

RATES OF DECK WATCHES
ON TRIAL
FOR PURCHASE BY THE BOARD OF ADMIRALTY,
AT THE
ROYAL OBSERVATORY, GREENWICH.
FROM 1895 OCTOBER 26 TO 1896 FEBRUARY 15.

SO 11932g.

A

(1) WEEKLY RATES IN ORDER OF TIME.													
NAME OF MAKER.		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. 28-30.	Dec. 30-31.	Dec. 31-1.
		Watch Horizontal. Dial up.						Watch Vertical. Pendant up.	Watch Vertical. Pendant right.	Watch Vertical. Pendant left.	Watch Vertical. Pendant up.	Watch Horizontal. Dial up.	
		+	+	+	+	+	+	+	+	+	+	+	+
Johannsen and Co.	6512	+ 5.0	+ 11.4	+ 11.7	+ 13.1	+ 11.2	+ 11.0	+ 10.9	+ 8.1	+ 9.8	+ 12.4	+ 12.0	+ 14.6
B. Smith	180	+ 14.8	+ 10.1	+ 10.0	+ 10.2	+ 10.2	+ 10.2	+ 10.1	+ 8.9	+ 17.3	+ 11.4	+ 14.6	+ 21.0
Barnacloagh	33273	+ 1.8	+ 0.8	+ 0.6	+ 0.6	+ 1.4	+ 0.5	+ 0.9	+ 0.8	+ 3.7	+ 13.5	+ 12.5	+ 3.3
Barnacloagh	33139	+ 1.7	+ 0.5	+ 0.6	+ 0.6	+ 0.9	+ 0.9	+ 0.9	+ 0.4	+ 3.7	+ 13.5	+ 12.5	+ 1.8
Wright and Craighead	8000	+ 2.0	+ 21.6	+ 23.0	+ 27.1	+ 27.7	+ 28.2	+ 28.5	+ 1.9	+ 5.6	+ 2.6	+ 0.6	+ 17.1
Webb	9270	-106.7	-111.0	-114.6	-118.5	-115.4	-111.5	-115.3	-108.2	-89.6	-108.7	-99.3	-99.3
Carley and Co.	44981	+ 13.0	+ 0.8	+ 0.8	+ 4.4	+ 7.4	+ 2.1	+ 3.0	+ 0.8	+ 2.1	+ 13.2	+ 10.8	+ 12.8
Thorneloe	73038	+ 15.1	+ 21.3	+ 24.1	+ 26.3	+ 23.9	+ 24.4	+ 32.3	+ 23.2	+ 22.6	+ 24.6	+ 38.7	+ 20.8
Key	10981	+ 1.7	+ 0.5	+ 0.3	+ 1.7	+ 4.5	+ 8.3	+ 12.3	+ 15.1	+ 12.1	+ 48.8	+ 25.6	+ 13.7
Hall	8867	+ 14.1	+ 10.2	+ 17.1	+ 16.6	+ 20.4	+ 22.0	+ 9.3	+ 2.5	+ 16.9	+ 1.9	+ 1.4	+ 5.7
Johannsen and Co.	6460	+ 12.6	+ 22.8	+ 12.7	+ 20.6	+ 14.3	+ 7.1	+ 11.3	+ 7.5	+ 2.8	+ 12.6	+ 5.6	+ 5.6
Hall	1808	+ 10.0	+ 4.0	+ 4.3	+ 4.0	+ 0.9	+ 1.9	+ 12.4	+ 0.7	+ 17.1	+ 20.1	+ 2.0	+ 2.0
Thorneloe	73038	+ 15.1	+ 21.3	+ 24.1	+ 26.3	+ 23.9	+ 24.4	+ 32.3	+ 23.2	+ 22.6	+ 24.6	+ 38.7	+ 20.8
Isaac	18096	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6
Brookbank, Atkins and Moore.	74811	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6
Johannsen and Co.	6521	+ 3.0	+ 6.1	+ 7.1	+ 8.0	+ 9.2	+ 0.5	+ 6.4	+ 11.4	+ 5.1	+ 36.6	+ 13.7	+ 3.3
Key	10983	+ 2.8	+ 1.2	+ 1.9	+ 0.9	+ 2.6	+ 0.2	+ 6.2	+ 21.0	+ 45.0	+ 24.9	+ 10.8	+ 10.8
