

RATES OF CHRONOMETER WATCHES
ON TRIAL
FOR PURCHASE BY THE BOARD OF ADMIRALTY,
AT THE
ROYAL OBSERVATORY, GREENWICH,
FROM 1908 AUGUST 1 TO 1908 NOVEMBER 21.

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(1) WEEKLY RATES IN ORDER OF TIME.

Order of Merit.	Aug. 1-8.	Aug. 8-15.	Aug. 15-22.	Aug. 22-29.	Aug. 29 to Sept. 5.	Sept. 5-12.	Sept. 12-19.	Sept. 19-23.	Sept. 23-26.	Sept. 26-29.	Sept. 29 to Oct. 3.	Oct. 3-10.	Oct. 10-17.	Oct. 17-24.	Oct. 24-31.	Oct. 31 to Nov. 7.	Nov. 7-14.	Nov. 14-21.
	Watch Horizontal. Dial up.				Watch Vertical. Pendant up.				Watch Vertical. Pendant left.				Watch Horizontal. Dial up.					
36	+ 2.7	+ 5.6	+ 5.6	+ 7.8	+ 7.7	+ 8.2	+ 17.9	+ 8.8	+ 18.4	+ 23.8	+ 14.5	+ 32.7	+ 24.5	+ 27.4	+ 27.3	+ 27.1	+ 26.5	+ 27.7
37	+ 4.1	+ 4.4	+ 4.7	+ 7.9	+ 7.9	+ 8.1	+ 17.9	+ 8.8	+ 18.4	+ 23.8	+ 14.5	+ 32.7	+ 24.5	+ 27.4	+ 27.3	+ 27.1	+ 26.5	+ 27.7
38	+ 4.1	+ 4.4	+ 4.7	+ 7.9	+ 7.9	+ 8.1	+ 17.9	+ 8.8	+ 18.4	+ 23.8	+ 14.5	+ 32.7	+ 24.5	+ 27.4	+ 27.3	+ 27.1	+ 26.5	+ 27.7
39	+ 4.1	+ 4.4	+ 4.7	+ 7.9	+ 7.9	+ 8.1	+ 17.9	+ 8.8	+ 18.4	+ 23.8	+ 14.5	+ 32.7	+ 24.5	+ 27.4	+ 27.3	+ 27.1	+ 26.5	+ 27.7
40	+ 4.1	+ 4.4	+ 4.7	+ 7.9	+ 7.9	+ 8.1	+ 17.9	+ 8.8	+ 18.4	+ 23.8	+ 14.5	+ 32.7	+ 24.5	+ 27.4	+ 27.3	+ 27.1	+ 26.5	+ 27.7
41	+ 0.3	+ 0.9	+ 0.9	+ 0.7	+ 10.4	+ 7.9	+ 7.1	+ 14.9	+ 26.1	+ 37.8	+ 27.2	+ 30.2	+ 27.5	+ 26.3	+ 32.2	+ 28.9	+ 28.6	
42	+ 0.7	+ 8.6	+ 10.4	+ 10.4	+ 9.2	+ 7.2	+ 8.4	+ 8.0	+ 23.1	+ 27.5	+ 27.5	+ 11.4	+ 7.5	+ 0.0	+ 0.6	+ 1.4	+ 9.3	
43	+ 8.6	+ 10.4	+ 10.4	+ 7.8	+ 9.2	+ 12.1	+ 10.1	+ 12.8	+ 16.2	+ 18.7	+ 8.8	+ 1.8	+ 16.9	+ 20.6	+ 27.4	+ 17.3	+ 20.7	+ 20.1
44	+ 12.0	+ 20.3	+ 20.3	+ 20.0	+ 29.5	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8	+ 10.8
45	+ 14.9	+ 16.0	+ 18.0	+ 20.0	+ 27.0	+ 33.2	+ 44.6	+ 28.5	+ 30.4	+ 32.7	+ 38.7	+ 40.5	+ 40.9	+ 38.8	+ 35.0	+ 32.7	+ 31.4	+ 27.8
46	+ 9.9	+ 10.8	+ 8.9	+ 8.4	+ 8.0	+ 5.8	+ 17.5	+ 7.0	+ 30.4	+ 9.3	+ 7.7	+ 22.6	+ 18.2	+ 19.1	+ 25.8	+ 24.8	+ 27.8	+ 34.4
47	+ 4.8	+ 9.8	+ 2.4	+ 7.0	+ 3.9	+ 1.9	+ 12.7	+ 10.8	+ 5.6	+ 2.1	+ 18.4	+ 8.0	+ 1.1	+ 0.8	+ 1.0	+ 0.0	+ 3.1	+ 11.1
48	+ 2.7	+ 2.6	+ 1.3	+ 0.5	+ 9.5	+ 13.4	+ 4.7	+ 1.3	+ 28.5	+ 11.0	+ 0.5	+ 1.5	+ 12.5	+ 11.0	+ 19.1	+ 14.1	+ 19.8	+ 10.2
49	+ 3.9	+ 9.0	+ 3.6	+ 1.7	+ 1.9	+ 1.3	+ 16.3	+ 1.8	+ 3.3	+ 9.8	+ 2.6	+ 7.9	+ 0.2	+ 2.7	+ 3.7	+ 2.9	+ 6.1	+ 5.0
50																		
