

KG
11366
v545

zone.
Chronograph Record,
Circle Readings.
From 1874, Oct. 20 to Jan. 5, 1875.
A. 16

Charles W. Sever, University Bookstore, Cambridge.

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Date. 1874, Oct. 20
 First minute-break. Oct. 21

C, set at.

Sum
 Mean.

N. Coll.	S. Coll.
Obs. W.A.R.	Obs. W.A.R.
Rec. J. F. M.	Rec. J. F. M.

Obs. W.A.R.
 Rec. J. F. M.

a.	s.	Mag.	REMARKS.
21 17 17 82 16 45.5	50 17 130	8.3 8.4	
18 14 17 41.8	88 51 45 41.4	8.8 9.0 8.6 9.0	reg. order.
19 39 19 60	93 51 11 69	9.5 9.5	
20 40 20 80	90 52 49 44	8.8 8.7	22
21 29 20 56.8	85 53 56 52.1	8.7 8.6	
22 58 22 25.7	90 52 33 288	9.1 9.1	22
23 47 23 14.5	87 52 44 39.8	9.0 7.2	22
24 38 24 55	84 52 31 26.7	8.3 8.6	
25 36 25 36	85 52 24 19.4	9.2 9.4 6.8	2nd 8 pr.
26 41 26 20	85 50 49 36.8	8.9 8.8	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 1 14.5 21.1

5 1 23.1 30.9

35 3 47.0 53.3

35 3 48.2 56.7

10 2 37.9 45.2

10 2 40.2 49.5

30 4 42.9 47.4

30 4 52.1 59.0

25 2 46.5 53.5

25 2 46.8 54.7

50 0 39.4 48.5

50 0 38.2 47.2

40 0 59.1 6.9

35 4 1.0 8.9

50 2 44.2 51.7

50 2 42.8 51.9

0 0 5.3 13.9

0 1 25.4 36.2

40 2 40.7 46.7

40 2 38.6 46.9

Date. 1874, Oct. 20.

First minute-break. Oct. 21

c, set at.

Sum
Mean.

N. Coll.	S. Coll.

a.		s.		Mag.	REMARKS.
21 28 16	91	52	31	8.8	
27 43.8			266	9.0	
29 33	95	02	10	9.4	
29 07			52	9.4	
30 36	90	53	2	9.3	
30 2.2		52	581	9.4	
31 44	80	52	11	8.9	reg. order
31 107			102	7.9	
				8.6	
				8.0	
32 47	93	52	48	lost	22 2
32 13.8			136	7.6	lower + pr. #
33 25	93	51	06	9.0	
32 51.0			20	9.1	
34 51	93	57	47	7.7	
34 17.8			425	7.8.2	
36 14	82	50	44	8.1	
35 40.4			400	8.1	
37 42	90	52	43	9.3	
37 11.8			381	9.2	
38 48	97	51	49	7.0	
38 14.3			445	7.6	

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

50 2 44.1 50.7

50 2 47.1 55.5

10 4 6.2 12.1

10 4 9.0 17.1

20 1 16.1 21.9

20 1 16.0 23.7

5 3 23.6 28.3

5 4 24.0 30.0

5 3 22.3 30.7

5 4 21.7 29.9

35 0 45.9 53.1

15 2 20.0 26.2

15 2 24.2 32.7

35 1 46.0 51.9

35 1 42.5 51.3

35 4 11.8 17.9

35 4 6.5 14.7

40 0 0.1 7.0

40 0 0.0 9.0

30 4 30.8 37.4

30 4 35.3 42.9

Date. 1874, Oct. 20

First minute-break. Oct. 21

c, set at.

Sum
Mean.

N. Coll.	S. Coll.

α.		δ.	Mag.	REMARKS.
21 39 49	85	50 30	8.8	
38 154		24.6	9.2	
40 53	88	51 18	8.5	
40 196		93.5	9.0	
42 03	90	51 32	7.8	
41 274		274	7.0	
43 27	90	51 7	9.1	
42 579		32	9.3	
45 00	80	53 14	8.2	
44 207		21	8.2	
46 17	87	50 46	8.6	
45 411		429	9.0	
47 27	90	52 9	8.9	
46 515		46	8.9	
49 24	87	51 9	8.8	
48 544		48	8.8	
50 22	91	52 31	9.4	222
49 469		266	9.5	
51 16	87	50 29	8.6	Upper #
50 401		250	9.0	

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

50 4 52.3 55.7

50 4 54.2 0.9

35 0 53.4 59.5

35 0 51.7 0.8

50 1 55.2 1.2

50 1 47.1 55.9

15 0 49.0 55.1

15 0 54.1 3.2

10 0 16.7 22.4

10 0 11.2 19.9

35 1 15.6 20.9

35 1 14.4 22.3

15 2 27.5 33.9

15 2 23.8 30.8

10 4 19.4 25.9

10 4 23.8 32.6

50 4 26.1 32.4

50 4 27.6 35.9

50 4 15.4 20.4

50 4 12.8 19.7

Date. Oct, 20, 1874.

First minute-break. Oct, 21

C, set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

b.

Mag.

REMARKS.

21 52 11 70 50 55 not seen.
51 34.1 503

9.7

53 10 87 50 83 not seen
52 33.6 383

9.2

54 11 85 53 87 8.5
53 34.2 329

8.0 #?

55 21 88 53 27 8.8
54 34.6 227

8.7

56 57 88 50 93 9.0 pr. #, star?
56 20.5 380

9.1

58 05 84 52 25 9.3 22
57 28.5 206

9.5

58 59 83 52 85 8.4 222
58 22.2 305

8.2

59 47 91 52 35 9.0
59 10.4 304

9.0

0 46 70 52 13 9.0
0 8.8 50

8.8 false natter

1 54 84 52 10 8.3
1 16.9 50

8.2

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

25 4 12.9 19.9

35 4 51.2 57.9

45 0 35.1 42.1

45 0 49.9 57.4

55 1 16.0 21.7

55 1 10.9 18.9

40 0 50.5 55.0

40 0 42.7 50.2

55 3 25.1 30.6

55 3 17.5 26.2

45 3 18.0 23.7

45 3 19.1 26.9

45 3 31.8 38.4

45 3 30.9 39.9

10 3 10.0 16.3

10 3 23.4 31.2

10 4 15.5 22.2

10 4 7.0 14.7

Date. 1874, Oct. 20.

First minute-break. Oct. 21

c, set at.

Sum
Mean.

N. Coll.	S. Coll.

a.				s.		Mag.	REMARKS.
22	3	8	92	50	52	8.6	
2	30.5				97.7		
						8.5	probably wrong #
4	9	86	50	9	40	8.5	upper + foll. #
3	31.9					8.5	
5	38	90	52	45	40.9	8.9	
5	0.3					9.0	
6	36	85	52	21	162	8.1	
5	58.3					8.6	
7	50	91	53	04		9.1	
7	122		52	592		9.2	
8	48	80	51	45		7.7	
8	97			40.2		7.8	
10	04	75	50	57		7.8.0	
9	262			460		8.0	
12	06	90	50	16		9.0	222
11	289			111		9.1	
12	46	88	50	19		8.4	
12	80			192		8.7	
13	57	85	50	34		8.9	
13	135			292		8.8	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

35 0 45.2 51.1

35 0 49.9 57.4

10 4 41.8 47.3

10 4 55.6 1.8

35 3 5.1 12.8

35 3 3.7 12.1

0 2 19.0 26.2

0 2 22.2 32.3

15 4 28.9 35.0

15 4 38.9 47.0

35 3 12.7 19.1

35 3 20.4 28.1

30 2 46.8 51.9

30 2 51.7 59.5

5 2 40.2 45.9

5 2 36.0 44.3

0 4 55.5 59.0

0 4 58.5 4.2

45 4 36.2 42.7

45 4 27.1 34.4

Date. 1874, Oct. 20

First minute-break. Oct 21

C, set at.

Sum

Mean.

N. Coll.

S. Coll.

α .

δ .

Mag.

REMARKS.

22 14 51	7.5	51 21	7.8
14 13.8		16.6	7.8

15 53	8.5	50 26	8.7
15 15.0		21.2	8.4

16 56	8.9	52 3	8.9
16 12.4		51 58.7	8.9

18 01	9.0	50 22	9.5
17 23.5		17.0	9.2

19 05	8.6	51 27	9.0
18 27.9		22.4	~~8.8~~

20 13	8.9	51 11	8.8
19 35.4		6.3	8.8

21 25	8.2	51 42	7.7
20 47.6		36.9	~~7.5~~

22 25	8.0	51 19	7.9
21 47.2		13.7	~~8.0~~

23 52	7.5	50 51	7.8
23 13.6		46.1	~~7.3~~

24 46	6.7	51 45	6.7
24 7.0		40.0	~~6.0~~

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

0 1 54.8 1.6

0 2 33.1 42.7

55 2 53.5 59.1

55 2 55.7 3.4

15 4 31.2 37.8

15 4 30.9 39.6

0 1 31.9 38.4

0 1 20.7 27.8

55 1 18.7 25.5

55 1 24.1 32.0

10 1 40.4 46.8

10 1 39.5 48.1

40 1 15.6 22.2

~~40 1 9.1 18.2~~ oh f.

0 4 18.1 24.4

~~0 4 18.1 27.8~~ oh f.

30 2 27.9 34.5

~~0 2 30.8 37.9~~ oh f.

35 3 8.1 14.2 seeing very fine.

~~35 3 9.1 17.9~~ seeing quite variable
bad at 1st, good at last

Date. 1874, Oct. 22

First minute-break. Oct. 26

C, set at.

Sum
Mean.

N. Coll.	S. Coll.
Obs. W.A.R.	W.A.R.
Rec. J.E.M.	J.E.M.

a.	s.	Mag.	REMARKS.
h m s 21 30 28 25 544	85 51 44 393	8.3 8.3	22
81 19 30 457	80 52 16 112	9.0 8.8	222 8.0 follis
82 11 31 875	95 52 47 423	9.2 9.2	
33 25 32 573	92 52 39 345	9.0 8.8	222
84 16 38 428	65 53 00 52 557	6.8 7.5	
35 28 34 541	81 52 49 449	8.2 8.5	222
36 15 38 416	91 52 30 263	9.5 9.1	
38 06 37 265	91 51 9 49	9.3 9.0	
39 14 35 401	87 50 20 154	9.2 7.9	one long stroke for 2 nd S, reg order
40 41 40 73	88 52 18 136	8.3 8.6	one stroke for each S, reg order

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

35 4 52.8 3.8

35 4 56.0 6.4

5 3 12.7 23.6

5 3 10.4 20.1

35 1 0.0 11.7

35 2 3.0 14.0

40 4 48.9 58.3

40 4 45.7 56.0

20 3 50.9 0.4

20 3 46.7 56.2

30 4 47.0 55.9

30 4 40.5 50.4

5 2 2.6 14.0

50 2 24.0 34.0

15 4 19.7 28.2

10 4 14.6 23.8

0 3 8.1 16.3

0 3 18.8 27.3

5 0 4.1 14.8

5 0 16.8 28.1

date.

first minute-break.

set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

s.

