

KG  
11366  
v.546

zone.  
Chronograph  
Circle Readings  
Record A 17  
From 1875, Jan <sup>10</sup> 14 to 1875, March 30  
Charles W. Sever, University Bookstore, Cambridge.











Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Date.

First minute-break.

set at.

N. Coll.

S. Coll.

Sum  
Mean.

Jan. 14 1875

See 16 & 8 pages ahead  
17 for next note.

NSR  
NSR

a.

s.

Mag.

REMARKS.

~~2 32 31 73 54 56 8.3~~  
~~3 19 26 8.1 54 07 X 9.0~~  
18 10.8 2.0

Jan 25 NSR Jan  
NSR

~~33 56 60 54 57 9.5~~  
~~22 26 7.5 52.6 7.8~~  
19 11.5 8.0

7.8

21 47 8.9 53 1.3 X 9.4  
20 32.3 9.2 9.3

22 42 8.8 54 3 8.6 9.0  
21 26.6 53 59.5 9.0

23 53 6.0 54 32 X 8.6  
22 38.1 28.7 6.03

24 52 8.8 53 10 9.0  
23 37.7 5.6 9.0

25 54 9.3 53 29 X 9.4  
24 38.9 25.4 9.4

27 25 9.2 53 21 9.0 2.2  
26 10.2 17.0 8.9

28 18 9.1 53 19 X 8.9  
26 58.5 15.2 9.0

30 33 9.4 54 02 X 8.9  
29 18.3 54 58.4

9.2

Runs.

A.

C.

Sum  
Mean.

725R  
725R

Sole

| Pointer.      | Stroke.             | Rev.              | A.                      | C.                      | REMARKS.     |
|---------------|---------------------|-------------------|-------------------------|-------------------------|--------------|
| Jan           |                     |                   |                         |                         |              |
| 14            | 0                   | 0                 | 32.3                    | 29.2                    | (17)         |
| 20            | 0                   | 0                 | 8.2                     | 12.7                    |              |
| 20            | <del>50</del><br>10 | <del>8</del><br>0 | <del>19.2</del><br>17.9 | <del>15.4</del><br>22.1 | Low A,       |
| 25            | 5                   | 4                 | 49.6                    | 52.1                    |              |
| 14            | 52                  | 3                 | 19.2                    | 15.4                    |              |
| 16            | 50                  | 3                 | 22.3                    | 10.4                    | Lower fret # |
| <del>14</del> | <del>30</del>       | <del>3</del>      | <del>53.8</del>         | <del>49.3</del>         |              |
| 20            | 0                   | 2                 | 37.9                    | 40.6                    |              |
| 25            | 0                   | 2                 | 41.1                    | 45.2                    |              |
| 14            | 30                  | 3                 | 53.8                    | 49.3                    |              |
| 16            | 30                  | 3                 | 25.2                    | 19.4                    |              |
| 20            | 55                  | 1                 | 56.3                    | 60.1                    |              |
| 25            | 55                  | 1                 | 54.6                    | 56.2                    |              |
| 14            | 35                  | 2                 | 57.9                    | 53.1                    |              |
| 16            | 35                  | 2                 | 31.8                    | 25.2                    |              |
| 20            | 40                  | 4                 | 54.8                    | 57.1                    |              |
| 25            | 40                  | 4                 | 40.3                    | 42.4                    |              |
| 14            | 45                  | 1                 | 26.4                    | 20.2                    |              |
| 16            | 45                  | 0                 | 28.4                    | 21.5                    |              |
| 14            | 0                   | 3                 | 57.9                    | 51.5                    | Jan 26 =     |
| 16            | 0                   | 3                 | 58.2                    | 51.7                    |              |
| 25            | 0                   | 3                 | 36.8                    | 40.3                    |              |

Date.

Jan 14 1875

First minute-break.