51	+ 10.0	+ 11.9	+ 10.6	+ 13.2	+ 2.8	+ 1.3	+ 10.3	+ 14.8	+ 13.1	+ 18.7	+ 13.0	+ 9.6	+ 2.3	+ 1.6	+ 2.7	+ 4.2	+ 7.2	
52	+ 4.1	+ 8.0	+ 12.0	+ 8.7	+ 4.1	+ 10.0	+ 24.5	+ 2.5	+ 1.6	+ 4.7	+ 6.8	+ 13.0	+ 19.1	+ 23.8	+ 12.0	+ 10.3	+ 12.9	+ 9.5
53	+ 6.8	+ 5.0	+ 4.7	+ 1.1	+ 9.0	+ 11.0	+ 26.7	+ 4.7	+ 0.8	+ 7.7	+ 5.1	+ 8.4	+ 4.8	+ 9.5	+ 12.5	+ 12.8	+ 17.6	+ 15.0
54	+ 3.9	+ 9.0	+ 8.2	+ 7.8	+ 0.6	+ 3.8	+ 8.3	+ 26.2	+ 22.2	+ 20.4	+ 10.8	+ 4.6	+ 15.6	+ 14.1	+ 10.8	+ 12.8	+ 9.7	+ 11.9
55	+ 13.0	+ 11.0	+ 8.2	+ 6.4	+ 11.1	+ 5.8	+ 16.3	+ 3.9	+ 1.9	+ 10.0	+ 50.1	+ 5.0	+ 5.0	+ 5.0	+ 5.0	+ 5.0	+ 2.8	+ 10.2
56	+ 10.7	+ 13.8	+ 15.9	+ 13.4	+ 17.2	+ 20.2	+ 13.6	+ 35.4	+ 15.6	+ 22.9	+ 40.1	+ 22.9	+ 36.9	+ 38.5	+ 37.3	+ 32.6	+ 34.7	
57	+ 42.7	+ 51.0	+ 50.2	+ 69.8	+ 63.4	+ 64.2	+ 63.6	+ 46.7	+ 73.3	+ 47.8	+ 35.5	+ 70.5	+ 57.3	+ 60.2	+ 61.1	+ 61.9	+ 56.9	+ 45.0
58	+ 20.9	+ 20.1	+ 20.6	+ 12.3	+ 25.0	+ 27.4	+ 41.5	+ 0.2	+ 21.9	+ 24.2	+ 20.8	+ 17.7	+ 17.3	+ 20.7	+ 22.1	+ 24.2	+ 23.8	+ 24.9
59	+ 8.1	+ 10.8	+ 11.3	+ 13.0	+ 15.5	+ 16.8	+ 7.8	+ 9.7	+ 11.7	+ 16.6	+ 6.8	+ 20.1	+ 32.8	+ 35.1	+ 28.9	+ 38.2	+ 33.6	+ 30.5
60																		
61	+ 3.3	+ 4.5	+ 4.9	+ 6.8	+ 6.1	+ 7.0	+ 7.2	+ 23.1	+ 46.2	+ 5.4	+ 34.5	+ 4.4	+ 16.9	+ 15.9	+ 11.1	+ 14.0	+ 9.7	+ 9.2
62	+ 77.3	+ 82.5	+ 88.0	+ 83.4	+ 71.0	+ 67.6	+ 78.4	+ 56.0	+ 17.3	+ 108.6	+ 70.5	+ 16.0	+ 88.3	+ 73.7	+ 68.0	+ 32.2	+ 55.8	+ 44.1
63	+ 9.9	+ 5.0	+ 5.0	+ 1.5	+ 6.0	+ 6.7	+ 20.4	+ 24.0	+ 10.5	+ 10.5	+ 28.9	+ 16.6	+ 11.7	+ 10.1	+ 16.7	+ 17.3	+ 23.1	+ 20.2
64	+ 80.2	+ 86.6	+ 85.0	+ 87.0	+ 86.0	+ 86.9	+ 102.3	+ 73.8	+ 173.8	+ 41.5	+ 69.8	+ 105.4	+ 99.2	+ 92.5	+ 88.7	+ 90.0	+ 82.6	+ 79.7
65	+ 0.1	+ 9.0	+ 4.1	+ 1.0	+ 3.2	+ 6.0	+ 15.9	+ 18.0	+ 35.2	+ 33.0	+ 30.5	+ 30.6	+ 11.2	+ 17.1	+ 9.6	+ 8.1	+ 6.4	+ 4.5
66	+ 17.0	+ 11.6	+ 11.9	+ 13.9	+ 8.1	+ 6.3	+ 21.5	+ 75.4	+ 4.4	+ 49.0	+ 80.2	+ 33.7	+ 23.6	+ 24.0	+ 15.8	+ 15.8	+ 22.3	+ 15.7
67																		
68	68.5	65.7	64.9	66.5	61.8	62.4	87.5	88.1		89.4	64.3	60.5	56.8	56.9	54.7	55.3		
69	65.4	64.2	63.8	64.8	58.0	58.8	81.8	82.3		82.8	82.0	63.0	57.0	53.3	56.0	51.4	53.2	
70	71.6	69.0	67.2	68.3	65.9	65.0	90.0	91.1		92.0	92.2	69.0	64.0	62.0	61.4	59.4	59.8	

* 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 Sept. 12 to Oct. 10, the watches were placed in an oven heated by jets of gas, the temperature being regulated by Kohlberg'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.