Mag.

REMARKS.

21 41 36 41 1.0	84 52 17 125	8.3 8.0 8.2 7.8	22 2 nd s' pr. ditto (as above)
42 28 41 58.7	9.0 51 47 42.6	9.4 9.5	
43 42 43 7.3	7.8 52 29 246	7.5 7.5	
45 02 44 27.5	8.0 53 47 42.0	8.1 8.3	22 20
45 51 45 15.9	7.2 50 23 192	7.4 7.8	
46 58 46 22.0	8.6 53 31 365	not seen not seen	
47 56 47 20.8	7.0 53 06 19	8.4 8.7	
49 12 48 36.0	94 53 15 10.2	9.2 8.9 9.5 9.1	2 nd s' pr. ditto, lost mid. w. of 1 st #
50 32 49 56.4	7.0 53 54 49.0	8.7 9.0	
52 05 51 28.8	8.5 50 49 44.8	8.8 8.8	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 0 52.9 3.4

5 0 56.5 7.9

35 1 52.2 2.1

35 1 55.8 5.9

50 4 5.2 15.5

50 4 8.0 17.9

35 1 39.7 49.0

35 1 42.2 52.0

55 4 48.9 52.6

55 4 37.8 47.1

not seen

not seen

15 2 15.4 25.1

15 2 12.9 22.9

5 3 0.6 10.9

5 4 18.7 29.7

30 1 10.4 20.7

30 1 13.8 24.1

30 3 58.2 6.6

30 3 0.1 9.4

Date. 1874, Oct. 22

First minute-break. Oct. 26

c, set at.

Sum
Mean.

N. Coll.	S. Coll.

α .	δ .	Mag.	REMARKS.
21 53 05 52 259	82 50 25 208	8.6 8.7	
54 58 54 212	94 53 55 502	9.3 9.6	
56 36 55 593	88 52 26 219	8.5 9.0	
57 55 57 257	91 52 51 487	not seen. not seen	
58 52 58 146	91 52 27 226	8.9 9.0	
0 09 59 320	85 53 8 31	8.6 8.5	
1 16 0 389	72 53 00 52 550	6.8 6.9	
2 40 1 549 2 25	88 51 06 51 0.7	8.3 8.3	pr #.
3 54 3 163	88 53 39 344	8.2 8.9	22
4 46 4 88	83 53 33 266	9.1 8.0 9.2 8.3	2 nd 8 pr. 3+4 of 2 nd #? 2 nd 8 pr.

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

55 3 6.3 16.9

55 3 12.7 21.8

25 3 47.1 57.0

25 3 45.2 55.4

55 1 20.9 32.2

55 1 21.4 32.9

not seen

not seen

55 1 53.8 2.9

55 1 0.6 10.9

15 1 11.2 11.1

15 1 6.1 15.1

20 3 47.3 55.5

20 3 46.4 55.5

15 4 6.7 15.6

15 4 7.8 17.0

40 4 20.9 30.3

40 4 22.8 32.1

50 1 21.7 31.4

50 1 27.4 37.9

Date. 1874, Oct 22

First minute-break. Oct 26

c, c, set at.

Sum
Mean.

N. Coll.

S. Coll.

a.

b.

Mag.

REMARKS.

22 06 28
5 50.5

89 53 8
86

9.0

9.0

7 40
7 24

86 53 29
24.5

8.9

22

9.2

8 33
7 55.5

81 52 31
26.2

7.0

7.1

9 33
8 55.5

86 53 03
52 58.5

9.0

8.7

10 33
9 55.5

84 53 39
34.8

9.8

22

9.8

11 25
10 46.9

88 54 12
7.5

8.7

8.8

12 38
11 59.3

92 51 38
33.8

9.2

9.3

13 42
13 31

85 52 1
57 55.9

6.7

7.0

14 53
14 15.1

90 51 39
33.8

9.3

9.1

16 56
16 12.4

89 52 03
58.7

8.9

8.8

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

15 0 6.4 16.1

15 0 5.9 16.6

50 4 31.9 42.0

50 4 31.0 40.9

50 2 31.9 42.9

50 2 37.9 48.5

20 0 1.7 12.6

20 0 5.2 14.4

40 3 59.2 9.1

40 4 11.2 20.0

10 0 0.9 11.6

10 0 4.0 14.5

40 4 56.1 5.1

40 4 54.8 4.6

20 2 47.5 57.1

20 2 48.1 58.5

40 4 58.9 8.9

40 4 56.8 6.7

15 4 33.1 43.2

15 4 30.9 40.2

Date. 1874, Oct 22

First minute-break. Oct 26

c, set at.

Sum
Mean.

N. Coll.

S. Coll.

a.

b.

Mag.

REMARKS.

		mag	8	
22 18 06	82	8.6	50 54	
17 28 6		8.6	49 4	
19 18	80	8.6	51 56	
18 40 1		8.7	51 5	
20 37	82	7.8	51 47	
19 59 2		7.5	52 0	
22 45	70	7.4	50 55	
22 6 2		7.0	50 4	
23 52	75	7.2	50 51	
23 13 6		7.5	46 1	
25 24	90	9.3	50 33	
24 45 5		9.3	28 1	
26 51	82	9.5	57 20	
26 51		9.9	14 7	
27 50	93	9.4	50 31	lower +
27 11 6		9.5	26 8	fol. #
28 48	90	8.5	57 59	
28 9 4		9.0	54 3	
30 01	88	8.7	57 15	
29 22 5		8.9	10 5	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

25 4 4.1 52.7

25 4 34.9 43.9

25 2 13.0 22.5

25 2 4.1 13.8

35 1 24.0 33.7

35 1 21.2 31.3

25 3 31.1 40.9

25 3 13.8 23.0

30 2 32.1 41.3

30 2 30.3 39.7

50 0 20.2 29.0

50 0 23.8 34.0

0 2 42.7 52.8

0 2 38.3 46.8

50 1 46.0 53.5

50 1 44.6 52.5

20 4 21.1 30.1

20 4 22.0 31.9

5 2 0.0 9.1

5 2 57.9 8.0

Date. 1874. Oct. 22	N. Coll.	S. Coll.
First minute-break. Oct. 26		
set at.	Sum	Mean.

a.		s.		Mag.	REMARKS.
22 31	32 94	51	49	9.6	
30	51.0		439	9.7	4 th wire?
32 32	90	52	01	8.9	
31	51.6	17	105	9.3	
84 12	7.1	50	29	8.6	reg. order
33	31.0		240	5.5	
				8.8	2 nd 8 pm.
				6.8	
35 21	90	50	23	8.7	
34	41.1		183		
				9.0	
36 46	88	52	10	8.5	
36	51		50		
				8.9	
37 47	95	51	54	9.5	
37	69		496		
				9.8	
39 14	90	52	04	8.9	
38	334	51	591		
40 13	78	52	42	7.8	
39	324		366		
				7.9	
41 23	80	52	58	7.0	22
40	421		525		
				7.9	
42 17	90	52	58	8.8	
41	350		535		
				9.0	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 4 34.8 43.5

~~30 4 37.0 46.9~~

20 2 24.6 34.4

~~20 2 23.0 33.6~~

50 3 51.8 59.5

50 4 46.1 53.9

~~50 3 1.1 10.5~~~~50 3 1.1 10.5~~

0 0 10.5 18.7

~~0 0 6.1 14.9~~

10 3 21.2 30.5

~~10 3 21.4 30.9~~

25 3 50.0 58.1

~~25 3 47.1 55.9~~

15 4 12.1 21.4

40 1 42.2 51.9

~~40 1 45.1 54.7~~

25 0 51.1 0.0

~~25 0 42.6 52.2~~

20 4 32.9 42.9

~~20 4 39.4 47.5~~

seeing very good at the
 1st, but quite bad at the last
 seeing very good

Date, 1874, Nov. 7
First minute-break. Nov. 8 10

c, set at.

Sum
Mean.

N. Coll.	S. Coll.
Obs. W.A.R	W.A.R
Rec. J.F.M	J.F.M

a.		s.		Mag.	REMARKS.
2 202 32	85	51 04	8.4	2 202	pr. #
1 549		12 58	8.5		
			8.2		
3 8	85	50 59	8.6	(lost, Nov. 7)	
2 203		548			
			8.7		
4 09	86	50 9	9.0		
3 219		40	8.3		
			8.5	upper + foll. #	
5 8	91	50 17	9.4	(lower + foll. # Nov. 7)	
4 304		126	9.0		
			9.2		
6 7	85	51 47	9.2		
5 297		418	8.8		
			9.0		
7 6	88	51 36	9.4		
6 289		311	9.0		
			8.8		
8 12	85	53 20	9.2	(# ? Nov. 7)	
7 347		160	8.0		
			8.3		
9 26	88	52 18	8.8		
8 489		131	7.0		
			8.2		
10 23	87	50 25	9.4		
9 455		206	9.0		
			9.2	faint comp. folls below	
11 27	89	53 18	8.8		
10 477		133			
			8.6		

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Nov. 4	15	4	8.9	15.5
	15	4	33.9	42.9
	15	4	6.9	17.5

all these stars

Nov 4	20	4	22.1	27.4
	20	4	20.2	30.2

Nov. 7 except
those marked Nov 4

Nov. 4	10	4	47.1	53.0
	10	4	52.9	1.1
	10	4	49.8	59.3

Nov 4	5	1	21.9	27.6
	5	1	12.9	21.5
	5	1	13.7	23.8

Nov 4	35	2	1.9	8.8
	35	1	59.1	7.9
	35	1	55.0	7.1

Nov 4	45	2	47.0	53.1
	45	2	45.3	54.7
	45	2	43.0	53.0

Nov 4	0	2	42.7	48.2
	0	2	51.1	59.4
	0	2	31.9	42.0

Nov 4	5	0	25.9	34.0
	5	0	21.8	32.9
	5	0	23.3	35.9

Nov 4	55	1	46.3	52.0
	55	3	28.1	38.3
	55	3	22.2	37.7

Nov. 7	5	0	28.0	38.5
	5	0	30.2	42.9

Date.