16  
20  
25

Set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

332 9 84 5430 X 8.5  
30 54.2 26.5 8.3

33 35 90 5341 9.2  
32 19.5 38.0 9.3

35 55 85 5438 X 6.8  
34 39.5 35.5 6.9

37 51 85 5423 8.3  
36 34.7 19.8 8.8

38 58 88 5331 X 8.8  
37 42.0 31.2 8.6

39 49 80 5419 8.2  
38 32.6 11.8 8.1

40 47 78 5423 X 8.2  
39 31.1 20.2 8.3

41 52 82 5343 8.3  
40 36.0 40.0 8.5

43 2 80 536 X 8.2  
41 45.8 2.8

44 18 94 5431 9.2  
43 20 28.1 9.2

Runs.

Sum  
Mean.

A.

C.

Pointer. Stroke. Rev. A. C. REMARKS.

Jan

14 35 0 47.8 43.2

16 35 0 30.1 23.1

20 15 2 13.1 15.1

25 20 3 53.1 55.4

June.

14 25 1 9.1 5.9

16 25 1 11.9 6.6

20 40 02 9.7 11.9

25 40 1 41.5 45.3

14 30 1 35.3 30.7

16 30 1 43.8 37.8

~~20 45~~ 1 27.8 31.3

14 40 2 34.1 29.2

16 40 2 34.6 28.1

20 20 1 37.3 40.5

25 20 1 24.7 28.7

14 0 0 10.3 5.3

16 55 4 57.7 50.3

20 30 4 22.7 25.8

25 30 4 11.3 16.3

Date.

First minute-break.

Set at.

Jan 14 1875

6  
~~17~~  
20

Sum  
Mean.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
|          |          |
|          |          |

| a. |         | s.  |                  | Mag. | REMARKS.            |
|----|---------|-----|------------------|------|---------------------|
| 3  | 45 35   | 8.5 | 53 10            | X 84 |                     |
|    | 44 19.5 |     | 71               | 82   |                     |
|    |         |     |                  |      |                     |
| 46 | 44      | 71  | <del>53</del> 31 | 90   | <del>8.</del>       |
|    | 45 27.9 |     | 54 28.0          |      |                     |
|    |         |     |                  |      |                     |
| 48 | 42      | 8.8 | 53 32            | X    | Not seen            |
|    | 47 25.2 |     | 39.3             |      |                     |
|    |         |     |                  |      |                     |
| 50 | 48      | 8.5 | 54 6             | 95   | <del>Not seen</del> |
|    | 49 31.0 |     | 27               | 75   |                     |
|    |         |     |                  |      |                     |
| 51 | 43      | 6.8 | 53 30            | X 65 |                     |
|    | 50 26.1 |     | 27.1             | 66   |                     |
|    |         |     |                  |      |                     |
| 52 | 22      | 8.9 | 53 22            | 90   |                     |
|    | 51 49   |     | 19.5             |      |                     |
|    |         |     |                  |      |                     |
| 54 | 31      | 7.0 | 54 43            | X 74 |                     |
|    | 53 13.6 |     | 40.2             | 69   |                     |
|    |         |     |                  |      |                     |
| 55 | 40      | 8.0 | 54 39            | (80) | 80 m A Only         |
|    | 54 22.8 |     | 35.8             | (90) | 84 m. in A Only     |
|    |         |     |                  | 84   |                     |
|    |         |     |                  | 91   |                     |
| 56 | 38      | 6.0 | 53 40            | X 65 |                     |
|    | 55 20.6 |     | 37.0             | 62   |                     |
|    |         |     |                  |      |                     |
| 58 | 48      | 8.4 | 53 48            | —    |                     |
|    | 57 31.8 |     | 44.9             | 92   |                     |
|    |         |     |                  |      |                     |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Jan

14

55

0

45.3

41.8

16

55

0

14.2

9.3

20

35

0

27.9

30.8

5.4 instead of 5.3

20

55

4

57.7

0.6

25

55

4

50.6

51.8

14

35

0

57.1

45.9

16

35

0

37.0

31.3

25

40

2

22.7

26.3

14

20

3

5.3

0.0

16

20

3

8.8

2.0

20

25

1

57.8

54.3

25

25

1

46.6

50.3

14

25

1

9.1

3.8

16

25

1

4.9

57.9

20

15

3

0.3

3.1

25

15

2

55.3

58.2

Date.

