

WEEKLY SUMS OF THE DAILY RATES
OF
CHRONOMETERS,

Selected for Purchase by the Board of Admiralty, in the month of August, 1840,

DURING THEIR TRIAL
AT
THE ROYAL OBSERVATORY, GREENWICH.

WITH
AN ABSTRACT OF THE PRINCIPAL CHANGES OF RATE.

1861 June 17.
 Gift of
 the Royal Observatory, Greenwich.

WEEKLY SUMS OF DAILY RATES OF CHRONOMETERS SELECTED FOR PURCHASE,

WHILE ON TRIAL AT THE ROYAL OBSERVATORY, GREENWICH, 1840.

WEEKLY SUMS OF DAILY RATES.																																	WEEKLY SUMS OF DAILY RATES.																																
Name of Chronometer.	WEEKLY SUMS OF DAILY RATES.																WEEKLY SUMS OF DAILY RATES.																																																
	Jan. 11-18	Jan. 18-25	Jan. 25-Feb. 1	Feb. 1-8	Feb. 8-15	Feb. 15-22	Feb. 22-29	Feb. 29-Mar. 7	Mar. 7-14	Mar. 14-21	Mar. 21-28	Mar. 28-Apr. 4	April 4-11	April 11-18	April 18-25	Apr. 25-May 2	May 2-9	May 9-16	May 16-23	May 23-30	May 30-June 6	June 6-13	June 13-20	June 20-27	June 27-July 4	July 4-11	July 11-18	July 18-25	July 25-Aug. 1	Aug. 1-8	Aug. 8-15																																		
Molyneux and Sons 1830	- 0 9	- 2 6	- 1 5	- 3 8	- 4 0	- 2 4	- 1 0	- 2 7	- 0 4	- 0 4	- 2 0	- 0 8	- 4 6	- 3 1	+ 1 2	+ 2 2	+ 0 0	+ 4 1	+ 0 7	+ 2 5	+ 4 6	+ 6 3	+ 5 4	+ 5 7	+ 6 3	+ 6 6	+ 6 6	+ 6 4	+ 6 6	+ 6 8																																			
C. Frodsham 3714	- 12 1	- 13 9	- 14 5	- 15 1	- 15 3	- 14 2	- 13 2	- 11 7	- 9 1	- 7 5	- 8 6	- 8 6	- 9 1	- 7 9	- 13 2	- 7 1	- 7 3	- 5 7	- 9 7	- 10 8	- 11 0	- 7 3	- 6 8	- 6 2	- 6 7	- 6 5	- 6 1	- 7 2	- 10 7	- 7 4																																			
Hewitt 879	- 14 8	- 14 9	- 12 2	- 13 7	- 17 9	- 18 4	- 17 5	- 17 2	- 14 6	- 17 4	- 14 1	- 12 1	- 10 8	- 13 4	- 18 5	- 15 2	- 13 1	- 10 5	- 11 5	- 13 1	- 11 0	- 9 1	- 7 1	- 6 2	- 8 2	- 7 0	- 6 4	- 9 4	- 14 6	- 11 5																																			
Arnold and Dent 905	- 14 8	- 9 3	- 9 4	- 9 7	- 10 7	- 15 0	- 18 9	- 16 2	- 11 7	- 9 8	- 13 2	- 9 2	- 6 8	- 6 7	- 9 0	- 7 0	- 6 6	- 6 9	- 7 3	- 9 2	- 9 4	- 8 6	- 8 0	- 7 0	- 8 2	- 7 7	- 8 5	- 9 7	- 12 4	- 11 8																																			