First minute-break.

C, set at.

N. Coll.

S. Coll.

Sum

Mean.

1674 Nov. 9

Nov. 10

a.

S.

Mag.

REMARKS.

22 12 38
11 59.3

82 57 38
338

9.4
9.2
9.2

13 42
13 57
13 51

52 01
246
51 59

7.6
7.0

222 ~~lost~~

22
14 34
13 58.2

9.4

51 44
572
9.8

9.7
8.2

lost faint comp. zolls below

15 36
14 50

9.0

50 56
570

9.3
9.1

lost

16 32
15 51.9

9.4

53 15
58

9.5
9.0
8.7

18 27
17 49.0

9.7

50 54
532

8.7
7.8
8.0

upper + zoll. #

18 31
17 53.4

9.1

50 26
216

19 38
19 02

8.9

52 7
17

8.0
8.0

222 lower #

20 23
19 45.1

9.2

52 10
50

9.1
8.9

222

21 02
20 23.8

8.7

50 31
262

8.8
9.0

Runs.

Sum
Mean.

A.

C.

Pointer.	Stroke.	Rev.	A.	C.	REMARKS.
Nov 7	45	0	2.9	13.0	
Nov. 4	40	4	12.2	18.1	
	40	4	40.0	50.5	
Nov 7	20	2	51.9	1.1	
	20	2	44.9	53.8	
Nov 7	5	3	56.1	4.9	
	5	3	58.0	8.9	
Nov 7	25	2	54.9	2.3	
	25	2	50.3	1.9	
Nov. 4	5	3	22.2	27.5	
Nov. 7	5	3	21.5	29.5	
	5	3	16.6	25.9	
Nov. 4	25	0	35.2	41.7	
Nov. 7	25	0	31.0	39.9	
	25	0	28.0	39.5	
Nov 7	15	3	12.7	21.9	
	15	3	7.4	17.9	
Nov 7	10	3	32.1	41.2	
	10	3	32.0	42.1	
Nov 7	50	2	34.6	41.4	
	50	2	32.1	42.3	

Date. 1874, Nov. 7

First minute-break.

Nov. 10

set at.

Sum
Mean.

N. Coll.	S. Coll.

α.		δ.	Mag.	REMARKS.
22 22 44	8.2	52 18	8.5	
22 6.2		13.6	8.2	
24 00	8.5	52 7	8.4	22 24
23 22.9		1.5	8.0	
24 46	6.7	51 45	6.3	
24 7.0		40.0	6.5	
26 00	7.6	50 12	8.0	
25 21.3		7.5	7.9	
27 8	8.8	57 15	9.0	
26 29.0		10.7	9.0	
28 14	9.3	52 36	9.0	
27 84.1		30.7	9.1	
29 48	8.7	52 19	8.8	22 22
29 8.0		14.1	8.8	
30 27	8.7	52 04	8.7	
29 48.9		17.5	8.8	
31 39	8.0	50 27	8.5	
30 58.0		21.9	8.5	
33 0.6	9.0	57 42	9.0	faint comp. folls. below
32 25.7		37.4	9.0	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

0 4 37.8 47.0

0 4 39.6 49.0

15 1 44.9 54.5

15 1 51.0 1.8

35 3 7.1 16.7

35 3 10.4 20.0

10 0 40.1 48.0

10 0 39.0 48.8

5 2 31.0 39.9

5 2 34.0 42.9

45 2 42.0 50.8

45 2 47.7 57.3

0 3 58.1 7.6

0 3 55.3 6.2

15 3 56.1 5.1

15 3 56.7 6.2

55 1 50.2 57.5

55 1 52.0 0.4

40 0 58.7 7.6

40 0 50.3 59.9

Date.

1874, Nov. 7

First minute-break.

Nov. 10

set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

34 25
33 44

88

51 25
~~51 25~~
197

8.7

8.7

35 21
34 41

90

50 23
183

9.2

8.8

36 49
36 88

89

52 54
484

9.4

9.4

upper & foll. H

37 47
37 69

91

51 54
496

9.8

lost

39 14
38 03

90

52 04
581

9.0

lost

40 15
39 34

85

52 12
70

7.0

7.6

41 11
40 30

91

52 08
285

9.1

8.9

42 17
41 35

90

52 8
31

9.0

9.0

43 23
42 42

89

51 11
62

9.0

222

9.0

44 13
43 32

92

51 54
495

9.2

9.2

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

55 3 25.1 33.5

55 3 28.0 37.9

0 0 12.9 20.9

0 0 7.1 17.3

30 0 4.2 13.1

25 4 59.5 10.7

25 3 54.5 3.5

15 4 9.9 19.2

10 0 38.1 47.9

10 0 43.6 52.5

45 4 53.3 3.1

45 4 55.7 5.1

16 4 58.7 9.1

10 4 48.7 58.9

10 2 3.2 12.0

10 1 52.5 1.2

25 3 50.7 58.0

25 3 56.1 5.4

Date. 1874, Nov. 7

First minute-break.

Nov. 10

c, set at.

Sum
Mean.

N. Coll.	S. Coll.

a.		s.		Mag.	REMARKS.
22 45 30 44 40.7	8.6	52 22 16.6			lost 8.6 suspected double
46 31 45 48.5	7.2	52 24 18.1		7.8 7.8	
48 06 47 23.8	8.5	52 00 17.55		8.6	lower + foll. # 8.6 ref. A ₊₁
49 56 49 14.2	8.0	07 54 51.5		8.0	Circuit broken
51 10 50 28.1	9.1	51 45 39.8		9.1	
52 11 51 29.1	9.5	51 48 42.8			
53 38 52 55.0	7.0	51 38 32.6		7.7 7.0	22 not seen
54 26 53 43.3	8.8	51 42 36.6		9.1 8.7	
56 06 55 23.8	9.5	52 45 39.4		9.5 9.8	lost middle wire
57 10 56 27.4	8.0	52 23 27.8		8.0 8.5	

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

0

0

1

40.9

50.8

0

2

58.9

8.8

0

3

16.4

25.4

20

2

36.1

45.2

20

2

28.8

38.2

~~25~~~~2~~~~30.9~~

25

2

9.5

19.0

~~25~~~~2~~~~9~~

35

3

27.9

37.8

45

1

26.1

35.9

45

1

26.9

37.2

40

1

36.1

45.9

40

1

32.1

41.7

35

3

44.4

52.6

35

3

54.0

3.8

50

0

13.8

22.5

seeing moderately good

50

0

17.2

27.9

Date. 1874, Nov 7

First minute-break.

Nov 10

set at.

Sum
Mean.

N. Coll.	S. Coll.
U. W. A. R	
Rev. J. F. M	

a.				Mag.	REMARKS.
22 59 0	83	58 19		8.6	
58 16.0		14.5		8.5	
				8.9	
0 13	89	53 19		9.0	(lost middle wire Nov 4)
59 29.0		13.9		9.0	
				9.0	
1 24	90	54 03		8.8	
0 39.5		53 57.6		9.0	
				9.2	
2 21	89	53 37		8.8	
1 36.3		32.5		8.8	
				9.0	
3 24	80	50 15		9.2	22
2 39.7				9.0	
				9.0	
4 14	87	51 16		8.8	22
3 30.1		10.9		8.8	
				9.0	
5 7	80	58 14		8.8	
4 21.4		8.5		8.6	
				8.8	
6 23	89	53 58		8.9	
5 38.2		53.1		8.9	
				9.0	
8 22	81	53 5		8.0	
7 07.3		0.0			
				7.8	
9 29	85	53 38		8.5	
8 44.1		34.3		8.0	
				8.0	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Nov 4	0	3	37.0	42.6
	0	3	39.0	47.6
	0	3	41.2	51.0

Nov 4	0	4	12.9	18.0
	0	4	13.2	21.9
	0	4	14.5	22.2

Nov 4	20	0	24.8	31.8
	20	0	24.9	34.7
	20	0	20.0	30.8

Nov 4	45	0	42.6	48.9
	45	0	40.6	46.2
	45	0	38.2	47.8

Nov 4	5	2	43.8	48.8
	5	2	41.1	48.9
	5	2	34.9	44.3

Nov 4	5	2	58.0	11.5
	5	1	55.1	3.1
	5	1	58.8	7.1

Nov 4	5	4	39.7	46.2
	5	4	41.1	49.0
	5	4	35.5	44.3

Nov 4	25	0	3.9	11.2
	25	0	10.5	19.7
	25	0	5.9	15.8

Nov 4	15	3	10.5	15.9
	15	3	16.4	25.9

Nov 4	40	3	56.4	0.7
	40	4	9.8	16.4
	40	3	57.9	6.1

Date. 1874, Nov 7
 first minute-break. Nov. 10

Sum
 Mean.

N. Coll.	S. Coll.

a.	s.	Mag.	REMARKS.
23 10 27 9 417	84 5342 369	9.2 8.7 8.6	
11 22 90 10 372	53 52 468	9.0 9.0 9.1	(rej. last two wires Novy)
12 20 89 11 357	53 24 191	~~8.8~~ 8.9	222
13 6 77 12 214	53 50 450	~~7.5~~ 7.3	
14 37 88 13 543	53 53 478	8.8 9.0	
16 15 90 15 304	53 38 329	9.0 9.1	
17 45 70 16 589	53 20 194	7.3 7.0	
18 15 90 17 288	54 00 53541	9.1 9.0	
19 12 90 18 267	50 43 386	8.8 8.8	
20 41 85 1	53 52	8.6 8.7	~~8.6~~

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Nov. 4	40	1	15.2	21.7
	40	1	13.7	22.4
Nov 7	40	1	26.4	35.2

Nov. 4	30	1	46.0	50.3
Nov 7	30	1	36.1	43.4
	30	1	29.2	39.2

Nov 7	55	3	54.1	1.9
	55	3	51.8	0.2

Nov 7	30	3	42.7	49.4
	30	3	27.5	35.9

Nov 7	30	0	0.0	8.2
	30	0	0.9	9.2

Nov 7	45	0	40.0	47.9
	45	0	43.5	52.5

Nov 7	0	3	51.5	58.0
	0	3	45.0	53.9

Nov 7	20	4	47.8	59.9
	20	4	33.1	42.2

Nov 7	35	4	35.3	43.9
	35	4	30.0	39.9

Nov 7	30	2	21.8	29.9	seeing moderately good
	30	2	17.3	26.9	seeing very fine

This zone commences at 22^h 58^m
 Date. 1874 Nov. 8 4 pages ahead

First minute-break. Nov. 9

c, set at.