First minute-break.

Set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

δ.

Mag.

REMARKS.

3 58 54 80 53 32 X 85  
58 369 288

2 45 83 53 26 90  
1 278 236 80  
8.2

sp falls in 1 R only  
" " " " "

3 59 90 59 02 X 92  
2 40.8 53 59.3 89

p 2 of 3 H 5

5 16 82 53 23 83  
3 578 204 82

6 44 80 53 17 X 85  
5 259 140 50

7 51 82 53 40 84  
6 328 874 83

8 40 80 53 13 X 78  
4 224 96 82

10 59 89 54 54 90  
9 41.5 309 88

11 47 90 54 13 X —  
10 288 99 92

13 53 70 53 13 —  
12 45.3 96 69

Runs.

Sum  
Mean.

A.

C.

| Pointer. | Stroke. | Rev. | A.   | C.   | REMARKS.                            |
|----------|---------|------|------|------|-------------------------------------|
| 14       | 30      | 4    | 9.0  | 19   |                                     |
| 16       | 30      | 4    | 7.2  | 0.7  |                                     |
| 20       | 35      | 4    | 45.7 | 49.6 |                                     |
| 25       | 35      | 4    | 29.6 | 31.3 |                                     |
| 14       | 0       | 3    | 58.8 | 52.9 |                                     |
| 16       | 0       | 3    | 25.4 | 19.0 |                                     |
| 20       | 40      | 3    | 21.3 | 23.8 |                                     |
| 25       | 40      | 3    | 21.6 | 22.7 |                                     |
| 14       | 45      | 3    | 34.1 | 30.5 |                                     |
| 16       | 45      | 3    | 29.9 | 22.4 |                                     |
| 20       | 25      | 0    | 33.6 | 38.2 |                                     |
| 25       | 25      | 0    | 32.2 | 36.9 |                                     |
| 14       | 50      | 4    | 10.4 | 3.2  |                                     |
| 16       | 50      | 3    | 54.6 | 50.2 |                                     |
| 20       | 10      | 3    | 23.3 | 25.3 |                                     |
| 25       | 10      | 3    | 7.1  | 10.8 |                                     |
| 14       | 50      | 3    | 38.9 | 57.1 |                                     |
| 16       | 50      | 3    | 46.9 | 40.2 |                                     |
| 20       | 50      | 3    | 58.3 | 58.8 | Seeing very well Jan 14             |
| 25       | 50      | 4    | 4.3  | 6.6  | Seeing <sup>moderately</sup> Jan 16 |
|          |         |      |      |      | Seeing good Jan 20                  |
|          |         |      |      |      | Seeing good Jan 21                  |

Date.

First minute-break.

c, set at.

Jan 10 1875

" 1875

Sum

Mean.

N. Coll.

S. Coll.

HR Das.  
HR recd

a.

δ.

Mag.

REMARKS.

h m s  
2 49 38

+20° 54'

Comp. # (112)

72 W  
WHR

52 27 92 53 14  
57 24 7

89  
91

57 03 90 58 18  
55 50 8

90  
92

3 1 4 (91) 4 26

Comp # Suno.

3 408 +21° 40'

Comp # (112)

3 6 25 (89) 3 23

2 Comp # Suno.

3 8 17 (78) 2 48

2 Comp # Suno.

3 9 46 (91) 2 32

Comp # Suno.

11 57 (57) 1 23

Comp # Suno.

14 46 (89) 10 6

2 Comp # Suno.

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Jan 10 25 3 45.8 46.8

10 5 4 35.0 32.1

False rather = 2 strokes

11 5 4 56.6 44.2

10 25 1 9.9 6.9

Rej 1st stroke of A

11 25 1 10.9 8.7

10 50 3 23.3 21.6

11 50 4 11.8 19.0

~~#2~~

10 40 2 26.0 23.7

11 40 3 17.5 17.7

see last - ✓

10 50 1 45.9 51.3

11 50 2 3.2 9.1

10 10 1 25.5 30.3

11 10 1 31.6 35.9

10 55 0 42.8 45.0

11 55 0 44.6 50.8

10 45 1 47.1 51.9

11 45 1 50.0 55.3

10 15 2 54.5 58.7

11 15 3 6.1 10.6

Date.