Hewitt 822	- 7 0	- 1 4	- 2 4	- 0 4	- 1 7	- 6 1	- 10 4	- 7 1	- 4 2	- 3 1	- 6 9	- 6 1	- 4 2	- 2 5	- 4 8	- 1 8	- 1 2	- 0 8	- 0 5	- 1 1	- 1 2	- 0 6	- 0 5	+ 2 0	+ 2 4	+ 2 5	+ 3 1	+ 3 6	+ 0 4	+ 0 8																																			
Molyneux and Sons 2145	- 7 0	- 6 8	- 2 8	- 3 6	- 5 7	- 7 0	- 0 8	+ 1 5	+ 1 5	+ 2 5	+ 2 5	+ 3 8	+ 1 2	- 1 2	- 7 8	- 7 5	- 9 2	- 6 8	- 7 0	- 6 9	- 6 5	- 5 6	- 5 6	- 4 1	- 4 3	- 8 3	- 4 7	- 6 5	- 5 0	- 5 0																																			
Birchall 251	- 19 7	- 16 1	- 15 2	- 21 5	- 23 2	- 20 3	- 28 0	- 25 8	- 24 5	- 22 4	- 23 1	- 21 5	- 20 8	- 20 0	- 17 8	- 18 8	- 15 2	- 14 9	- 14 6	- 14 3	- 14 7	- 14 0	- 12 3	- 11 7	- 10 7	- 10 2	- 9 2	- 10 5	- 9 0	- 9 0																																			
Hewitt 893	- 22 1	- 22 3	- 23 9	- 25 7	- 30 8	- 37 2	- 33 0	- 29 8	- 28 8	- 33 8	- 28 5	- 26 3	- 25 0	- 25 0	- 26 8	- 24 8	- 24 1	- 25 9	- 24 0	- 23 5	- 24 8	- 23 6	- 26 1	- 24 8	- 24 2	- 24 4	- 23 6	- 24 3	- 26 1	- 24 6																																			
Hewitt 865	- 1 2	- 2 2	- 4 4	- 3 4	- 4 6	- 7 0	- 5 9	- 1 7	- 1 3	- 4 3	- 1 3	- 0 2	+ 3 2	+ 4 3	+ 1 7	+ 5 9	+ 6 0	+ 6 4	+ 5 5	+ 4 3	+ 2 8	+ 3 0	+ 0 3	+ 2 8	+ 3 7	+ 9 4	+ 9 4	+ 10 7	+ 10 6	+ 11 4																																			
Pennington 241	- 3 7	- 6 4	- 6 6	- 8 4	- 13 6	- 16 9	- 12 1	- 6 6	- 6 8	- 10 1	- 5 3	- 3 5	+ 0 3	+ 2 1	+ 0 7	+ 1 6	+ 2 1	+ 0 8	+ 0 4	+ 0 3	+ 0 8	+ 1 6	+ 1 2	+ 2 5	+ 1 4	+ 2 1	+ 2 5	+ 1 1	+ 1 6	+ 0 0																																			
Carter 244	- 5 2	- 3 4	- 0 5	- 0 2	- 0 6	- 2 3	- 2 4	- 0 1	+ 2 6	- 0 8	+ 2 7	+ 4 3	+ 4 0	+ 6 4	- 0 0	+ 5 4	+ 6 9	+ 11 3	+ 7 7	+ 5 4	+ 3 5	+ 7 4	+ 10 2	+ 10 3	+ 12 2	+ 12 1	+ 11 7	+ 9 4	+ 4 3	+ 0 3																																			
Parkinson and Frodsham 2277	- 24 8	- 27 3	- 27	- 27 6	- 27 7	- 28 0	- 24 2	- 19 4	- 18 4	- 20 1	- 17 8	- 17 7	- 15 2	- 15 1	- 17 9	- 11 6	- 10 8	- 10 2	- 14 0	- 16 8	- 15 9	- 14 9	- 13 4	- 13 3	- 12 5	- 11 8	- 12 6	- 13 1	- 17 0	- 11 6																																			
Carter 197	+ 14 0	+ 16 3	+ 14 9	+ 15 8	+ 13 5	+ 10 8	+ 9 2	+ 13 6	+ 15 7	+ 16 7	+ 16 2	+ 18 7	+ 18 5	+ 17 4	+ 16 4	+ 14 8	+ 20 6	+ 21 8	+ 24 7	+ 22 3	+ 20 7	+ 22 1	+ 24 5	+ 25 6	+ 20 7	+ 20 6	+ 27 9	+ 27 2	+ 23 6	+ 28 1																																			