Webb	817	+ 28.7	+ 38.4	+ 48.8	+ 58.0	+ 38.6	+ 47.1	+ 29.6	+ 33.4	+ 33.4	+ 33.4	+ 33.4	+ 33.4
Hilbrand	2148	+ 61.7	+ 68.9	+ 69.9	+ 68.6	+ 69.6	+ 68.2	+ 68.8	+ 67.6	+ 61.1	+ 122.3	+ 73.6	+ 73.6
Kendall and Dent	12313	+ 13.8	+ 0.0	+ 3.4	+ 11.9	+ 16.3	+ 10.7	+ 17.7	+ 0.0	+ 26.6	+ 16.3	+ 13.1	+ 17.1
Johannsen and Co.	6527	+ 6.6	+ 2.6	+ 0.7	+ 0.9	+ 0.5	+ 0.8	+ 1.8	+ 12.4	+ 18.9	+ 17.3	+ 8.9	+ 3.7
Johannsen and Co.	6518	+ 10.0	+ 4.0	+ 4.3	+ 4.0	+ 0.9	+ 1.9	+ 12.4	+ 0.7	+ 17.1	+ 20.1	+ 2.0	+ 2.0
Demman	10	+ 3.2	+ 20.2	+ 16.5	+ 14.6	+ 9.3	+ 16.3	+ 67.0	+ 16.6	+ 21.5	+ 44.4	+ 20.2	+ 20.2
Usher and Cole	28775	+ 20.6	+ 22.4	+ 22.6	+ 22.6	+ 22.6	+ 22.6	+ 22.6	+ 22.6	+ 22.6	+ 22.6	+ 22.6	+ 22.6
Webb	9272	+ 7.9	+ 7.6	+ 11.7	+ 11.8	+ 15.3	+ 21.1	+ 28.0	+ 12.4	+ 21.0	+ 22.0	+ 20.2	+ 20.2
Usher and Cole	28386	+ 2.9	+ 10.7	+ 10.7	+ 10.4	+ 2.8	+ 8.3	+ 26.0	+ 18.9	+ 28.7	+ 26.8	+ 27.1	+ 27.1
Iverson	1188	+ 11.0	+ 19.1	+ 18.9	+ 18.3	+ 17.2	+ 20.2	+ 1.9	+ 42.4	+ 25.0	+ 20.4	+ 27.1	+ 27.1
Johannsen and Co.	6508	+ 16.8	+ 14.3	+ 15.3	+ 15.3	+ 13.0	+ 20.8	+ 9.3	+ 1.1	+ 23.1	+ 14.3	+ 27.9	+ 27.9
Kendall and Dent	17261	+ 10.3	+ 15.9	+ 19.4	+ 21.4	+ 20.4	+ 11.8	+ 9.8	+ 25.0	+ 70.1	+ 5.4	+ 9.8	+ 9.8
Key	15651	+ 10.4	+ 13.1	+ 19.1	+ 7.1	+ 9.7	+ 4.0	+ 21.4	+ 14.2	+ 21.7	+ 0.6	+ 12.8	+ 12.8
S. Smith and Sons	13949	+ 1.3	+ 4.5	+ 6.7	+ 5.4	+ 5.0	+ 3.3	+ 22.1	+ 30.6	+ 18.9	+ 0.1	+ 31.9	+ 10.8
Johannsen and Co.	6510	+ 9.0	+ 11.8	+ 7.3	+ 7.3	+ 3.7	+ 4.1	+ 22.9	+ 19.5	+ 8.2	+ 6.5	+ 31.1	+ 28.0
Usher and Cole	28382	+ 3.3	+ 1.9	+ 4.4	+ 3.9	+ 2.7	+ 1.1	+ 22.9	+ 10.6	+ 9.3	+ 22.9	+ 12.6	+ 12.6
S. Smith and Sons	13961	+ 3.3	+ 0.5	+ 0.3	+ 1.3	+ 8.2	+ 1.8	+ 13.3	+ 80.6	+ 2.3	+ 8.9	+ 17.9	+ 17.9
Hall	1978	+ 13.5	+ 17.1	+ 16.3	+ 14.4	+ 13.7	+ 10.8	+ 31.9	+ 48.7	+ 2.3	+ 31.7	+ 42.8	+ 88.8
Mean Weekly Temperature		56.6	56.8	56.2	56.3	56.8	56.6	57.4	58.1	58.7	58.6	57.9	57.5
Extremes of Temperature as shown by the Self-Registering Thermometers		46.2-58.4	50.4-58.5	53.4-58.7	55.4-58.9	56.0-61.1	56.9-58.9	57.0-58.8	70.1-96.4	68.6-58.3	70.1-96.4		