First minute-break.

set at.

1775  
Jan 10  
11

Sum  
Mean.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
|          |          |
|          |          |

| $\alpha$ .       | $\delta$ .          | Mag.       | REMARKS.      |
|------------------|---------------------|------------|---------------|
| 3<br>16 05       | 90 10 18            |            | Comp. # Janv, |
| 18 24<br>17 15.4 | 94 50 54<br>50.4    | 9.3<br>9.4 |               |
| 21 24<br>20 15.2 | 86 50 35<br>81.6    | 8.5<br>8.4 |               |
| 24 12<br>23 3.0  | 94 51 49<br>45.4    | 9.1<br>9.9 |               |
| 27 25<br>26 10.2 | 82 53 21<br>17.0    | 9.2<br>9.0 |               |
| 30 33<br>29 18.3 | 94 55 2<br>54 58.4  | 9.3<br>9.2 | 20            |
| 32 21<br>31 4.8  | 89 54 10<br>7.4     | 9.3<br>9.0 | 93<br>89      |
| 34 41<br>33 30.7 | 88 51 23<br>20.2    | 8.7<br>8.7 |               |
| 36 57<br>35 40.4 | 92 52 2<br>51 58.3  | 9.0<br>8.8 |               |
| 39 01<br>37 50.8 | 78 51 25<br>51 22.1 | 7.5<br>7.5 |               |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

10 5 4 51.7 56.1

11 5 4 57.3 56.0

10 25 4 50.2 52.3

11 30 0 32 58.8 Lost 1st w.

10 45 3 46.6 43.1

11 45 3 46.9 43.9

10 35 0 16.8 13.9 *lower m. of 3 stars.*

11 30 2 44.8 42.7

10 0 3 11.3 7.4

11 0 3 14.4 11.2

10 20 2 17.6 13.2

11 20 2 16.3 11.9

10 10 3 22.2 18.4

11 10 3 17.6 15.3

10 0 0 28.7 27.1

11 0 0 25.9 24.7

10 20 1 25.7 23.0

11 20 1 23.1 20.9

10 55 3 33.2 29.2

11 55 3 30.6 27.8

2<sup>nd</sup> 5 m.Rej A  
+1

Date.

Jan. 10 1874

First minute-break. //

Set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

|                             |                  |                         |  |
|-----------------------------|------------------|-------------------------|--|
| 3 41 37<br>40 26.0          | 52 43<br>38.7    | 87<br>8.7               |  |
| 44 00<br>42 43.7            | 79 52 54<br>57.0 | 77.2<br>8.0             |  |
| 45 57<br>44 40.4            | 65 52 16<br>12.7 | 70<br><del>67</del> 6.9 |  |
| 48 45<br>47 29.3            | 68 53 37<br>34.3 | —<br>6.7                |  |
| 50 57<br>49 40.6            | 89 52 37<br>33.9 | —<br>9.0                |  |
| 54 02<br>52 50.7            | 57 32<br>29.3    | 9.0                     |  |
| 56 38<br>54 54.2<br>55 20.6 | 58 48<br>37.0    | 6.0                     |  |
| 58 46<br>57 35.3            | 50 36<br>33.0    | 7.0                     |  |
| 1 32<br>0 29.4              | 52 40<br>35.8    |                         |  |
| 3 43<br>2 31.8              | 50 4<br>4.8      | 9.3                     |  |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