Sum
Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

2 23 21 19 80 53 12 9.0
 20 32.6 6.1

9.0

8.8

22 37 50 16 9.1
 21 51.7 11.3

~~lost 473~~

9.0

9.1

23 33 87 53 53 9.3
 22 48.0 47.5

Hazy

8.9

24 57 80 53 11 9.0
 24 10.9 5.1

9.0

25 54 85 53 19 8.9
 25 6.8 13.2

2

8.7

26 45 83 53 32 8.4
 25 57.9 26.5

8.3

28 4 83 53 22 8.5
 27 17.4 15.8

8.1

upper + foll. H

29 23 85 53 19 8.2
 28 35.8 13.3

8.5

30 20 84 53 09 9.8
 29 33.4 5.2

9.7

31 33 85 53 38 9.2
 30 44.6 32.1

9.8

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

9.0

10

2

20.4

27.7

10

2

41.7

48.0

O.K. Nov 11

10

2

37.1

45.9

8.8

5

1

37.0

45.4

5

1

38.0

45.6

O.K. Nov. 11

5

1

44.9

51.9

8.7

30

0

3.9

13.5

30

0

27

11.8

30

0

1.1

10.0

9.0

10

3

26.9

34.6

10

3

29.3

37.2

10

3

28.8

37.4

8.4

0

4

53.8

0.3

0

4

41.3

58.9

0

4

56.3

3.8

8.3

50

1

42.0

49.9

50

1

33.5

43.1

50

1

34.2

43.9

8.3

0

1

58.1

6.7

0

1

52.0

0.3

0

1

53.9

2.9

8.1

5

0

4.0

12.7

5

0

5.5

14.3

5

0

7.5

16.5

9.5

25

0

30.0

39.7

25

0

31.9

41.0

25

0

23.4

31.7

8.7

45

1

53.7

1.7

45

0

52.8

0.1

45

0

49.8

59.1

Date. 1874 Nov. 8
Nov. 9

First minute-break.

c, set at.

Sum
Mean.

N. Coll.	S. Coll.

a.		s.		Mag.	REMARKS.
23	32.44	72	53.44	7.8	222
	31.561		384	7.5	
33	30.20	50	37	9.0	lost 1 st wire
	32.320		32.3	9.1	
34	8.6	88	52.01		not seen
	33.481		~~177~~ 51.558		not seen
35	42	86	53.57	8.7	20
	34.534		53.5	8.2	
36	35	73	50.42	8.4	
	35.078		38.5	7.5	
38	29	84	50.11	9.0	
	37.415		6.5	8.4	
39	40	85	54.02	9.0	2 same s for each #
	38.510		53.563	8.3	
40	31	83	53.30	9.0	
	39.421		53.287	8.3	
42	04	78	54.00	8.8	
	41.154		53.538	7.8	
43	18	90	54.02		
	42.789		53.558	8.5	false break after 2 nd wire

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

7.9

40

4

42.0

48.1

35

4

44.1

50.2

35
35

4

40.8

48.0

9.0

45

1

24.7

32.9

45

1

18.9

26.4

45

1

9.4

18.1

8.7

20

2

17.0

24.6

8.0

20

4

23.9

29.9

20

4

22.4

30.3

20

4

23.1

30.9

7.2

40

0

49.2

57.2

40

0

42.9

51.0

40

0

36.5

44.9

8.3

10

1

20.2

27.9

10

1

59.2

7.1

8.2

10

2

14.1

22.1

10

1

25.1

33.7

10

1

22.3

30.6

9.2

20

2

13.8

21.1

20

2

9.9

16.7

8.2

20

2

6.8

14.6

8.2

50

4

21.0

28.1

50

4

11.9

20.0

50

4

11.4

19.1

7.8

20

4

26.1

33.6

20

4

21.0

28.9

20

4

35.2

43.5

too hazy to continue
zone

8.7

20

2

36.7

45.0

20

2

48.2

56.7

Date.

First minute-break.

C, set at.

Sum

Mean.

N. Coll.

S. Coll.

α .

δ .

Mag.

REMARKS.

23 44 16.67 53 30 7.0 2 2 2

43 27.0

24.0

7.0

44 56.88 53 19 8.7

44 72

12.9

8.6

46 16 77 53 34 7.0

45 26.8

28.3

7.0

48 01 84 53 50 8.6 2 2

47 113

439

8.5

Suspected double

48 52 84 51 00 8.8

48 2.1

50 55.4

9.0

50 04 80 53 21 8.5

48 14.1

15.5

8.6

lost mid w. a 9.3^{mag} folls

51 39 87 52 19 9.2 2

50 49.2

13.8

9.0

52 31 85 54 01 8.2

51 41.5

53 54.6

7.8

53 57 88 53 35 8.6

53 6.1

29.4

8.8

55 52 82 53 26 9.3

55 0.9

22.98

8.8

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

50 4 27.7 35.5

50 4 18.8 26.0

5 0 14.4 23.1

5 0 12.5 21.2

50 0 6.9 15.2

50 0 7.5 15.4

30 4 3.7 11.7

30 3 0.7 8.0

20 2 49.1 56.9

20 2 44.9 52.0

0 2 18.3 26.9

0 2 12.7 19.9

0 4 17.9 25.8

0 4 14.0 21.1

20 3 41.7 50.0

20 3 44.9 52.2

45 3 12.1 20.3

45 3 13.7 20.5

55 3 17.0 24.9 seeing very fine

55 3 18.0 24.2 seeing very fine

For next page see
4 pages back

Date.

1874, Nov 8

First minute-break.

Nov. 11

c, set at.

Sum

Mean.

N. Coll.

S. Coll.

Obs. M. A. R.

Rec. J. F. M.

W. A. R.
J. F. M.

a.

s.

Mag.

REMARKS.

22 58 50 85 52 16 8.6
57 272
58 134 103

false cattle after 8

59 84 52 21
58 182 154

lost

1 30 55 52 7 6.5
0 455 20

2 30 81 50 30 8.5
1. 486 250

3 45 90 50 25 9.0
3 97 200

5 16 88 52 47 8.9
4 313 416

6 17 85 52 39 8.6
5 329 339

7 40 73 50 49 9.2
6 558 441 9.4

8 45 89 52 07 9.0 lower + foll. #
2 05 320 9.0

9 23 94 52 59 9.6 upper + foll #
8 383 334

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

mag
8.5

5

2

26.4

36.9

5

2

24.7

34.0

~~15~~~~1~~~~2.8~~~~13.4~~

5.5

15

1

2.8

13.4

15

1

7.0

16.0

8.6

50

3

22.7

31.1

50

3

19.4

26.1

9.0

55

3

23.0

31.7

55

3

24.9

32.9

8.9

35

2

21.0

31.1

35

2

25.0

34.0

8.5

~~40~~~~57.3~~⁴

57.3

6.1

40

4

52.2

59.3

8.8

30

3

25.0

33.1

30

3

16.6

23.9

30

3

28.0

36.3

9.0

45

3

21.8

30.4

45

3

16.5

24.9

45

3

21.7

31.1

9.0

25

0

28.5

35.1

25

0

28.9

38.6

Date.

First minute-break.

c, set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

s.

Mag.

REMARKS.

23 10 27 84 53 42
9 417 369

11 22 80 53 52
10 372 968

12 20 89 53 24
11 351 191

9.0

222

13 06 77 53 50
12 214 450

7.0

14 39 88 53 53
13 543 478

9.0

16 15 90 53 38
15 304 321

9.0

17 45 76 53 20
16 585 144

7.1

18 58 85 53 48
18 118 419

222

9.4
9.2

2 1 stroke each S lost

19 37 71 54 44
18 510 382

7.8

lost 1st w

20 41 55 53 52
20 54 459

8.8

2 2 2 2 2 rej. ind. w.

See 5 pages back
for next star.

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

8.5

4

A, R

no

40 1 35.1 42.9

Rec'd.

9.0

30 1 43.4 51.9

9.0

55

55 3 0.1 7.9

55

3

54.5 2.9

7.0

30 3 23.2 31.1

30

3

26.1 33.2

9.0

30 0 58.3 7.3

30

0

59.5 8.5

8.9

45 0 45.1 54.1

45

0

46.1 54.4

6.9

0 3 49.0 57.1

0

3

48.6 57.2

end w

35

0

39.0 47.5

7.3

40 0 31.1 37.7

40

0

30.2 39.0

8.6

30 2 15.6 23.5

30

2

15.3 23.4

Date. 1874, Nov. 16
First minute-break. Nov. 18
c, set at. Nov. 21

Sum
Mean.

N. Coll.	S. Coll.
Obs. W.A.R.	W.A.R.
Rec. J. F. M.	J. F. M.

a.				s.		Mag.	REMARKS.
23	9	21	82	51	39	8.5	
	8	37.2			34.0	8.4	
10	41	89	52	47		9.0	
9	56.9			41.9		8.9	
12	06	90	52	30		8.5	
11	21.6			25.0		8.8	9.1
14	00	83	55	01		9.2	lower & foll. #
13	1.50		54	50.3		9.0	9.3
15	46	80	55	0		8.0	
15	19			54.9		7.9	7.8
17	04	88	52	6		8.9	2.2.2
16	18.7			0.0		9.2	8.8
17	43	81	52	00		7.9	
16	57.7		51	54.9		8.0	8.2
18	58	89	53	48		9.2	faint comp. pr. 1 sec.
18	1.16			41.9		9.2	9.2
19	40	70	52	18		7.1	2.2
18	54.0			12.2			6.4
20	30	93	52	14		9.2	
19	44.3			4.6		9.4	9.4

Runs.

Sum
Mean.

A.

C.

