.9
J. Player and Son, Ltd.	30234	- 5.5	- 4.2	- 4.0	- 0.0	- 11.0	- 7.3	+ 11.8	+ 24.0	+ 17.3	+ 30.6	+ 36.4	+ 20.0
Thorneol.....	73303	- 41.5	- 44.4	- 50.0	- 45.3	- 62.0	- 53.2	- 28.0	- 26.1	- 23.4	- 30.8	- 30.1	- 17.8
J. Player and Son, Ltd.	29614	+ 11.7	+ 12.8	+ 13.9	+ 15.0	+ 13.8	+ 11.3	+ 13.7	+ 4.7	+ 6.1	+ 8.2	+ 10.3	+ 19.7
Mean Weekly Temperature ...		58.3	57.8	56.6	55.5	55.0	52.4	51.0	53.6		79.8		77.7
Extremes of Temperature as shown by the Self-Regis- tering Thermometer		57.1-59.5	55.3-61.4	55.0-58.9	46.3-63.1	48.5-59.3	45.1-55.7	68.4-55.5	69.8-50.7		68.6-89.7		64.0-88.4

* The Weekly Rates have been computed from the rates for three days.

† The Weekly Rates have been computed from the rates for four days.

‡ During the period Dec. 6 to Jan. 5, the watches were placed in an oven heated by jets of gas, the temperature 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.

J. Player and Son, Ltd. 2954. The mainspring of this watch broke during the 11th week of the trial.

* The Weekly Rates have been computed from the rates for three days.

† The Weekly Rates have been computed from the rates for four days.

‡ During the period Dec. 6 to Jan. 5, the watches were placed in an oven heated by jets of gas, the temperature 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.

J. Player and Son, Ltd. 2954. The mainspring of this watch broke during the 11th week of the trial.

(2) ABSTRACT OF THE PRINCIPAL CHANGES OF RATES.

Jan. 5-10. ‡	Jan. 10-17.	Jan. 17-24.	Jan. 24-31.	Jan. 31 to Feb. 7.	Feb. 7-14.	Difference between greatest and least Weekly Rates.	Greatest difference between one week and the next.	Difference of Weekly Rates.	Trial Number.	NAME OF MAKER	No.
						Dial up. a.	Dial up. b.	Pendant up -Dial up. c.	Pendant right -Dial up. d.	Pendant left -Dial up. e.	$\alpha + 2\beta + \gamma$ ($\gamma = \frac{d+\alpha}{2}$)
- 59.9	- 76.8	- 70.7	- 71.3	- 69.4	- 59.6	31.6	22.6	+ 15.1	+ 16.8	+ 12.9	89.4
-116.3	-129.2	-123.8	-124.7	-134.3	-147.3	50.3	15.8	+ 5.8	+ 10.7	+ 10.6	90.0
- 32.6	- 41.1	- 33.8	- 38.9	- 39.2	- 34.0	35.1	22.6	+ 12.9	+ 17.0	+ 11.4	90.5
+ 14.3	+ 5.7	+ 9.0	+ 18.1	+ 15.1	+ 19.4	32.3	24.2	+ 4.0	- 33.1	- 21.2	91.8
- 18.3	- 17.0	- 19.9	- 26.0	- 25.2	- 27.8	30.9	25.8	- 8.4	- 22.4	- 9.3	92.0
- 1.4	- 8.8	- 17.4	- 13.5	- 11.4	- 9.0	36.3	18.4	- 28.5	+ 18.0	+ 11.5	92.3
+ 8.8	- 0.0	+ 0.4	+ 3.4	- 3.7	- 1.2	35.5	22.6	- 4.9	- 23.8	- 31.6	92.3
+ 8.8	- 0.1	+ 0.4	+ 3.7	+ 7.8	+ 15.2	40.0	22.9	- 8.5	+ 3.0	- 12.5	92.9
+ 1.5	- 8.6	- 14.1	- 10.4	- 14.8	- 14.8	36.3	21.2	- 11.8	- 53.6	- 0.3	93.6
+ 15.5	- 0.3	- 0.1	+ 13.4	+ 5.8	+ 19.2	36.6	20.3	+ 6.5	+ 6.5	+ 10.4	95.3
+ 1.5	- 5.2	- 9.6	- 2.7	- 9.3	- 1.6	53.5	11.4	- 23.2	- 24.8	- 24.8	96.1
- 60.6	- 68.1	- 72.3	- 66.4	- 71.4	- 69.9	48.4	22.2	+ 6.8	+ 6.9	+ 0.4	96.9
- 71.5	- 31.6	- 38.1	- 79.8	- 88.9	- 84.9	39.9	16.2	- 30.9	- 32.5	- 31.6	98.5
- 9.2	- 20.9	- 23.1	- 9.3	- 19.9	- 3.8	37.5	28.9	- 2.2	- 9.9	- 9.9	99.2
- 27.9	- 22.8	- 31.2	- 32.6	- 26.3	- 22.7	44.2	25.2	- 5.2	- 6.5	- 7.9	99.6
...	...	...	...	...	...	...	...	...	...	...	...
54.0	51.6	50.2	55.2	53.1	55.8						
52.3-56.2	43.3-55.3	43.4-57.6	52.6-58.1	49.6-57.8	52.2-58.6						

The sign + indicates a gaining rate.

The quantities α , β , γ , δ , ϵ , in the formula $\alpha + 2\beta + \gamma$ ($\gamma = \frac{d+\alpha}{2}$), are taken numerically, without regard to sign.

Only those watches have been included in this list for which the trial number did not exceed 100.

* Watches thus marked have the "Karrusel" movement.