|    |          |   |      |      |                           |
|----|----------|---|------|------|---------------------------|
| 10 | 40       | 0 | 52.3 | 50.6 |                           |
| 11 | 40       | 0 | 52.2 | 49.5 |                           |
| 10 | 30       | 0 | 46.2 | 43.9 |                           |
| 11 | 30       | 0 | 41.2 | 40.2 | Same.                     |
| 10 | 5        | 3 | 22.2 | 18.6 |                           |
| 11 | 5        | 3 | 40.1 | 38.1 |                           |
| 10 | 45       | 2 | 12.2 | 8.2  |                           |
| 11 | 45       | 2 | 12.9 | 9.4  |                           |
| 10 | 45       | 4 | 29.4 | 25.0 | Seeing pretty good Jan 10 |
| 11 | 45       | 4 | 33.7 | 30.3 |                           |
| 11 | 50       | 1 | 39.9 | 36.9 |                           |
| 11 | 40       | 4 | 35.2 | 32.9 |                           |
| 11 | 45       | 3 | 16.5 | 13.2 |                           |
| 11 | Not seen |   |      |      |                           |
| 11 | 20       | 0 | 27.2 | 23.8 |                           |
|    |          |   |      |      | Seeing bad Jan 11         |

Date

First minute-break.

Set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

s.

Mag.

REMARKS.

h ~  
2 49 38

+20 52

Comp # (112)

53 04 8.3 53.57  
51 52.9 47.0

88

55 52 7.9 52.8  
54 40.6 8.9

92  
80

#?

58 34 52.53 51  
57 22.4 51.1

89  
93

0 30 (8) - 5 32

Comp. # Junc.

2 11 (9) - 4 4

" "

2 28 - 4 10

" "

4 00 +21.57

Comp # (112)

6 38 9.5 52.59  
5 45.2 54.6

9.5

P2 upper #

9 9 (9) - 0 59

Comp # Junc.

12 0 8.10 - 2 4

" "

14 46 9.40 49

8.6 mag.

" "

2 W R  
2 W R

W R  
W R

Runs.  
*Runs.*  
*Runs.*

Sum  
Mean.

| A. |  | C. |  |
|----|--|----|--|
|    |  |    |  |
|    |  |    |  |
|    |  |    |  |

*NR NR*

| Pointer. | Stroke. | Rev. | A.   | C.   | REMARKS.                                    |
|----------|---------|------|------|------|---------------------------------------------|
| 14       | 10      | 1    | 20.6 | 16.7 | <i>Jan</i><br>(17) 10 0 19.6 20.3           |
| 14       | 10      | 4    | 13.5 | 9.5  | (17) 10 4 6.2 7.3                           |
| 14       | 5       | 0    | 17.9 | 14.4 |                                             |
| 16       | 55      | 3    | 24.4 | 14.5 | (17) 55 2 55.8 56.2                         |
| 14       | 15      | 4    | 18.9 | 15.3 |                                             |
| 16       | 10      | 1    | 52.5 | 46.9 | <i>Upper foil #</i><br>(17) 10 01 41.6 44.3 |
| 14       | 25      | 2    | 26.2 | 19.3 |                                             |
| 16       | 35      | 3    | 3.1  | 52.7 | (17) 235 2 49.1 46.9                        |
| 14       | 5       | 4    | 30.4 | 22.6 | <i>Jan 16</i><br>(17) 5 4 50.6 49.8         |
| 16       | 15      | 0    | 56.8 | 49.2 | <i>#2</i>                                   |
| 14       | 5       | 4    | 12.3 | 7.2  | (17) 504.9.9 10.3                           |
| 16       | 5       | 1    | 5.9  | 5.1  |                                             |
| 14       | 5       | 2    | 10.6 | 6.3  | (17) 5 2 33.7 37.2                          |
| 16       | 5       | 1    | 5.9  | 5.1  |                                             |
| 14       | 0       | 2    | 37.0 | 30.6 | (17) 0 2 11.3 9.9                           |
| 16       | 0       | 1    | 55.3 | 47.3 |                                             |
| 14       | 5       | 4    | 47.9 | 40.2 | (17) 10 0 34.1 33.0                         |
| 16       | 5       | 4    | 49.1 | 38.9 |                                             |
| 14       | 50      | 4    | 33.6 | 24.9 | (17) 50 0 12.8.8 27.0                       |
| 16       | 50      | 4    | 43.9 | 34.1 |                                             |

*For continuation see 151 page*

Date.