* 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. 7 to Jan. 4, the watches were placed in an oven heated by jets of gas, the temperature being regulated by Kulberg'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 RATE.														NAME OF MAKER.	No.				
Jan. 1-11.	Jan. 11-18.	Jan. 18-25.	Jan. 25 to Feb. 1.	Feb. 1-8.	Feb. 8-15.	Difference between greatest and least Weekly Rates.	Greatest difference between one week and the next.	Difference of Weekly Rates.			Trial Number.	$a + 2b + c + d + e$							
Watch Horizontal. Dial up.								Pendant up.	Pendant left.	Pendant right.									
														$a.$	$b.$	$c.$	$d.$	$e.$	
+ 19.9	+ 18.6	+ 19.7	+ 14.6	+ 11.6	+ 10.1	14.9	6.4	+ 5.8	+ 5.8	+ 32.1	36.8	Johannsen and Co.	6513						
+ 28.0	+ 19.7	+ 33.7	+ 33.6	+ 33.6	+ 33.6	19.4	7.0	+ 7.3	+ 1.3	+ 1.0	39.1	B. Smith	180						
+ 1.8	+ 1.8	+ 1.8	+ 1.8	+ 1.8	+ 1.8	11.7	10.4	+ 10.4	+ 9.8	+ 7.6	40.4	Barnacloagh	33273						
+ 7.4	+ 11.1	+ 8.7	+ 9.2	+ 12.8	+ 11.0	13.8	6.6	+ 13.7	+ 0.5	+ 50.4	41.7	Barnacloagh	33139						
+ 21.4	+ 17.4	+ 22.9	+ 16.8	+ 15.6	+ 16.9	12.1	7.1	+ 18.0	+ 16.7	+ 19.7	42.1	Wright & Craighead	8000						
-102.9	-107.6	-108.8	-109.6	-107.2	-112.4	22.2	8.6	+ 2.7	+ 23.2	+ 19.9	48.9	Webb	9270						
+ 18.3	+ 14.6	+ 13.8	+ 6.7	+ 9.8	+ 4.8	21.8	6.6	+ 0.3	+ 30.7	+ 31.8	44.1	Carley	49981						
+ 4.3	+ 0.4	+ 5.0	+ 6.0	+ 1.6	+ 3.2	15.8	6.9	+ 11.3	+ 29.9	+ 38.4	45.5	Iverson	1133						
+ 11.8	+ 12.1	+ 9.1	+ 14.7	+ 10.9	+ 14.7	16.8	8.9	+ 7.3	+ 18.5	+ 30.8	47.4	Key	10981						
+ 6.6	+ 13.3	+ 8.3	+ 5.4	+ 15.9	+ 21.2	16.6	12.7	+ 8.1	+ 8.4	+ 9.4	49.1	Hall	8867						
+ 14.6	+ 15.6	+ 15.6	+ 14.3	+ 9.4	+ 9.9	17.2	10.3	+ 14.8	+ 11.3	+ 21.1	50.4	Johannsen and Co.	6460						
+ 21.1	+ 20.5	+ 20.7	+ 38.8	+ 38.8	+ 38.8	21.2	12.3	+ 7.7	+ 0.3	+ 31.7	50.0	Hall	1808						
+ 28.7	+ 28.5	+ 30.7	+ 38.8	+ 38.8	+ 38.8	21.2	7.9	+ 6.6	+ 12.9	+ 10.0	53.8	Thorneloe	73038						
+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	+ 8.6	18.2	9.8	+ 19.1	+ 10.6	+ 36.6	54.9	Isaac	18096						
+ 10.4	+ 12.1	+ 9.3	+ 10.3	+ 9.4	+ 8.6	18.4	11.6	+ 19.6	+ 16.6	+ 9.4	54.9	Brookbank, Atkins and Moore.	74811						
+ 15.6	+ 17.7	+ 19.7	+ 20.8	+ 19.3	+ 24.2	21.2	12.3	+ 14.7	+ 0.3	+ 31.7	55.0	Johannsen and Co.	6521						