Parkinson and Frodsham 2254	- 35 1	- 37 9	- 38	- 39 7	- 43 4	- 47 2	- 42 8	- 38 5	- 39 6	- 43 2	- 40 5	- 40 7	- 39 7	- 38 0	- 39 5	- 35 1	- 35 7	- 34 4	- 35 0	- 35 2	- 34 2	- 32 5	- 31 2	- 31 2	- 29 8	- 28 0	- 27 2	- 26 3	- 27 6	- 24 0																																			
Arnold and Dent 756	+ 31 2	+ 33 6	+ 35 0	+ 37 8	+ 37 8	+ 35 3	+ 34 0	+ 37 0	+ 40 1	+ 40 6	+ 40 5	+ 43 3	+ 45 3	+ 45 4	+ 46 3	+ 43 3	+ 49 1	+ 49 0	+ 48 5	+ 47 4	+ 49 7	+ 51 4	+ 52 8	+ 53 3	+ 53 8	+ 54 5	+ 53 9	+ 50 6	+ 50 3	+ 50 3																																			
Carter 254	- 2 6	- 4 2	- 4 6	- 9 1	- 11 5	- 12 5	- 11 8	- 10 8	- 10 2	- 13 2	- 9 7	- 0 0	- 8 1	- 6 1	- 6 0	- 2 6	- 5 7	- 6 3	- 4 9	- 4 1	- 2 8	- 1 7	- 3 4	- 1 4	- 4 2	- 11 6	- 9 6	- 11 7	- 20 6	- 17 6																																			
Parkinson and Frodsham 2291	- 13 0	- 13 1	- 16 3	- 14 2	- 21 2	- 24 6	- 21 9	- 13 8	- 14 4	- 20 7	- 13 9	- 10 5	- 10 4	- 10 3	- 13 2	- 7 6	- 7 2	- 9 0	- 6 0	- 9 0	- 9 1	- 9 1	- 7 8	- 3 8	- 6 5	- 6 2	- 5 7	- 13 0	- 14 3																																				
Arnold and Dent 1329	+ 3 4	+ 1 8	- 0 1	+ 1 2	+ 0 2	- 2 6	+ 0 1	+ 4 6	+ 4 0	+ 1 6	+ 0 2	+ 10 9	+ 11 5	+ 12 4	+ 13 4	+ 14 1	+ 14 3	+ 15 0	+ 15 0	+ 17 7	+ 18 3	+ 18 1	+ 18 4	+ 19 6	+ 21 0	+ 22 4	+ 22 4	+ 22 9	+ 23 7																																				
French 7473	+ 3 7	+ 8 6	+ 4 7	+ 5 4	+ 8 6	- 1 1	- 6 3	- 1 2	- 3 7	- 3 9	- 3 6	+ 4 6	+ 4 8	+ 9 9	+ 10 8	+ 15 4	+ 16 3	+ 14 0	+ 8 8	+ 11 0	+ 9 1	+ 11 3	+ 11 7	+ 12 3	+ 12 5	+ 12 5	+ 13 5	+ 13 4	+ 11 0	+ 11 7																																			
Birchall 258	+ 20 0	+ 26 3	+ 24 0	+ 24 5	+ 19 6	+ 13 9	+ 8 0	+ 9 7	+ 14 1	+ 14 3	+ 9 0	+ 12 1	+ 13 3	+ 16 4	+ 17 7	+ 16 0	+ 19 1	+ 16 3	+ 13 2	+ 10 5	+ 9 5	+ 7 6	+ 7 5	+ 5 8	+ 4 4	+ 4 7	+ 5 1	+ 5 1	+ 3 5	+ 1 5	+ 4 3																																		
Arnold and Dent 742	- 6 2	- 1 7	- 7 4	- 10 5	- 5 7	- 13 0	- 7 8	- 2 9	+ 2 3	+ 6 5	- 3 7	- 2 4	- 1 1	+ 1 0	+ 1 5	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2	+ 1 2																																		