29

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

40 4 25.1 29.9

40 4 25.1 35.2

35 1 26.5 31.9

35 1 20.5 31.3

50 3 42.1 46.8

50 3 34.7 45.5 50 3 50.7 52.1

20 3 55.8 58.0

20 3 57.5 58.5 20 3 56.7 56.0

20 3 11.6 15.0

20 3 11.2 19.2 20 3 15.9 16.0

15 2 47.0 51.1

15 2 54.5 2.9 15 2 49.1 49.9

20 3 17.6 20.9

20 3 21.7 30.4 20 3 19.0 20.5

35 0 44.8 49.0

35 1 13.2 21.0 35 0 39.6 40.9

5 2 13.8 17.9

5 2 16.5 17.0

10 3 40.1 43.8

10 3 41.2 48.7 10 3 36.9 37.0

Date. 1874, Nov. 16
first minute-break. Nov. 18
C, set at. Nov. 21

N. Coll.	S. Coll.
Sum	
Mean.	

a.		s.		Mag.	REMARKS.
23	21	28	9.5	52 22	9.5
	20	42.6		16.0	9.5 9.5
22	48	8.5	52 23	8.7	222
	22	2.1		17.5	8.5
				8.9	false break + rattle after 8
23	25	8.6	52 8	8.6	222
	22	39.7		2.3	8.6 8.4
24	11	9.5	52 14	9.8	
	23	25.4		8.7	9.6 rej. 4 th wire
				9.7	
25	15	9.0	52 11	8.7	
	24	28.7		5.1	9.0 8.7
26	21	7.9	52.36	8.0	
	25	34.1		30.4	8.2 8.3
27	52	9.3	50 33	9.4	222
	27	5.3		28.8	9.4 9.2
28	36	8.8	52 10	8.9	
	27	49.7		4.2	9.0 8.8
29	43	9.0	50 47	8.7	2222 pr. #
	28	56.4		42.9	9.0 8.8
					8.9
30	18	8.8	50 53	8.8	
	29	31.9		48.3	8.9 8.8

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

0 2 4.7 8.9

0 2 9.9 18.1 0 2 16.5 17.3

0 0 43.5 48.2

0 0 35.9 46.1 0 0 42.7 44.9

15 0 53.7 58.4

15 0 48.5 57.8 15 0 52.5 52.0

5 4 51.1 53.0

5 4 32.8 40.9 10 0 5.8 7.1

10 3 15.5 19.0

10 3 8.1 16.3 10 3 21.9 22.0

45 3 12.9 16.0

45 3 10.1 19.5 45 3 14.9 15.4

45 4 11.1 13.2

45 4 12.7 20.7 45 4 4.7 3.1

10 3 43.8 47.0

10 3 42.0 50.4 10 3 42.6 43.0

35 2 33.6 36.3

35 2 30.5 40.1 35 2 34.8 34.8

30 0 9.5 12.9

30 0 18.5 26.2 30 0 13.5 14.0

Date. 1874, Nov. 16
 First minute-break. Nov. 18
 9 set at. Nov. 21

N. Coll.	S. Coll.
Sum	
Mean.	

a.	S.	Mag.	REMARKS.
23 31 36 71 50 12 30 46.5	7.6	9.2 9.2	9.2
32 51 78 51 83 ~~32 41.2~~ 32 3.0	~~26.8~~ 27.8	8.0 8.0	7.8
34 10 80 51 01 33 22.4	50 55.8	9.0 9.1	2 2 2 9.2
35 8 88 51 43 34 20.7	~~26~~ 27.9	9.0 8.3	7.7
36 31 93 53 03 35 43.9	52 57.2	9.1 9.3	2 2 2 faint comp. foll's 3 sec. 9.3
37 23 90 52 16 36 35.8	10.7	8.7 8.8	lost
38 57 89 50 8 38 9.2	33	9.0 8.6	8.5
40 44 84 50 50 39 56.0	45.2	8.2 8.5	8.6
41 32 88 51 11 40 43.5	5.6	8.8 8.9	8.7
42 38 87 52 29 41 48.9	23.9	8.6 8.4	8.8 2 nd w. ?

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

10 0 13.8 16.7

10 0 5.1 14.1 10 0 11.1 11.3

50 0 25.0 28.3

50 0 18.8 28.0 50 0 19.4 20.2

20 2 7.3 11.1

20 2 7.5 15.9 20 2 7.1 7.4

40 3 22.9 25.4

40 0 11.6 19.0 40 0 13.9 15.3

20 0 48.0 51.6

20 0 41.9 49.6 20 0 42.1 42.3

5 2 32.6 35.9

5 2 25.9 34.4

10 4 36.1 39.6

10 4 35.5 43.0 10 4 34.0 34.0

30 2 52.4 54.1

30 2 49.2 55.9 30 2 47.1 45.9

10 2 34.1 36.9

10 2 27.3 35.2 10 2 31.3 31.9

50 4 19.9 22.1

50 4 6.3 14.1 50 4 14.0 14.8

Date. 1874, Nov. 16

First minute-break.

Nov. 18

21

set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

23 4 332 86 52 11
43 34 58

8.4

upper & foll. #

8.7 8.5

44 34 84 52 33
44 31.6 172

not seen

9.5

45 33 90 52 30
44 44.5 24.5

9.0

upper & pr. #

9.0

8.8

46 26 94 52 8
45 36.5 23

9.2

9.4 9.3 2nd w. ?

47 41 91 52 3
46 51.7 580

9.2

9.1

9.1

48 54 87 50 9
48 43 4.2

9.1

9.0

8.8

50 07 90 50 17
49 17.8 12.2

9.3

9.4

9.2

51 53 90 50 40
51 3.6 34.9

9.0

9.3

9.4 faint comp pr.

54 18 90 50 5
53 28.5 53

8.3

9.2

7.0

7.5

55 13 86 52 4
54 22.5 51.58.3

8.5

8.6

9.0 2

8.8

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

10 1 0.4 2.1

10 1 58.6 6.8 10 1 57.0 56.6

50 1 36.5 36.6

50 3 59.6 1.4

50 3 53.9 2.0 50 4 9.9 9.1

15 0 48.0 51.6

15 0 32.9 41.4 15 0 45.7 46.9

20 0 9.1 12.9

20 0 1.7 10.2 20 0 11.5 12.1

10 3 37.1 40.6

10 3 38.4 45.9 10 3 41.8 40.7

5 0 3.5 6.0

5 0 57.8 4.1 5 1 6.1 6.9

40 3 8.9 10.9

40 2 54.9 0.7 40 2 57.8 56.3

15 4 7.7 9.0

15 3 6.7 9.5

15 1 25.3 32.9

15 2 25.7 32.9

20 0 39.9 42.5

20 0 3.3 10.9 20 0 7.0 7.6

Date.

First minute-break.

C₁ set at.

1874, Nov. 16

Nov. 18

21

Sum

Mean.

N. Coll.

S. Coll.

a.

s.

Mag.

REMARKS.

23 56 1 87 53 51
55 100 44

8.4

8.3 8.3

57 15 90 52 29
56 24.8 23.5

8.7

8.8 8.6

58 19 89 57 32
57 284 264

8.1

8.4 8.0

59 34 84 50 39
58 44.6 33.8

8.4

8.6 8.2

0 22 90 9 17
59 309 11.2

9.1

9.1 9.0

1 10 90 51 3
59 204 50 57.522 2 not seen
not seen1 54 80 52 33
1 24 292

7.8

7.8 7.0

3 29 85 52 49
2 171 435

8.5

8.4 8.8

4 31 83 52 42
3 39.5

7.9

8.0 9.0

5 25 60 52 54
4 329 494

7.0

6.3 7.0

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 3 54.9 55.3

30 3 30.0 36.6 30 3 36.9 36.1

50 4 57.7 59.1

50 4 44.8 50.6 50 4 41.7 41.8

50 1 28.1 32.1

50 1 33.8 42.8 50 1 42.0 42.2

40 4 11.0 14.1

40 4 11.2 18.3 40 4 14.5 13.8

5 1 32.8 36.1

5 1 32.8 40.6 5 1 37.7 38.5

1

50 1 9.5 12.6

50 0 0.7 8.8 50 1 14.2 15.1

30 4 41.5 43.9

30 4 39.1 46.5 30 4 41.7 42.1

40 1 28.3 29.9

40 1 20.6 27.7 40 1 21.5 21.0

25 3 59.1 61.9

25 3 56.3 62.9 25 3 56.7 55.1

N. Coll.	S. Coll.
Sum	
Mean.	

Date. 1874, Nov. 16

First minute-break.

Nov. 18

c, set at.

21

Sum

Mean.

a.		s.		Mag.	REMARKS.
20	6 31	80	51 7	7.8	false stroke + rattle after 8
	5 39.2		16	8.0	~~8.0~~ false rattle after 8
7	59	81	50 53	9.0	223 lower + foll. #
7	89		47.5	9.1	9.0
8	46	90	51 19	8.7	
7	53.2		13.6	9.0	8.6
10	13	78	52 31	7.8	
9	21.3		26.4	7.8	7.5
12	8		49 59	7.5	
11	17.7		49 53.4	7.8	7.3
13	21	85	52 35	8.7	
12	29.1		29.7	8.5	8.5
14	30	92	52 27	9.0	
13	38.0		21.2	9.2	9.1 upper #
15	26	80	52 53	8.0	
14	33.9		48.0	7.8	8.0
17	07	91	52 27	9.0	
16	130		21.5	9.1	8.8
18	12	60	52 21	6.0	
17	18.0		19.7	6.0	5.9

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

15 1 21.0 23.7

15 1 17.0 24.9 15 1 25.7 25.5

30 0 29.1 31.1

30 0 28.2 36.4 30 0 27.0 26.6

0 4 17.4 20.1

0 4 16.8 23.2 0 4 22.0 22.0

50 1 44.1 47.2

50 1 38.3 45.9 50 1 38.9 40.5

20 4 26.9 28.3

20 4 30.3 37.2 20 4 30.1 29.1

45 3 26.5 28.9

45 3 23.0 30.7 45 3 22.0 22.0

55 2 3.1 6.4

55 1 59.0 6.7 55 2 1.5 1.0

30 0 10.4 13.9

30 0 11.9 20.9 30 0 12.9 14.1

55 1 26.4 29.0

55 1 22.7 30.7 55 1 32.0 31.7

0 3 25.5 27.4 seeing tolerably good

0 3 17.3 26.7 seeing very good

seeing very good especially at the last

Date.

first minute-break.

set at.

N. Coll.

S. Coll.

Obs. M.A.R. M.A.R.
Rec. J.F.M. J.F.M.

Sum

Mean.

a.

s.

Mag.

REMARKS.