+ 14.6	+ 16.9	+ 19.2	+ 18.0	+ 17.8	+ 21.2	24.0	8.0	+ 14.6	+ 20.0	+ 37.0	58.0	Key	10983						
+ 28.6	+ 28.4	+ 30.7	+ 38.8	+ 38.8	+ 38.8	21.2	10.6	+ 6.2	+ 4.8	+ 50.4	62.7	Webb	817						
+ 28.7	+ 28.5	+ 27.3	+ 29.6	+ 34.0	+ 34.0	31.2	10.6	+ 6.8	+ 9.2	+ 33.7	62.7	Hilbrand	2148						
-17.4	-14.4	-15.3	-16.4	-17.7	-16.1	24.3	13.7	+ 11.7	+ 10.9	+ 16.3	63.6	Johannsen and Co.	6527						
+ 6.1	+ 6.8	+ 10.3	+ 11.6	+ 11.5	+ 9.9	21.6	14.0	+ 30.8	+ 4.3	+ 21.0	64.2	Johannsen and Co.	6518						
+ 28.7	+ 30.4	+ 30.7	+ 29.6	+ 38.8	+ 18.1	21.4	8.6	+ 38.7	+ 34.9	+ 13.2	65.8	Demman	10						
-17.8	-16.8	-12.4	-16.8	-16.8	-15.6	13.1	10.1	+ 35.6	+ 36.7	+ 8.8	67.8	Usher and Cole	28775						
-14.1	+ 8.4	+ 2.4	+ 2.8	+ 3.1	+ 4.7	19.1	6.1	+ 46.7	+ 33.1	+ 41.7	68.2	Webb	9272						
+ 12.7	+ 12.7	+ 8.6	+ 10.3	+ 12.0	+ 20.4	27.6	18.4	+ 6.1	+ 4.4	+ 8.1	69.1	Usher and Cole	28386						
+ 12.7	+ 12.7	+ 11.6	+ 11.6	+ 11.6	+ 11.6	21.0	18.2	+ 12.3	+ 30.5	+ 28.1	70.4	Iverson	1188						
+ 27.7	+ 38.1	+ 40.4	+ 41.6	+ 40.4	+ 41.2	41.2	9.8	+ 18.4	+ 14.6	+ 2.3	72.8	Johannsen and Co.	6508						
+ 28.9	+ 23.0	+ 19.6	+ 26.0	+ 27.0	+ 18.7	18.4	18.4	+ 9.7	+ 35.6	+ 66.0	72.9	Kendall and Dent	17261						
+ 5.7	+ 4.4	+ 5.6	+ 2.0	+ 9.0	+ 6.1	21.4	17.4	+ 9.7	+ 35.6	+ 38.8	73.6	Key	15651						
+ 3.2	+ 1.6	+ 3.8	+ 4.7	+ 3.4	+ 9.1	26.3	18.3	+ 14.8	+ 1.7	+ 22.6	74.4	S. Smith and Sons	13949						
+ 15.6	+ 13.9	+ 15.6	+ 13.6	+ 9.4	+ 11.1	24.3	18.3	+ 7.7	+ 33.7	+ 19.0	74.4	Johannsen and Co.	6510						
+ 19.7	+ 21.1	+ 27.1	+ 16.7	+ 30.9	+ 10.4	25.5	12.6	+ 34.6	+ 12.9	+ 22.6	76.9	Usher and Cole	28775						
+ 17.6	+ 17.6	+ 20.7	+ 22.1	+ 20.9	+ 21.5	25.2	20.4	+ 49.0	+ 27.4	+ 3.4	77.0	S. Smith and Sons	13961						
+ 17.6	+ 17.6	+ 20.7	+ 22.1	+ 20.9	+ 21.5	27.4	21.0	+ 49.0	+ 27.4	+ 3.4	77.9	Hall	1978						
51.3	52.5	54.2	56.4	51.3	55.6	The sign + indicates a gaining rate. The quantities a, b, c, d, e, in the formula $a + 2b + c + d + e$, are taken numerically, without regard to sign.													
47.8-57.3	50.6-58.5	53.4-58.7	55.4-58.9	56.0-61.1	56.9-58.9														
Demman, 10. The mainpring of this watch broke during the 2nd week of the trial. It was removed by the maker and returned the next week. Only those watches have been included in this list for which the trial number did not exceed 100.																			