Jan 25, 1875

First minute-break.

1875, Jan. 26

Set at.

Sum

Mean.

N. Coll.

S. Coll.

2nd R

J. T. M.

a.

s.

Mag.

REMARKS.

4 17 12 9.0 50 24 50 24 2.2 2  
15 59.2 21.6 24.6  
9.0

17 45 8.5 50 58 50 58 2  
16 34.4 50.3  
8.5

18 58 7.5 52 06 7.2 2.2  
17 38.9 52 33  
8.1

20 40 8.0 52 1 8.0  
19 27.4 52 58.7  
8.1

21 58 8.9 51 9 9.0  
20 45.2 51  
9.1

23 18 7.0 52 32 9.1 2.2  
21 59.1 29.2 6.9  
8.7 8.7 pr.

24 5 9.0 52 24 8.9  
22 46.7 22.0  
9.0

25 59 8.9 50 20 8.8  
24 45.8 18.1  
8.8

26 56 8.4 52 1 8.6  
25 43.7 51 58.7  
8.3

28 19 9.0 52 45 8.8  
27 0.6 42.9  
8.8

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

40 1 26.7 31.9

40 1 21.9 28.0

5 3 18.5 21.9

55 4 50.4 54.2

55 4 44.0 46.7

0 4 23.1 27.9

0 4 24.8 28.8

55 1 11.9 17.7

55 1 16.1 20.9

30 3 34.1 37.1

30 4 17.9 21.9

30 3 36.1 38.8

30 4 16.0 18.9

40 1 4.8 9.6

40 1 8.2 11.7

45 0 23.6 30.2

45 0 15.5 20.9

0 4 31.8 36.0

0 4 34.0 38.8

20 0 37.1 41.2

20 0 40.4 43.9

Date. 1875 Jan. 25  
First minute-break. Jan. 26

c, set at.

Sum  
Mean.

N. Coll.

S. Coll.

a.

s.

Mag.

REMARKS.

4 29 53 8.2 52 34 8.0  
28 35.0 314

7.9

31 48 9.0 50 57  
30 31.9 552

222 not seen

9.4 \* ?

32 21 9.1 50 50 9.2  
31 7.9 476

9.4 lower + foll. #

33 50 8.7 52 45 8.3  
32 37.3 425

8.6

35 49 8.5 52 33 8.0 22  
34 21.8 309

8.0

36 37 8.1 51 5 8.6  
35 23.4 27

8.2

37 53 7.5 52 53 7.2 22 9.0 companion below  
36 25.3 503

7.8

38 43 9.1 50 48 9.5  
37 27.9 408

9.4

39 56 9.0 50 11 9.0  
38 41.6 8.3

8.8

40 47 8.0 50 11 7.4  
39 32.9 8.9

7.8

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 2 35.3 39.8

30 1 58.1 0.5

5 4 54.9 58.0

15 0 58.6 4.8

15 1 17.7 23.4

20 1 4.1 8.4

20 1 6.9 9.9

30 3 31.9 35.8

30 3 27.9 29.7

0 1 6.2 11.4

0 1 7.2 12.6

10 2 31.7 36.0

10 2 29.5 32.1

20 3 7.1 13.0

20 3 1.9 6.2

50 4 25.0 29.8

50 4 19.0 23.2

50 4 50.5 55.1

50 4 56.2 0.4

date.

first minute-break.

set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

s.

Mag.

REMARKS.