23 46 26 86 53 31
45 85.6 53 25.0

L

8.3

48 28 94 53 02
47 37.6 45.7

8.0 A9.5 pr. below + a 94 folls. below

8.0

50 06 82 53 10
49 18.7 53 9.5

8.0

8.0

50 52 88 59 27
50 2.3 54 21.5

8.7

8.5

52 22 85 54 10
51 32.8 54 34.4

8.5 rej. A + 1

8.3

54 11 90 53 7
53 20.2 53 0.8

8.9

9.0

55 38 90 54 17
54 47.8 11.1

8.6

9.1

56 38 94 53 49
55 47.1 42.6

9.0

9.2

57 46 72 53 34
56 55.1 28.1

8.0 22

8.2

58 26 87 53 8
57 34.7 2.4

8.6

9.2

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

50 0 3.8 11.8

30 0 54.3 0.9

30 0 54.9 53.9

5 3 54.0 0.0

~~50~~ 3 44.5 50.9

55 2 50.6 55.4

55 2 48.1 55.4

40 4 25.6 30.7

40 4 26.0 32.9

15 2 2.5 9.8

15 2 0.9 9.1

5 1 30.1 35.8

5 1 23.0 30.1

35 0 26.9 32.9

35 0 28.2 36.9

45 4 55.2 0.4

50 0 0.4 7.8

15 0 59.8 6.8

15 1 10.8 19.1

date.

first minute-break.

c, set at.

N. Coll.

S. Coll.

Sum

Mean.

1874, Nov. 24
Nov. 26

a.		s.		Mag.	REMARKS.
0.0	9	8.0	53 47	8.2	
59	18.3		41.5	8.5	
1	44	9.0	54 0	8.8	
8	52.3		53.7 - 52.7	9.2	
2	53	8.7	53 39	9.0	
2	1.4		32.7	9.0	
3	59	8.3	54 11	8.8	
3	7.5		4.8	9.0	
4	59	8.0	53 38	7.8	
4	6.9		31.7	8.4	
6	20	9.0	53 46	9.1	
5	27.8		39.6	9.1	
7	49	8.2	53 7	7.9	22
6	57.5		1.3	7.9	
8	34	9.3	54 19	9.1	
7	42.0		13.1	9.1	
9	38	7.0	53 14	7.0	22
8	45.8		8.3	7.0	
10	25	7.5	54 17	7.0	
9	32.3		10.7	7.1	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

35 1 28.0 33.5

35 1 28.1 36.6

20 4 16.9 22.0

20 4 18.1 25.7

45 0 16.5 23.9

45 0 29.0 38.0

10 2 56.1 1.9

10 3 1.5 18.1

45 1 11.8 19.2

45 1 16.8 25.0

35 3 29.6 34.4

35 3 34.4 42.8

15 1 34.8 41.0

15 1 37.3 46.6

0 4 52.9 57.9

0 4 50.1 56.7

5 4 38.0 44.6

5 4 48.6 55.2

5 2 36.5 43.3

5 2 41.9 50.0

date. 1874, Nov. 24
 first minute-break. Nov. 26

Sum
 Mean.

N. Coll.	S. Coll.

a.	b.	Mag.	REMARKS.
0 11 19 90 54 43	375	9.0	1
10 25.8		9.2	lost 1st wire
12 44 8.4 54 56	50.3	8.3	20x lower + pr. #
11 50.9		8.0	
13 23 8.9 53 30		8.7	
12 29.9	24.0	8.6	
15 40 8.5 53 30		8.8	
14 46.8	28.7	8.5	false break + strokes of file
16 47 8.8 53 44		8.5	
15 53.1	37.8	8.7	
28 22 7.1 53 30		7.0	
27 27.2	24.4		
29 35 9.4 53 58		9.5	lower #
28 40.5	52.4	9.1	obs. ?
30 44 9.2 54 46			not seen
29 48.2	30.5		not seen
31 48 8.3 54 1		8.0	
30 52.0	54.7	8.1	
33 5 9.0 55 3		9.1	
32 9.0	54 57.0	9.3	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

40 0 36.1 40.2

40 1 7.0 14.9

25 2 41.9 47.4

22 2 45.0 52.1

~~50~~ 4 30.0 35.0

50 4 28.7 35.9

45 4 8.9 15.3

45 4 7.8 15.1

40 0 10.4 17.9

40 0 14.0 23.2

50 3 59.9 5.0

25 3 10.9 17.3

25 3 32.0 40.2

20 3 15.0 21.5

20 3 10.9 19.0

20 1 12.3 17.7

20 1 11.7 18.9

Date.

1874. Nov. 24

First minute-break.

Nov 26

set at.

N. Coll.

S. Coll.

Sum

Mean.

a.	S.	Mag.	REMARKS.
34 18 9.0 33 22.3	54 14 8.5	9.0 9.0	
35 52 8.9 34 58.7	54 36 30.0	8.8 8.9	22
36 44 8.5 35 47.1	53 54 48.0	8.2 8.4	
37 58 5.8 37 2.1	54 32 26.0	4.0 5.0	2
38 54 7.3 37 58.4	54 37 30.8	9.0 7.0 8.8 8.9	2 reg. order
39 45 9.0 38 48.4	54 57 57.1	8.8 9.1	2
40 37 9.0 39 40.0	54 12 6.3	9.4 9.1	2
41 44 9.3 40 57.4	53 20 13.6	9.1 9.2 9.1 9.2	both 4 th wire of 1 st & bad. 1 stroke each S reg. orders.
43 12 8.8 42 15.4	54 48 42.2	8.5 8.5	
44 53 9.0 43 56.1	54 56 50.2	9.0 9.0	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 4 22.9 28.7

5 4 29.5 37.2

45 2 60.0 4.9

45 2 2.3 9.0

0 0 1.6 6.9

25 ²⁵ 4 54.1 0.3

50 2 25.7 32.0

50 2 19.7 27.0

45 2 58.7 2.8

45 2 49.8 56.6

25 2 25.4 30.9

25 2 26.7 33.0

10 2 13.1 17.9

10 2 16.4 24.5

0 4 55.6 1.1

0 4 3.9 12.1

35 0 53.7 58.5

35 0 56.4 3.0

25 2 52.9 57.1

25 2 49.0 56.4

Date. 1874, Nov. 24.
 first minute-break. Nov. 26

Sum
 Mean.

N. Coll.	S. Coll.

α.		δ.	Mag.	REMARKS.
0	46	2	8.9	
	45	4.9	40.8	8.8
	46	57	8.9	
	45	59.4	44.1	8.6
	48	8	8.4	
	47	10.2	35.3	8.5
	48	43	9.4	
	47	45.0	14.4	9.6
	50	06	8.1	
	49	7.9	36.7	8.0
	50	51	9.6	
	49	52.6	38.5	rej. 1 st wire
	52	11	8.8	
	51	12.5	58.4	lower + foll. # # J?
	51	13.2	8.7	
	53	36	8.1	
	52	37.7	48.1	8.1
	54	48	9.2	
	53	48.7	44.9	9.3
	55	41	9.1	
	54	41.9	7.9	8.8

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

35 2 7.0 13.2

35 2 20.0 27.2

30 3 45.4 50.8

30 3 50.7 57.9

40 2 51.4 57.9

40 3 2.5 9.8

0 3 18.7 24.9

0 3 18.9 25.9

40 1 28.0 32.0

40 1 29.9 37.9

40 4 55.1 58.8

20 1 12.1 18.1

20 1 18.2 26.6

25 4 45.9 51.9

25 4 46.4 53.6

30 3 13.9 19.9

30 3 17.9 25.0

10 0 22.4 28.9

10 0 15.1 24.0

not so good at the last
 being very good at first
 being very bad

Dec. 2
1874, Nov. 30
Dec. 3

first minute-break.

set at.

Sum
Mean.

N. Coll.	S. Coll.
Obs. W.A.R.	W.A.R.
Rec. J. Z. M.	J. Z. M.

a.			s.			Mag.	REMARKS.
23	52	1	72	50	6	8.9	222
52	114				16	8.8	
52	43	73	52	51		7.5	
51	023					9.0	
53	52	87	51	13		9.0	22
53	178		313	73		9.0	
	2.5					9.0	
54	43	90	52	30		8.8	upper & foll. X
53	026			242		8.5	
55	59	88	51	47		9.0	
55	19		408	13		9.0	
						8.7	
56	381	94	53	49		9.3	
55	471			426		9.2	
						8.8	
58	3	85	50	18		8.8	
57	134			136		8.8	
						8.6	
59	26	85	52	34		8.6	
58	309			286		8.5	
0	24	70	52	27		8.4	2nd 5 pr.
59	32.0			214		9.1	all 9.0 mag folls.
						9.1	
						9.1	
1	24	89	41	58		9.0	
0	338			525		9.2	
						9.0	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

25	0	8.8	17.9
~~15~~	~~1~~	~~18.5~~	~~28.7~~

30	2	30.1	41.1
10	0	5.0	15.9
~~10~~	~~0~~	~~10.6~~	~~16.9~~

5	4	50.3	58.9
50	4	7.0	15.2
~~50~~	~~4~~	~~22.6~~	~~28.8~~

50	4	29.5	39.7
15	1	30.0	40.5
~~15~~	~~1~~	~~38.0~~	~~44.9~~

15	1	33.9	44.5
35	0	34.1	44.3
~~35~~	~~0~~	~~48.1~~	~~53.3~~

35	0	34.9	44.1
0	4	41.1	50.1
~~0~~	~~4~~	~~44.1~~	~~48.7~~

0	4	36.7	45.5
45	4	45.9	54.0
~~45~~	~~4~~	~~48.6~~	~~52.8~~

45	4	42.0	52.6
55	1	56.9	5.5
~~55~~	~~1~~	~~51.9~~	~~57.9~~

55	1	50.8	0.8
25	0	29.7	38.4
~~25~~	~~0~~	~~24.2~~	~~30.8~~

25	0	21.4	31.9
----	---	------	------

Dec. 2
 1874 Nov. 30
 Dec. 3

ate.
 first minute-break.
 set at.

Sum
 Mean.