(1) WEEKLY RATES IN ORDER OF TIME.

NAME OF MAKER.	No.	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. 14-18.	Dec. 18-21.	Dec. 21-24.	Dec. 24-28.	Dec. 28 to Jan. 4.
		Watch Horizontal. Dial up.							Watch Vertical. Pendant up.	Watch Vertical. Pendant right.	Watch Vertical. Pendant left.	Watch Vertical. Pendant up.	Watch Horizontal. Dial up.
Burton.....	2125	+ 8.9	+15.8	+ 4.0	+ 8.1	+ 7.9	- 5.8	+10.7	+27.1	- 2.0	+ 4.0	+20.8	+14.5
B. Smith.....	185	- 2.0	+ 1.2	+ 5.0	+ 5.5	+ 8.3	+ 5.9	- 0.5	+11.0	+ 81.7	- 2.1	+13.5	+ 1.7
Johannes and Co.....	6490	+11.6	-31.1	-25.4	+30.4	+39.4	+31.3	+30.0	+12.4	+ 7.6	+ 9.8	+10.7	+ 9.8
Johannes and Co.....	6522	-10.2	-11.0	- 7.6	+ 9.4	- 1.1	-15.4	+15.6	+15.6	- 8.3	- 8.3	-21.3	- 8.3
Denman.....	80	-24.3	-20.1	-10.5	-14.7	-11.4	-10.5	- 7.5	-24.7	-72.6	+13.5	-27.5	- 8.5
Iversen.....	1181	+14.9	+21.3	+24.6	+27.4	+20.4	+25.3	+ 7.6	+ 4.2	-13.5	- 66.7	-19.3	+ 3.4
Keys.....	10078	-26.1	-24.7	-22.0	-27.1	-27.5	-25.0	-22.2	-11.0	-10.7	- 5.4	-15.2	-17.1
Brookbank, Atkins and Moore.....	51789	+ 0.3	+12.1	+ 1.0	- 1.6	+ 0.0	+ 2.4	+27.2	+30.8	+41.3	+14.4	+41.7	+20.5
Johannes and Co.....	6515	+ 9.3	+17.1	+14.8	+22.1	+17.0	+ 6.0	+ 7.2	+17.9	+17.3	+69.7	+18.7	+12.0
Keys.....	10082	+ 4.4	+ 7.3	+12.6	+ 9.6	+ 6.5	+ 4.0	+20.0	+20.2	-15.4	+ 4.3	+35.5	+35.9
Hall.....	1676	- 5.1	- 3.3	- 6.9	- 8.0	-10.2	-10.9	-14.2	-45.4	-40.3	+74.9	-31.3	- 9.9
J. White and Sons.....	55253	+ 3.4	+ 0.6	- 0.6	+ 0.6	+ 0.4	+ 1.0	-10.7	- 3.0	- 4.9	+38.3	+ 8.4	- 6.3
Johannes and Co.....	6523	- 2.9	+ 1.9	+ 2.0	+ 3.6	+ 8.3	+ 7.1	+ 5.0	-35.0	-15.1	+12.1	-31.0	+10.8
Johannes and Co.....	6518	+30.0	+41.9	+45.1	+47.7	+48.0	+46.2	+31.2	+46.6	+46.9	+77.9	+43.9	+44.2
Barnacrough.....	34515	+14.7	+12.1	+ 8.1	+ 7.5	+ 5.1	+ 2.9	-15.5	+ 4.6	+ 15.9	- 8.9	-19.4	-19.4
Roberts.....	3312	- 3.9	+ 2.6	+ 2.6	- 1.3	- 6.1	-25.0	+ 1.9	-11.0	- 6.1	- 1.9	- 4.7	+10.0
Mean Weekly Temperature...		56°6	54°8	55°2	55°3	55°8	55°5	52°4	55°1		55°7	57°5	
Extremes of Temperature as shown by the Self-Regulating Thermometers.....		45°2-55°4	55°4-55°5	55°4-55°7	55°4-55°8	45°0-51°1	45°0-55°9	55°0-55°8	75°1-90°4		55°0-55°8	75°1-96°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. 7 to Jan. 4, 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 RATE.