R. and H. Molyneux 2054	+ 20 4	+ 24 7	+ 21 0	+ 29 1	+ 10 0	+ 50 4	+ 17 3	+ 21 7	+ 32 0	+ 19 4	+ 22 0	+ 10 4	+ 10 7	+ 15 0	+ 1 6	+ 12 4	+ 9 3	+ 18 2	+ 15 4	+ 12 5	+ 15 6	+ 15 4	+ 12 5	+ 15 6	+ 15 4	+ 13 8	+ 17 0	+ 15 0	+ 1 5	+ 4 3																																			
Arnold and Dent 1135	- 12 4	- 5 4	- 7 9	- 7 1	- 8 1	- 10 9	- 9 4	- 5 6	- 3 7	- 2 5	- 1 9	- 0 6	- 1 9	+ 1 3	+ 6 0	+ 3 5	+ 9 1	+ 7 7	+ 4 3	+ 8 5	+ 9 9	+ 11 2	+ 11 0	+ 10 3	+ 13 3	+ 11 0	+ 14 5	+ 15 1	+ 15 9	+ 13 9																																			
Hewitt 851	- 10 7	- 6 4	- 11 9	- 10 6	- 11 3	- 18 0	- 21 5	- 16 1	- 14 2	- 14 3	- 15 8	- 10 2	- 11 4	- 8 3	- 7 2	- 10 0	- 1 1	- 2 7	- 6 9	- 0 7	- 7 7	- 6 0	- 5 8	- 5 3	- 6 2	- 5 6	- 4 2	- 4 5	- 7 4	- 2 7																																			
Parkinson and Frodsham 2310 P.	- 9 6	- 21 1	- 18 6	- 17 6	- 16 9	- 19 8	- 16 7	- 13 6	- 6 1	- 12 6	- 12 3	- 16 2	- 19 8	- 17 6	- 39 3	- 21 5	- 20 4	- 15 9	- 10 4	- 14 9	- 16 9	- 12 7	- 13 7	- 13 8	- 8 4	- 7 2	- 10 8	- 14 7	- 16 1	- 9 4																																			
Parkinson and Frodsham 2674 P.	+ 21 9	+ 16 8	+ 9 8	+ 10 4	+ 0 4	- 6 9	+ 0 7	+ 3 3	+ 11 2	+ 4 0	+ 11 4	+ 12 6	+ 19 8	+ 23 7	+ 24 4	+ 22 7	+ 22 0	+ 11 3	+ 18 5	+ 18 6	+ 19 0	+ 18 6	+ 18 6	+ 19 0	+ 18 6	+ 17 2	+ 14 6	+ 15 1	- 0 7	- 4 0																																			
Range of thermometer in chronometer-room, at 1° P. M.	40° to 46°	44° to 52°	42° to 47°	43° to 48°	41° to 45°	32° to 48°	35° to 40°	36° to 40°	45° to 48°	40° to 45°	37° to 41°	42° to 45°	44° to 50°	61° to 69°	57° to 68°	50° to 65°	52° to 65°	58° to 62°	55° to 57°	58° to 65°	58° to 60°	60° to 60°	61° to 65°	60° to 65°	65° to 65°	68° to 68°	60° to 65°	63° to 65°	68° to 67°	67° to 75°	64° to 80°																																		
Range of maximum and minimum thermometer in the open air.	18° to 48°	37° to 55°	29° to 54°	35° to 53°	35° to 52°	28° to 52°	29° to 43°	23° to 45°	25° to 53°	26° to 48°	26° to 42°	29° to 55°	25° to 57°	32° to 68°	36° to 73°	43° to 73°	42° to 70°	49° to 71°	37° to 71°	41° to 72°	44° to 78°	45° to 79°	47° to 73°	46° to 74°	49° to 74°	48° to 69°	45° to 77°	49° to 71°	46° to 73°	51° to 80°																																			