N. Coll.	S. Coll.

a.				Mag.	REMARKS.
0	3 11	80	50	42	7.9
	2 201			368	8.1
					8.1
4	16	88	50	52	8.8
	3 257			471	8.6
					8.9
5	11	87	50	2	8.6
	4 202			59 569	8.6
					8.3
6	20	90	53	46	9.3
	5 278			396	9.4
					9.4
7	31	90	52	22	9.0
	6 389			157	9.0
					9.0
8	26	93	52	42	not seen
	7 843			462	not seen
9	54	68	53	57	8.2
	9 0.9			513	9.1
					both reg. order lost 1 st wire open
					1 stroke each S. reg. order
					8.5
					8.8
10	47	90	52	40	8.2
	9 548			351	8.9
					7.9
11	48	99	52	13	7.6
	10 561			70	7.6
					7.9
12	28	94	52	19	9.1
	" 358			134	8.5
					9.0

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

40 0 53.0 1.9

~~40 0 56.8 1.1~~

40 0 52.9 2.9

30 0 54.8 3.9

~~30 0 58.1 3.1~~

30 0 1.0 10.0

20 1 12.1 21.5

~~20 1 17.8 22.9~~

20 1 13.1 22.7

35 3 26.0 34.3

~~35 3 35.9 40.5~~

35 3 22.1 31.1

0 2 29.1 38.9

0 2 34.0 43.4

25 1 34.9 44.1

~~25 1 36.3 42.9~~

25 1 31.2 41.1

40 3 13.9 22.9

~~40 3 16.4 22.5~~

40 3 13.7 23.2

10 0 44.0 53.7

~~10 0 42.1 52.1~~

10 0 44.6 54.1

5 0 11.9 21.9

~~5 0 10.8 16.1~~

5 0 11.7 22.5

date.

first minute-break.

set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

b.

Mag.

REMARKS.

0 13 52 9.2 52 25
12 59.9 19.1

9.4

9.1

9.5

1st wire?

15 03 8.2 52 46
14 11.4 40.5

8.5

8.0

2.2

15 53 8.7 52 29
15 07 23.2

8.2

8.5

8.6

9.0

16 56 8.8 50 56
16 63 51.0

8.7

8.8

8.8

17 58 9.5 54 2
17 51 50 36.5

9.8

9.8

9.8

10.0

19 57 9.0 52 33
18 56.5 29.5

8.4

8.4

8.9

20 57 8.5 52 15
20 2.5 9.2

7.8

8.0

8.0

Recess

34 2 8.7 52 12
33 6.2 13.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

8.5

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

55	3	50.1	58.1
55	3	56.2	59.7

Dec. 3 55 3 53.3 0.9

35	2	17.9	26.7
35	2	20.6	25.9

Dec. 3 35 2 33.7 42.9

50	4	50.1	57.0
50	4	48.5	52.9

Dec. 10 50 4 48.7 55.9

in blue 25 2 21.7 29.1

from here 25 2 24.8 31.1

20	1	31.8	40.3
20	1	50.0	54.1

20	1	34.5	41.1
----	---	------	------

50	0	28.9	38.1
50	0	31.1	36.5

50	0	28.2	37.2
----	---	------	------

5	3	54.1	58.7
5	3	50.0	54.9

5	3	43.3	51.4
---	---	------	------

5	0	2.9	9.1
---	---	-----	-----

45	3	3.0	12.0
----	---	-----	------

45	3	7.2	13.9
----	---	-----	------

Date. 1874, ^{Dec. 2} Nov. 30
 first minute-break. Dec. 10

N. Coll.	S. Coll.

Sum
 Mean.

α.		δ.		Mag.	REMARKS.
0	37 56	8.5	52 51	8.5 9.4 8.5 9.0	faint # follo. above (stat) very close double 22 2 mean N.H. & S
	37 03		51.5	8.9 9.3	
	38 28	9.0	52 36	8.9 9.3	
	37 41.2		51.2	8.9	
40	04	8.7	52 26	8.9 8.6	22 2a 9.5 pr. above
	39 7.1		50.6	9.0	
40	52	8.6	52 14	8.9 8.6	
	39 55.8		52	8.7	
42	1	9.0	52 30	9.2 9.0	
	41 4.4		53	9.0	
43	08	8.0	49 56	8.1 8.0	ref. ^{at} S, false break before +
	42 13.8		49 50.6	8.2	
44	19	8.3	50 30	8.0 8.1	
	43 25.1		29.4	8.2	
45	29	8.8	51 7	9.0 8.1	
	44 32.2		1.9	9.0	
46	22	8.2	52 33	8.3 7.9	22 2
	45 28.0		28.2	8.3	
47	13	7.0	52 34	8.1 8.3	
	46 15.8		29.4	8.8	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30	2		47.9	56.1	
~~30~~	~~2~~		~~48.7~~	~~53.1~~	
30	2		50.2	57.0	
45	1		59.6	7.9	
~~45~~	~~1~~		~~45.5~~	~~50.2~~	
45	1		38.0	45.6	
55	2		25.1	33.3	
~~55~~	~~2~~		~~21.5~~	~~26.0~~	
55	2		20.0	27.1	
5	3		30.4	37.9	
~~5~~	~~3~~		~~45.3~~	~~49.5~~	
5	3		38.0	44.9	
50	2		51.1	0.0	
~~50~~	~~2~~		~~54.2~~	~~59.0~~	
50	2		55.9	2.6	
25	2		34.1	42.1	
~~25~~	~~2~~		~~31.7~~	~~34.8~~	
25	2		30.0	35.0	
50	3		23.1	30.1	
~~50~~	~~3~~		~~32.2~~	~~34.4~~	
50	3		23.8	28.9	
15	0		45.9	54.8	
~~15~~	~~0~~		~~55.8~~	~~59.7~~	
15	0		54.9	1.0	
45	4		57.9	6.1	
~~45~~	~~4~~		~~0.8~~	~~4.9~~	
45	4		54.0	0.1	
45	3		44.3	53.9	
~~45~~	~~3~~		~~50.2~~	~~54.0~~	
45	3		47.4	53.9	

Date.

First minute-break.

c, set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

s.

Mag.

REMARKS.

10 48 39 47 41.5	9.0 52 13 84	~~9.0~~ ~~8.8~~ 8.6	pre + upper #
49 55 48 56.1	7.5 52 36 31.1	~~7.7~~ ~~7.8~~ 7.8	false stroke + 12 abt
50 49 49 51.2	9.2 52 33 28.2	~~9.1~~ ~~9.1~~ 9.0	
52 6 51 7.0	8.5 52 15 8.9	~~8.8~~ ~~8.8~~ 8.8	
53 50 52 57.5	9.4 52 22 16.9	~~8.6~~ ~~8.5~~ 9.5	lower + pre #
56 24 55 21.2	7.9 52 24	7.8 8.8	
57 22 11	9.0 52 32 26.6	9.1 9.4	
58 25 57 24.3	8.5 52 7 2.2	8.4 8.5	
59 34 58 33.7	6.3 52 49 42.3	7.0 6.8	
0 37 59 37.4	8.4 52 8 3.2	8.5 8.8	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 4 56.7 47.9
~~10 0 2.6 5.9~~

10 0 4.8 10.7

45 1 51.9 0.9
~~45 2 2.8 5.9~~

45 2 3.5 8.9

45 4 47.9 55.1

45 4 47.1 53.9

45 4 52.7 58.8

5 3 9.7 17.2

5 3 8.7 11.9

5 3 5.4 11.3

0 1 51.4 0.1

~~0 1 52.9 56.5~~

0 1 53.3 58.7

55 4 38.1 45.5

55 4 38.1 43.9

50 1 32.9 41.7

50 1 41.7 48.7

15 1 10.5 19.1

15 1 19.8 26.6

30 4 49.9 56.9

30 4 53.3 58.4

18 4 49.8 57.1

10 4 53.1 58.2

seeing very fine
 seeing moderate

date.

1874 Dec. 12

first minute-break.

Dec. 16

c, set at.

Sum

Mean.

N. Coll.

S. Coll.

Obs. W.A.R

W.A.R

Rec. J.F.M.

J.F.M.

a.		s.		Mag.	REMARKS.	
						Dec. 21
1	32 6 70	53 13	7.5			
	31 17	80	7.0			
33	19 50	50 54	8.5		22 rejects	
	32 20.2	48.7	9.2			
34	13 95	⁽⁵³⁾ 53 03			not seen	
	33 9.2	52 57.6			not seen	
35	37 86	53 18	8.8			Dec. 27
	34 34.7	* 13.2	8.9			9.0
37	49 90	53 48	8.9			9.0
	36 44.9	43.2	8.9			
39	27 72	53 22	7.5			8.1
	38 22.7	16.7	7.8			
40	34 90	53 8	9.0			9.2
	39 28.8	30.5	9.0			
41	58 92	53 32	9.1		22 p	9.8
	40 54.5	26.6	9.1			
42	41 84	53 25	8.4			9.0
	41 37.3	19.6	8.4			~~Dec. 23~~
43	49 92	53 43	9.0			~~9.5~~
	42 44.6	38.7	8.5		Dec. 27. obs?	9.5

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

~~Dec. 21~~

~~10 0 116.7 51.7~~
 10 0 36.3 37.7
 25 4 59.0 32.0
 25 4 48.9 49.9
~~25 4 48.9~~

Dec. 27

5 0 37.0 41.9 5 0 31.4 38.1
 5 0 30.1 32.3
 35 0 9.8 14.3 35 0 8.1 16.5
 35 0 17.2 18.4
 0 1 57.0 0.8 0 1 50.1 57.0
 0 1 55.1 55.9
 15 0 19.9 25.5 15 0 19.8 27.2
 15 0 27.8 29.6
 50 1 57.6 0.9 50 2 1.9 7.9
 50 2 2.3 1.8
 55 ~~4~~ 1.6 4.9 55 4 2.4 7.9
 55 4 4.1 3.9
~~40 0 20.5 20.0 40 0 16.0 23.4~~
~~40 0 18.0 19.4~~

~~Dec. 23~~

Date. 1874, Dec. 12
First minute-break. Dec. 16

c, set at.

Sum
Mean.

N. Coll.	S. Coll.

a.		s.		Mag.	REMARKS.
1 44 34	9.0	53 14	9.3		
43 29.0		92	8.9		
45 27	9.0	53 37	8.9		
44 21.6		31.6	9.0		
46 31	9.2	53 45	9.3		
45 25.4		39.6	8.9		
47 2 ~ 82	53 92	8.2			
46 17.5		36.9	8.4		
49 43	8.8	53 43	8.8		
48 38.3		38.1	8.7		
50 33	8.6	50 15	9.1		
48 31.9		10.3	8.8		
51 38	8.4	49 59	8.7		
50 36.9		49 54.0	8.7		
52 53	9.0	50 1	9.1		
51 52.4		49 55.8	9.2		
54 3	9.1	50 40	9.0		
53 1.8		35.7	9.3		
54 54	7.9	54 5	7.2		
53 47.7		53 59.7	7.5		

Dec. 27 gave up on account of haze
seeing very bad
Dec. 23 heavy clouds
Dec. 23 rej. obs.