Jan. 4-11.	Jan. 11-18.	Jan. 18-25.	Jan. 25 to Feb. 1.	Feb. 1-8.	Feb. 8-15.	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.	$a + 2b + c$ $\div (e + \frac{d}{3})$		
+ 17.9	+15.0	+15.8	+ 8.9	+ 0.7	+ 1.9	23.7	22.5	+ 5.4	-18.6	-11.6	77.9	Burton.....	2125
+18.2	+21.0	+26.8	+26.3	+23.0	+33.0	35.0	18.5	+11.7	+31.1	- 2.7	79.5	B. Smith.....	185
+30.7	+31.5	+30.3	+35.5	+35.5	+30.8	35.0	33.9	- 1.8	- 5.9	- 8.6	80.8	Johannes and Co.....	6490
+13.7	+11.9	-18.3	-11.9	-13.5	- 8.5	33.7	17.3	+30.6	-25.3	+11.7	81.4	Johannes and Co.....	6522
- 1.4	+ 1.8	+ 2.7	+ 2.7	- 2.1	+10.1	34.4	12.8	-20.6	-26.9	+12.2	83.5	Denman.....	80
+12.6	+11.4	+15.9	+21.7	+18.4	+23.0	34.0	17.7	-13.1	-19.0	-101.2	86.0	Iversen.....	1181
+10.0	+ 8.9	+ 9.6	+11.8	+ 5.9	+11.1	33.3	18.9	+ 9.1	+11.5	+15.8	86.4	Keys.....	10078
+12.4	+13.9	+ 8.2	+ 9.5	+11.9	+ 9.3	31.1	24.8	+ 7.9	+12.9	-14.0	89.0	Brookbank, Atkins and Moore.....	51789
+35.1	+25.2	+27.7	+33.0	+26.8	+32.4	20.1	23.1	- 8.7	- 7.7	+50.1	83.3	Johannes and Co.....	6515
+ 5.3	+ 4.5	+ 2.3	+ 4.3	- 1.5	+ 4.0	30.5	35.0	- 0.1	-44.4	+54.1	92.0	Keys.....	10082
-19.2	-24.6	-24.1	-27.2	-23.5	-37.8	23.7	14.3	-26.7	-28.7	+57.0	92.3	Hall.....	1676
+30.2	+19.0	+18.9	+18.0	+19.6	+16.6	30.9	16.8	+11.2	+ 3.6	+36.7	95.0	J. White and Sons.....	55253
+20.4	+20.6	+23.3	+23.1	+23.6	+26.7	39.6	15.8	+40.3	-33.9	+ 4.3	95.3	Johannes and Co.....	6523
+ 0.7	- 0.3	+ 0.7	- 2.8	- 2.6	- 0.9	27.0	17.5	+ 7.6	+20.9	-114.7	96.7	Johannes and Co.....	6518
						34.1	20.1	+14.8	+30.5	+33.9	97.4	Barnacrough.....	34515
-13.6	-10.6	-10.0	-11.4	-10.4	- 9.8	35.0	26.9	-13.9	-12.1	- 7.9	99.1	Roberts.....	3312
51°8	55°5	54°2	54°4	51°8	54°6	The sign + indicates a gaining rate. The quantities a, b, c, d, e, in the formula $a + 2b + c \div (e + \frac{d}{3})$, are taken numerically, without regard to sign.							
47°8-57°3	45°6-55°2	45°6-55°4	55°7-55°9	45°8-57°7	51°0-55°5								

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

(1) WEEKLY RATES IN ORDER OF TIME.