(3) ABSTRACT OF THE PRINCIPAL CHANGES OF RATES.

Difference between greatest and least Weekly Rates.	Grand difference between one week and the next.	Difference of Weekly Rates.		Trial Number.	N A M E OF MAKER.	No.	A D D R E S S.
a.	b.	c.	d.	e.	f.	g.	h.
30.0	+ 9.7	+ 6.9	+ 1.5	49.4	57.6	2129	65 Market Place, Sheffield.
24.3	+ 13.8	+ 3.2	+ 14.3	+ 12.7	51.9	58.0	Brown & Son.
35.4	+ 11.3	+ 11.4	+ 4.6	+ 10.2	48.0	58.7	Newcomen & Co.
36.0	+ 8.9	+ 8.3	+ 0.6	+ 5.2	53.8	59.0	Chaudier.
28.0	+ 12.1	+ 7.1	+ 28.9	+ 4.8	50.2	59.4	Mathews.
							Watkinson.
31.9	+ 9.7	+ 10.2	+ 5.0	+ 18.4	51.3	59.5	Elmhurst.
17.6	+ 14.2	+ 14.8	+ 11.9	+ 11.9	46.0	60.9	H. White & Co.
25.4	+ 11.0	+ 13.3	+ 4.9	+ 30.0	48.4	61.1	E. White.
25.6	+ 15.1	+ 6.3	+ 9.2	+ 7.7	55.8	61.1	Geydon & Sons.
21.7	+ 17.3	+ 5.0	+ 9.1	+ 7.7	58.3	61.6	Chandler.
29.7	+ 11.4	+ 11.5	+ 12.2	+ 5.0	52.5	62.0	J. Player & Son.
23.6	+ 11.7	+ 13.2	+ 9.8	+ 11.3	52.0	62.1	Lilley & Sons.
23.8	+ 14.6	+ 9.8	+ 10.2	+ 12.7	53.0	62.2	Usher & Co.
16.2	+ 15.3	+ 1.4	+ 30.7	+ 9.0	55.3	62.6	Yennan.
24.8	+ 15.0	+ 9.9	+ 8.8	+ 9.3	54.8	62.8	Newcomen & Co.
20.8	+ 11.9	+ 22.2	+ 22.5	+ 22.9	44.6	68.8	Chandler.
22.5	+ 14.5	+ 17.5	+ 20.2	+ 17.1	51.5	68.5	Elmhurst.
25.6	+ 15.7	+ 12.7	+ 10.8	+ 9.9	57.0	68.6	Yennan.
22.2	+ 12.2	+ 6.4	+ 24.4	+ 41.8	29.6	68.6	H. White & Co.
24.1	+ 17.5	+ 6.1	+ 25.0	+ 4.6	59.1	67.1	Jay, R. Attenborough & Co.
27.8	+ 14.0	+ 14.9	+ 2.7	+ 18.0	59.7	67.8	Phillips.
29.7	+ 9.0	+ 12.2	+ 40.1	+ 13.2	27.0	67.4	H. White & Co.
26.8	+ 13.2	+ 25.8	+ 6.4	+ 19.1	53.2	70.4	Grant & Sons.
29.2	+ 13.7	+ 21.1	+ 9.7	+ 10.8	56.6	70.6	Conna.
24.4	+ 12.7	+ 19.3	+ 30.7	+ 30.6	55.8	74.9	Goddard & Co.
24.1	+ 14.2	+ 30.2	+ 44.8	+ 4.0	52.5	75.7	Halford & Sons.
29.3	+ 12.4	+ 5.5	+ 36.1	+ 39.5	54.1	77.8	Grant & Sons.
21.6	+ 13.7	+ 10.0	+ 30.7	+ 49.0	58.4	83.4	Halford & Sons.
25.7	+ 11.5	+ 32.1	+ 69.9	+ 48.7	48.7	86.9	P. G. George & Co. Ltd.
27.2	+ 14.5	+ 42.7	+ 19.8	+ 41.7	56.2	86.9	Carley & Clemence.
27.4	+ 15.2	+ 50.2	+ 32.0	+ 21.4	57.8	91.8	F. C. Selfe.
Mean Weekly Temperature.				The sign + indicates a gaining rate.			
				The quantities a, b, c, d, e, in the formula $a + 2b + \frac{1}{2}(c + \frac{d+e}{2})$, are taken numerically, without regard to sign.			
Extremes of Temperature as shown by the Self-Registering Thermometer.							

Only those watches have been included in this list for which "b" did not exceed 18 seconds or for which $a + 2b$ did not exceed 60.