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 4 48.1 52.5

5 4 49.9 49.9

45 2 0.1 3.0

45 2 5.4 5.0

35 4 18.8 22.3

35 4 21.6 22.3

40 1 48.8 52.9

40 1 52.0 52.3

40 0 50.1 53.5

40 0 51.9 52.9

5 3 38.9 41.4

5 3 32.1 37.4

25 0 16.9 19.4

25 0 14.5 14.9

20 3 1.1 4.8

20 3 11.4 12.0

40 2 53.9 56.7

40 3 42.0 42.8

40 3 8.1 7.3

15 4 23.6 27.4

15 4 28.2 28.7

~~Dec. 23~~~~45 1 5~~
~~45 2 2.9 7.7~~~~35 4 17.3 21.2~~~~40 1 49.8 56.7~~

Date.

1874, Dec. 12

First minute-break.

Dec. 16

C, set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

s.

Mag.

REMARKS.

1 55 46 67 51 21 7.0
54 45 15.8
6.9

57 26 89 52 52 8.7 22
56 20.3 48.8
8.6

58 09 80 53 49 8.0
57 3.1 36.4
~~9.0~~

59 43 88 53 59 8.3
58 36.7 58.7
9.0

0 42 89 53 43 8.6
59 35.7 88.3
8.8

false stroke + rattle after

1 58 87 53 31 9.0
0 51.4 25.7
9.0

3 6 88 53 57 8.8
1 59.6 51.9
8.2

4 33 81 53 36 8.4
3 26.5 31.3
8.0

5 37 84 53 15 9.0 22
4 30.0 9.6
8.3

6 20 94 53 41 9.5
5 13.0 36.4
9.4

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

0 2 53.4 47.9

0 2 53.5 53.9

30 0 19.4 24.3

sure
30 0 11.3 11.9

40 2 16.1 19.9

sure
~~25 2 15.3 17.9~~

20 4 12.2 15.9

25 0 16.3 17.9

40 1 17.2 21.1

40 1 9.0 9.1

50 3 42.0 45.9

50 3 44.1 44.9

25 2 4.9 7.9

25 2 7.9 7.9

45 1 50.1 54.0

45 1 48.0 48.9

5 4 22.1 27.1

5 4 23.9 23.9

40 2 44.1 50.1

40 2 51.0 52.0

Date. 1874, Dec. 12
First minute-break. Dec. 16
c, set at.

N. Coll.	S. Coll.
Sum	
Mean.	

a.		s.	Mag.	REMARKS.
2	7 32 6 298	8.2 51 114	8.1 7.5	
8	4 2 9 322	9.1 51 491	9.0 8.4	
~~10~~	~~57~~ ~~9 39~~ ~~8 301~~	~~7.0 51~~ ~~85 5254~~ ~~489~~	~~8.8~~ 8.7	
10	57 9 542	7.0 51 525	7.6 7.0	2
11	46 10 380	9.2 53 21	9.4 9.2	
12	53 11 436	9.2 53 468	9.5 9.4	
14	44 13 361	9.0 53 50?	9.4 9.3	
15	34 14 257	8.2 53 71	8.9 8.2	
16	36 15 281	9.3 53 11	9.3 9.4	
17	34 16 246	8.9 53 279	8.7	lower & pr. #

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 1 40.1 44.5

5 1 45.2 47.1

30 1 21.8 26.3

30 1 23.2 24.6

30 0 26.5 31.0

30 0 25.6 26.9

25 0 38.0 41.9

25 0 37.0 37.6

15 1 56.9 0.0

15 1 52.9 53.9

30 2 20.1 23.7

30 2 14.7 14.9

10 4 2.8 5.1

10 3 57.6 57.7

10 2 29.0 32.9

10 2 28.8 29.2

15 3 5.7 9.1

15 3 16.1 18.2

50 1 12.2 12.1

50 1 14.8 15.4

Date.	1874 Dec. 12	N. Coll.	S. Coll.
First minute-break.	Dec. 16		
c, set at.		Sum	
		Mean.	

a.		s.		Mag.	REMARKS.
2 29 45	88 53 53	9.0			
28 36.5	47.6	9.1	hazy		
31 22	80 53 44	9.0			
30 13.1	38.7	9.2			
32 15	84 53 58	8.4			
31 5.0	54.1	8.8			
33 18	87 53 37	9.0			
32 8.0	33.2	9.0	rej. 1 st wire		
34 23	90 52 12	9.0			
38 13.7	7.5	9.4			
35 35	41 50 3		not seen		
	49 57.6				
37 30	68 53 31	7.0			
36 19.6	27.1	8.0			
38 36	83 53 4	8.4			
37 23.8	29.6	9.2			
39 38	78 53 36	7.5			
38 27.0	32.0	9.0			
40 35	80 53 23	8.4			
39 23.7	18.8	9.5	very hazy		

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 1 52.0 55.4

30 1 48.2 50.0

40 0 57.4 59.9

40 0 58.0 58.5

25 1 42.1 47.0

25 1 45.1 46.9

45 1 8.9 12.4

45 1 17.3 19.7

10 1 17.9 22.0

10 1 23.0 25.1

~~50 1 43.4 47.1~~

6

50 1 43.4 47.1

50 1 45.5 46.1

45 4 52.1 55.1

45 4 50.1 50.0

45 1 18.1 20.2

45 1 4.7 5.5

0 0 28.6 31.8

0 0 25.3 26.1

seeing very bad indeed
 seeing very fine but
 a little hazy on last page

ate.
first minute-break.
set at.

Sum
Mean.

N. Coll.	S. Coll.

*Auto. Companion
Star*

α .	δ .	Mag.	REMARKS.
2 48 24 ^{2 m s}	~~XX~~ -5° 50'	7.8	
2 47 0	~~XX~~ -5 46	7	
2 52 55	~~XX~~ -5 17	9	
2 57 57	~~XX~~ -4 49	8	
3 0 35	~~X~~ -5 32	8	
3 1 4	~~XX~~ -4 26	9	
3 1 56	~~XX~~ -5 21	9	

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Dec. 21	10	3	42.3	51.4	10	4	23.5	32.0
Dec. 23	10	3	43.5	56.4	4		29.7	43.4
Jan. 5	10	3	53.7	28	4		25.1	34.9
Dec. 21	5	4	13.0	21.1				
Dec. 23	5	4	10.1	22.8				
Jan. 5	5	4	16.0	26.5				
Dec. 12	40	0	27.6	38.6	1		13.0	24.1
Dec. 21	40	0	25.9	33.9	1		10.9	19.4
Dec. 23	40	0	29.2	42.3	1		11.9	25.6
Dec 12	10	2	20.1	30.1	3		11.3	21.9
Dec. 21	10	2	22.3	30.7	3		6.0	14.3
Jan. 5	10	2	23.8	33.9	3		12.1	23.0
Dec. 21	55	0	24.6	31.8	3		15.9	27.9
Jan. 5	55	0	30.7	40.0				

Dec 12 45 0 36.0 48.1 1 17.9 28.8

Dec. 21 45 0 23.4 31.6 1 19.1 27.7

~~Dec. 23 45 0 20.1 22.2 1 19.3 21.1~~

ate.

first minute-break.

set at.

Sum
Mean.

N. Coll.

S. Coll.

*Two Comparisons
Stars.*

a.

δ.

Mag.

REMARKS.

3 2 11 -4 4' 9

3 2 28 XX -4 10 9

3 4 3 XX -3 18 9-10 too f
pr # ref. ~~1.1~~

3 6 12 XX -3 28 8.9

3 6 25 XT -3 23 8.9

3 8 11 XT -2 41 9-10

3 8 17 XT -2 48 7.8

Runs.

Sum
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Dec. 12 too faint to observe

Dec 21 45 0 17.1 27.7

Dec 21 reg 1st w 45 0 50.0 59.3 2nd w 82nd p

Dec 23 45 0 19.7 35.0 lost index of 1st 1st w

Dec. 21 50 1 42.9 52.8 2 32.9 41.9

Dec. 23 50 1 50.0 43 2 32.9 47.4

Jan. 5 50 1 50.9 2.9 2 24.4 35.6

Dec. 12 50 1 47.2 59.0 2 27.6 40.2

Dec 21 0 4 34.2 42.6

Jan. 5 0 4 39.5 48.7

Dec. 12 10 1 35.6 47.9 2 17.9 29.2

Date.

First minute-break.

Set at.

Sum

Mean.

N. Coll.

S. Coll.

Ans. Comp.
Stars.

α.

δ.

Mag.

REMARKS.

2 25
3 9 9 X

-0° 59'

9

9 46 XX

-2 32

9

10 30 X

-1 55

9.5

11 54 XX

-0 45

9.5 not seen

11 57 XX

-1 23

57

12 10

-2 4

9-10

13 56 X

-1 20

9.5

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Dec 21 20 0 39.0 48.4

Jan. 5 20 0 15.7 25.4

Dec. 12 55 1 1.6 12.1 lost A+1 36.0 47.9

Dec. 21 15 4 47.9 55.9

Jan. 5 15 4 58.9 8.9 very faint

Jan 5 5 3 28.4 38.7 4 19.3 30.1

~~Dec 23 5 3 39.5 52.9~~

5

Dec 12 25 lost mid. w. DQ 3 24.1 34.9 3 58.7 9.5

Dec 12 40 4 53.9 3.9 0. 26.7 39.0

Jan. 5 40 4 25.9 35.5 0 10.7 21.7

Dec. 21 40 4 25.0 33.2

~~Dec 23 40 4 27.0 38.4~~

18740bae.pr6j.1549R

Date.

First minute-break.

C, set at.

Sum

Mean.

N. Coll.

S. Coll.

Two. Comp. Stars.

α .

δ .

Mag.

REMARKS.

2 ~ 5.
3 14 .46 XX +0 6 8.9

14 46 XX -0 49 9

14 48 XX -0 58 9

16 5 XX +0 18 9.0

16 24 X +0 14 9.3

17 28 XX +0 6 9.5

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Dec. 21 20 2 21.5 28.9

~~Dec. 23 20 2 17.5 30.7~~

Dec. 21 5 4 16.7 23.7

Jan. 5 15 4 6.0 14.9

Dec. 21 15 2 55.1 3.9 3 25.1 32.9

Jan. 5 15 2 27.5 35.9 3 9.1 18.8

Date.

First minute-break.

C, set at.

Sum
Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

3 4 00
3 4 00

+21 57

3 04 08

+21 40

2 49 38

+20 54