NAME OF MAKER.	No.	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.
		Watch Horizontal. Dial up.					Watch Vertical. Pendant up.		Watch Horizontal. Dial up.		
Brockway	30000	- 0-7	+ 8-1	+ 8-1	+ 9-6	+ 9-6	+ 1-0	+ 3-2	+ 27-2	+ 13-8	+ 16-8
Thornes	12796	+ 13-8	+ 13-8	+ 11-3	+ 10-9	+ 12-4	+ 9-1	+ 0-7	+ 25-4	+ 31-9	+ 37-8
Brockbank, Atkins and Moore	74928	+ 11-9	+ 12-8	+ 8-7	+ 8-9	2-4	+ 0-5	+ 13-6	+ 7-1	2-3	1-3
Usher and Cole	26965	- 1-2	- 8-7	9-4	8-0	+ 0-3	- 0-7	9-8	- 30-8	18-3	4-8
Brockbank, Atkins and Moore	74927	- 1-7	- 2-4	- 5-3	- 5-9	- 6-8	- 5-8	- 9-3	+ 5-1	- 18-4	- 30-6
Brockbank, Atkins and Moore	74928	- 21-8	- 17-6	- 18-6	- 22-1	- 18-8	- 20-8	- 13-9	- 14-7	- 9-1	- 20-3
B. Smith	131	3-9	12-1	18-6	+ 13-2	10-6	15-1	+ 31-8	+ 26-5	+ 27-0	7-4
Usher and Cole	26965	+ 2-8	+ 3-4	+ 8-0	- 9-2	- 15-3	+ 1-5	- 0-1	+ 5-4	- 12-2	- 10-4
Usher and Cole	26967	- 1-9	+ 1-2	- 0-9	+ 4-1	+ 0-8	1-9	22-9	- 48-1	- 22-6	- 11-2
B. Smith	131	- 20-3	- 6-8	- 10-9	- 18-0	- 22-6	- 12-6	- 9-3	- 14-6	- 16-2	
*S. Smith and Sons	13815	- 21-7	- 20-6	- 21-8	- 28-3	- 35-4	- 37-8	- 37-0	- 35-8	- 14-1	- 4-8
Buckley	30007	+ 14-6	+ 20-6	+ 20-7	+ 35-4	+ 35-0	+ 37-8	+ 44-2	+ 50-7	+ 41-6	
Brockbank, Atkins and Moore	74927	- 30-8	- 40-1	- 50-1	- 49-5	- 47-1	- 51-4	- 68-4	- 77-7	- 86-0	- 93-8
Hall	17617	- 23-1	- 18-9	- 14-1	- 18-4	- 18-9	- 17-9	- 1-8	+ 10-5	+ 19-5	+ 8-0
Buckley	30006	+ 7-2	+ 8-0	+ 2-0	+ 1-6	- 0-7	- 13-6	- 10-9	- 16-4	- 33-8	- 10-5
Kendal and Dent	3851	- 19-5	- 4-4	- 13-8	- 20-0	- 23-2	- 25-2	+ 8-4	+ 10-9	- 9-1	- 3-1
Kendal and Dent	3850	- 30-4	- 11-4	- 18-0	- 23-1	- 33-4	- 3-9	- 37-3	- 8-6	- 27-4	
J. Player and Sons	26461	- 31-1	- 17-1	- 6-9	+ 3-1	+ 1-1	- 0-6	+ 11-1	+ 28-0	+ 19-5	- 3-0
Kendal and Dent	3848	- 30-2	- 45-8	- 67-8	- 33-6	- 65-9	- 20-7	- 36-7	- 3-6	- 16-8	- 36-0
Usher and Cole	26965	+ 31-6	+ 20-1	+ 28-0	+ 25-0	+ 23-4	+ 19-7	+ 45-8	+ 9-8	+ 46-7	+ 13-4
Hall	805	- 37-8	- 41-7	- 44-3	- 51-8	- 51-5	- 59-4	- 66-8	- 35-8	- 95-4	- 98-0
Thornes	12796	- 30-6	- 37-8	- 41-7	- 44-3	- 51-8	- 51-5	- 59-4	- 35-8	- 95-4	- 98-0
Usher and Cole	26965	- 30-6	- 37-8	- 41-7	- 44-3	- 51-8	- 51-5	- 59-4	- 35-8	- 95-4	- 98-0
Hall	17619	- 23-5	- 11-8	- 10-0	- 12-9	- 22-8	- 20-7	- 43-1	- 87-7	- 45-9	+ 0-7
Kendal and Dent	15925	- 23-5	- 11-8	- 10-0	- 12-9	- 22-8	- 20-7	- 43-1	- 87-7	- 45-9	+ 0-7
Usher and Cole	26965	- 16-7	+ 11-1	+ 12-0	+ 7-9	- 1-6	+ 0-1	+ 28-3	+ 63-2	+ 18-7	- 23-3
Usher and Cole	26968	- 20-0	- 9-8	- 10-9	- 2-5	- 14-9	- 11-6	- 4-4	- 30-4	- 1-0	- 61-9
J. Player and Sons	26461	- 15-0	- 17-1	- 17-8	- 17-7	- 10-1	- 15-9	+ 37-9	+ 30-0	+ 41-3	5-5
*S. Smith and Sons	13817	- 9-8	- 9-4	- 6-1	- 8-8	- 7-6	- 0-2	+ 39-0	+ 31-8	+ 70-4	+ 3-8
Usher and Cole	26969	+ 11-6	+ 9-0	+ 6-8	+ 5-7	+ 8-0	+ 4-0	- 2-9	- 33-9	- 50-2	+ 5-0
*S. Smith and Sons	13815	- 23-3	- 23-8	- 1-4	- 18-2	- 24-7	+ 17-0	+ 36-4	+ 64-8	+ 31-6	
Mean Weekly Temperature		58-6	58-8	58-2	58-3	58-8	58-5	61-4	58-1	58-7	58-8
Extremes of Temperature as shown by the Self-Registering Thermometers		46-2-59-4	50-4-59-5	53-4-59-7	50-4-59-8	49-0-61-1	49-2-55-9	50-9-58-8	70-1-00-4	69-6-52-3	46-2-58-8
During the period Dec. 7 to Dec. 28, 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 RATE.