4 41 20 82 50 16 9.1  
40 6.0 137  
9.2

42 29 84 50 39 8.6  
41 15.5 321  
8.2

44 58 89 52 29 8.7  
43 40.7 280  
8.6

45 59 65 52 39 5.8  
44 39.9 323  
5.8

47 7 90 50 58 9.2  
45 53.2 163  
9.2

48 10 85 53 13 9.6  
46 50.3 111  
9.4

49 40 80 53 15 7.7  
48 20.0 126  
7.8

50 44 91 53 23 9.3 lower & pr. #  
49 24.4 212  
9.2

52 44 90 50 20 8.8 2.2  
51 30.4 184  
8.8

53 35 88 53 03 8.6  
52 17.6 15

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

45 2 28.7 35.1

45 2 23.9 31.0

30 2 3.4 10.1

30 1 51.2 56.5

35 2 32.2 36.6

35 2 31.0 36.0

25 1 18.1 22.9

25 1 19.8 23.1

5 2 44.2 49.8

5 2 49.2 52.9

50 3 8.1 10.2

50 2 56.7 59.2

50 0 39.3 44.2

50 0 40.8 43.3

40 2 52.0 55.1

40 2 59.3 1.8

45 0 48.5 54.9

45 0 45.1 50.5

0 2 53.1 56.5 seeing pretty good

0 2 55.3 57.9 seeing very good

Date. 1875 Jan 27  
 first minute-break. Jan 30  
 set at.

| N. Coll.   | S. Coll. |
|------------|----------|
| Obs W.A.R. |          |
| Ref 7. m.  |          |
| Sum        |          |
| Mean.      |          |

| a. |      |    | s.  |      | Mag.       | REMARKS.                               |
|----|------|----|-----|------|------------|----------------------------------------|
| 3  | 55   | 50 | +21 | 30   |            | Comp # (112)                           |
| 58 | 0    | 58 | 53  | 37   | 9.0        | same stroke each s. 9.0 pr.            |
| 56 | 47.7 |    |     | 32.9 | 8.6        | 1 stroke each s. 2 <sup>nd</sup> s pr. |
| 3  | 2    | 11 | -4  | 4    | 9.0<br>8.5 | Comp # two                             |
| 3  | 2    | 28 | -4  | 10   |            | " " "                                  |
|    |      |    |     |      |            | A2 + foll.                             |
| 3  | 4    | 3  | -3  | 18   |            | " " "                                  |
| 3  | 6    | 25 | -3  | 24   |            | " " " full #                           |
| 3  | 10   | 30 | -1  | 55   |            | " " "                                  |
| 3  | 11   | 34 | -0  | 45   |            | " " "                                  |
|    |      |    |     |      |            | very faint                             |
| 3  | 14   | 48 | -0  | 58   |            | " " "                                  |
| 3  | 16   | 5  | +0  | 18   |            | " pr. # "                              |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

35 1 4.9 7.8 35 1 54.7 56.1

35 0 58.9 2.7 35 1 56.9 8.5

25 3 27.6 29.9

25 3 20.9 26.9

5 4 47.9 48.4

5 4 16.1 19.9

15 0 52.1 53.4

1 0 2 32

25 2 9.7 10.7 both, very faint, #'s?

25 2 23.9 26.6 foll. #

not seen

30 3 41.2 44.4 no foll. # to be seen

0 1 31.5 31.7 very faint

0 1 18.0 21.4 1<sup>st</sup> w.?

too faint to see.

50 0 3.4 6.9 1 16.9 19.1

0 3 53.9 53.9

0 3 41.7 43.9

45 2 40.5 40.9 3 37.2 36.7

45 2 48.9 51.3 3 50.2 52.6

Date. 1875, Jan. 27  
 first minute-break. Jan 30

set at.

Sum  
 Mean.

N. Coll.

S. Coll.

Obs. M.A.R. W.A.R.  
 Rec. 7.2m. 7.7m

a.

δ.

Mag.

REMARKS.