ABSTRACT OF THE PRINCIPAL CHANGES OF RATE.

Name of Chronometer.	First Day of First Week of Rating.	Last Day of Last Week of Rating.	No. of Weeks.	Least Weekly Sum.	In what Week.	Greatest Weekly Sum.	In what Week.	Difference between greatest and least.	Greatest diff. between one Week and the next.	Before and after what Day.
Molyneux and Sons 1839*	Jan. 18	Aug. 15	30	- 4.6	Apr. 11 to 18	+ 6.8	Aug. 8 to 15	11.4	4.3	Apr. 25
C. Frodsham 1715	Jan. 18	Aug. 15	30	-15.3	Feb. 15 to 22	- 5.7	May 16 to 23	9.6	6.1	May 2
Hewitt 879	Jan. 18	Aug. 15	30	-18.5	Apr. 25 to May 2	- 6.2	June 27 to July 4	12.3	5.2	Aug. 1
Arnold and Dent 966	Jan. 11	Aug. 15	31	-18.9	Feb. 22 to 29	- 5.7	Apr. 18 to 25	13.2	5.5	Jan. 18
Hewitt 822	Jan. 11	Aug. 15	31	-10.4	Feb. 22 to 29	+ 3.6	July 25 to Aug. 1	14.0	5.6	Jan. 18
Molyneux and Sons 2145	Jan. 18	Aug. 15	30	- 9.5	June 6 to 13	+ 2.8	Apr. 4 to 11	12.3	6.7	Feb. 29
Birchall 281	Jan. 11	Aug. 15	31	-28.3	Feb. 22 to 29	- 9.0	Aug. 8 to 15	19.3	3.6	{ Jan. 18 & May 2
Hewitt 893	Jan. 18	Aug. 15	30	-37.2	Feb. 22 to 29	-22.1	Jan. 18 to 25	15.1	6.4	Feb. 22
Hewitt 865	Jan. 18	Aug. 15	30	- 7.0	Feb. 22 to 29	+12.7	July 25 to Aug. 1	19.7	5.1	July 4
Pennington 241	Jan. 18	Aug. 15	30	-16.9	Feb. 22 to 29	+ 2.5	June 27 to July 4	19.4	5.5	Mar. 7
Carter 244	Jan. 18	Aug. 15	30	- 5.3	Jan. 18 to 25	+12.2	July 4 to 11	17.5	6.4	Apr. 25
Parkinson and Frodsham... 2277	Jan. 18	Aug. 15	30	-28.0	Feb. 22 to 29	-10.2	May 16 to 23	17.8	6.3	May 2
Carter 197	Jan. 11	Aug. 15	31	+ 9.2	Feb. 22 to 29	+28.1	Aug. 8 to 15	18.9	5.8	May 2
Parkinson and Frodsham... 2264	Jan. 18	Aug. 15	30	-47.2	Feb. 22 to 29	-24.9	Aug. 8 to 15	22.3	4.4	{ Feb. 29 & May 2
Arnold and Dent 756	May 9	Aug. 15	14	-18.5	May 16 to 23	- 3.4	July 18 to 25	15.1	8.8	July 11
Carter 254	Jan. 11	Aug. 15	31	+31.2	Jan. 11 to 18	+54.0	July 18 to 25	22.8	5.8	May 2
R. and H. Molyneux 2144*	Jan. 18	Aug. 15	30	-20.0	Aug. 1 to 8	- 1.4	June 27 to July 4	18.6	8.3	Aug. 1
Carter 204	Jan. 11	Aug. 15	31	-24.6	Feb. 22 to 29	- 3.8	July 4 to 11	20.8	8.1	Mar. 7
Parkinson and Frodsham... 2291	Jan. 18	Aug. 15	30	-18.8	Feb. 22 to 29	+ 7.0	Aug. 8 to 15	25.8	5.2	Mar. 28
Arnold and Dent 1329	Jan. 11	Aug. 15	31	- 3.4	Jan. 11 to 18	+23.7	Aug. 8 to 15	27.1	5.2	Jan. 18
French 7473	Jan. 11	Aug. 15	31	- 6.3	Feb. 22 to 29	+16.3	May 2 to 9	22.6	7.6	Mar. 28
Birchall 258	Jan. 11	Aug. 15	31	+ 1.0	Aug. 1 to 8	+26.3	Jan. 18 to 25	25.3	6.3	Jan. 18
Arnold and Dent 742	Jan. 11	Aug. 15	31	-13.0	Feb. 22 to 29	+ 6.9 {	July 11 to 18, & July 25 to Aug. 1	19.9	10.2	Mar. 28
R. and H. Molyneux 2094	Aug. 25	Aug. 15	29	+ 6.1	Apr. 25 to May 2	+24.7	Feb. 1 to 8	18.6	11.3	Apr. 11
Arnold and Dent 1185	Jan. 11	Aug. 15	31	-12.4	Jan. 11 to 18	+15.9	July 25 to Aug. 1	28.3	7.0	Jan. 18
Hewitt 881	Jan. 11	Aug. 15	31	-21.5	Feb. 22 to 29	+ 0.1	May 2 to 9	21.6	11.0	May 2
Parkinson and Frodsham 2310 P.	Jan. 18	Aug. 15	30	-23.3	Apr. 25 to May 2	- 2.4	July 11 to 18	20.9	11.6	Jan. 25
Parkinson and Frodsham 2674 P.	Jan. 18	Aug. 15	30	- 6.9	Feb. 22 to 29	+24.4	Apr. 25 to May 2	31.3	15.8	Aug. 1

* These chronometers were exposed to the temperature of the open air, during the day and night, in a small pent-house on the south side of the chronometer-room, from January 14 to March 14: and were kept in a hot closet, with a temperature ranging from 90° to 110°, during the day and night, from July 2 to August 15.

G. B. AIRY.