Jan. 4-11.	Jan. 11-18.	Jan. 18-25.	Jan. 25 to Feb. 1.	Feb. 1-8.	Difference between greatest and least Weekly Rate.	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.	a + 2b + c		
+ 17-2	+ 17-0	+ 18-3	+ 17-0	+ 15-6	19-0	3-8	- 35-4	44-3	Brockway	30006
+ 30-4	+ 31-0	+ 30-9	+ 30-4	+ 33-4	34-4	17-3	- 11-6	50-7	Thornes	12796
- 4-8	- 6-7	- 8-7	- 9-6	- 7-6	28-8	11-3	- 16-1	55-0	Brockbank, Atkins and Moore	74928
- 2-6	- 1-2	- 2-4	+ 7-1	- 2-7	27-8	12-4	- 12-9	60-9	Usher and Cole	26965
- 27-6	- 27-4	- 27-3	- 27-2	- 29-9	28-9	13-2	- 13-0	62-8	Brockbank, Atkins and Moore	74927
- 32-1	- 31-5	- 30-2	- 27-4	- 23-1	23-0	20-2	- 3-2	65-0	Brockbank, Atkins and Moore	74928
+ 3-8	+ 4-1	- 0-0	+ 3-8	- 2-7	30-7	19-6	+ 1-1	69-5	B. Smith	131
- 31-1	- 34-0	- 19-9	- 38-8	- 33-4	34-4	17-3	+ 11-6	70-6	Usher and Cole	26965
- 30-5	- 23-4	- 21-9	- 28-5	- 19-4	34-0	21-0	- 28-9	80-3	Usher and Cole	26967
- 15-9	- 15-1	- 12-5	- 11-7	- 22-5	24-2	21-0	+ 54-4	89-4	B. Smith	131
- 29-5	- 28-5	- 29-4	- 49-6	- 53-8	49-0	31-2	- 12-2	99-5	*S. Smith and Sons	13815
+ 55-3	+ 63-0	+ 58-8	+ 45-7	+ 67-9	53-4	16-1	- 23-5	99-9	Buckley	30007
- 65-8	- 65-6	- 61-0	- 68-8	- 66-1	61-2	13-7	+ 0-6	95-9	Brockbank, Atkins and Moore	74927
- 20-8	- 19-8	- 18-3	- 14-2	- 20-3	42-8	27-2	+ 0-6	100-9	Hall	17617
- 18-7	- 21-8	- 28-6	- 18-8	- 21-6	41-0	23-2	- 27-0	101-1	Buckley	30006
- 20-8	- 11-9	- 11-3	- 19-5	- 28-3	32-7	31-4	+ 12-3	102-1	Kendal and Dent	3851
- 24-8	- 20-0	- 21-1	- 34-3	- 30-5	30-5	29-1	- 31-0	104-0	Kendal and Dent	3850
- 9-1	+ 1-0	+ 11-3	+ 8-9	- 23-7	54-0	26-5	+ 9-7	112-7	J. Player and Sons	26461
- 49-0	- 42-6	- 44-1	- 61-2	- 71-9	55-1	28-0	+ 18-5	122-2	Kendal and Dent	3848
+ 18-0	+ 13-3	+ 9-5	+ 4-1	+ 2-3	43-9	33-3	+ 36-5	128-8	Usher and Cole	26965
- 105-3	- 112-9	- 120-5	- 123-5	- 124-1	88-0	12-3	+ 42-3	135-3	Hall	805
+ 28-3	+ 38-3	+ 34-4	+ 33-7	+ 35-9	48-2	27-3	+ 75-3	140-2	Thornes	12796
- 70-8	- 79-8	- 70-4	- 58-5	- 57-7	58-5	38-3	- 141-8	141-8	Usher and Cole	26965
+ 48-6	+ 48-2	+ 48-7	+ 48-4	+ 47-1	47-2	47-2	- 20-0	142-0	Hall	17619
+ 4-2	+ 0-4	- 6-8	- 0-9	- 7-8	56-6	45-6	- 12-2	146-4	Kendal and Dent	15925
- 23-1	- 15-1	- 1-1	- 0-1	- 11-8	51-8	42-0	+ 22-7	154-0	Usher and Cole	26960
- 43-2	- 44-5	- 32-5	- 27-5	- 40-8	52-8	50-9	- 27-7	168-5	Usher and Cole	26968
+ 5-3	+ 6-9	+ 7-7	+ 4-4	+ 10-3	59-0	53-8	- 9-6	171-4	J. Player and Sons	26458
+ 34-3	+ 34-3	+ 12-8	+ 13-0	+ 6-8	79-3	48-2	- 31-9	187-3	*S. Smith and Sons	13817
+ 3-5	- 6-0	+ 8-9	+ 6-4	+ 1-1	61-8	65-5	- 3-8	190-5	Usher and Cole	26969
+ 8-8	+ 11-1	+ 7-9	+ 1-9	+ 7-3	69-6	61-7	+ 42-5	194-7	*S. Smith and Sons	13815
61-8	55-5	54-2	54-4	51-8						
57-8-57-3	55-5-50-3	54-9-50-6	50-7-50-8	45-8-57-7						

The sign + indicates a gaining rate.

The quantities a, b, c, in the formula $a + 2b + c$, are taken numerically, without regard to sign.

* This signifies that the watch is non-magnetic.

Only those watches have been included in this list for which the trial number did not exceed 200.

S. Smith and Sons, 1918. The mainspring of this watch broke during the 3rd week of the trial. It was removed by the maker and returned the next week.