4 12.18 58 50 43 8.3  
 11 5.6 400

8.3

13 53 70 53 18 7.2  
 12 45.3 96

7.2

15 23 8.0 53 8 8.9  
 14 5.0 4.8

9.0

16 26 8.5 53 12 8.7 222  
 15 7.9 91

8.8

17 12 9.0 50 24 9.0  
 15 59.2 216

9.1

18 31 9.2 52 22 9.2 222 2<sup>nd</sup> 8 pr.  
 17 12.0 193 8.8

9.1

19 17 9.5 52 13 9.5 lower + pr. #  
 17 58.0 105

9.2

20 40 8.0 52 1 7.8  
 18 27.4 51 58.7

8.1

21 53 6.0 53 39 7.0 2<sup>nd</sup> 8 pr.  
 20 34.4 35.7 5.8

7.8

23 18 7.0 52 32 7.4 222  
 21 59.1 29.2

7.2

52 24

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

20 2 56.9 2.3

20 3 51.6 12.8

50 3 59.0 1.8

50 3 56.2 1.0

55 3 46.8 50.7

55 3 47.9 54.8

50 4 3.7 7.7

50 4 0.8 5.7

40 1 32.8 38.7

40 1 28.1 36.8

40 4 51.2 9.4

40 3 59.5 5.4

50 4 1.8 6.2

50 3 52.0 57.7

0 4 28.4 31.1

0 4 19.5 24.9

25 2 48.7 51.4

25 2 43.8 49.2

30 4 55.5 9.2

30 4 2.1 8.8

Date. 1875, Jan 27

First minute-break. Jan. 30

c, set at.

Sum  
Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

4. 29 05  
22 467

80

52 24  
220

9.1

#?

9.2

A.R. for 1<sup>st</sup> #, ref' last wire

26 47  
25 285

81

53 13  
99

9.1

8.8

27 52  
26 330

80

53 46  
430

9.0

9.0

not seen

not seen

30 20  
29 68

80

50 51  
492

8.3

7.8

31 45  
30 319

90

50 57  
502

9.1

222 not seen

32 21  
31 79

91

50 50  
476

9.2

lower & foll. # 2

9.0

33 17

88

53 26

not seen

not seen

34 57  
33 376

90

53 13  
115

8.7

8.5

35 49  
34 318

85

52 33  
309

8.1

8.4

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

40 1 14.8 20.3

40 1 19.9 26.1

50 3 35.8 39.1

50 3 28.8 35.6

20 0 22.0 26.9

20 0 18.0 24.0

10 4 37.9 42.2

10 4 37.9 42.2

10 4 43.3 49.7

5 4 42.3 48.9

15 1 6.2 10.9

15 1 8.3 16.9

50 2 2.2 5.7

50 2 2.3 8.4

30 3 37.7 39.9

30 3 39.0 44.2

Date. 1875 Jan. 22

First minute-break. Jan 30

C, set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

s.

Mag.

REMARKS.

4 45 59 6.5 52 39 5.8  
44 39.9 37.3 6.9

47 00 50 53 32 5.0  
45 41.3 30.5 6.3

48 10 9.5 53 13 9.5  
46 50.3 11.1 9.5

49 40 80 53 15 8.0  
48 20.0 12.6 7.8

50 44 9.1 53 23 9.3 lower & pr. #  
49 24.4 21.2 9.0

52 29 8.6 53 34 7.8 222  
51 9.0 32.4 8.2

53 6 9.0 51 3 9.0  
51 52.5 0.8 9.3

54 44 8.9 51 43 9.0  
53 30.2 41.3 9.1

55 35 9.1 49 52 8.8 reg. order. 1 stroke for 8 for 6.  
54 20.9 49 50.7 6.0 reg. order  
9.0 9.9

56 36 9.5 49 18 9.4  
55 32.4 49 50 8.0 #?

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

25 1 18.4 22.2

25 1 4.0 10.1

30 3 16.0 19.7

30 3 9.6 15.3

50 2 59.9 2.2

50 2 57.9 3.5

50 0 36.9 40.9

50 0 36.1 42.4

40 3 0.1 3.8

40 2 52.8 57.3

30 1 49.2 52.9

30 1 32.7 39.3

0 3 13.0 18.8

0 3 8.9 15.0

20 2 5.0 8.8

20 1 47.3 54.1

20 2 57.8 4.8

10 3 38.7 43.7

10 3 44.7 52.1

5 3 46.5 49.7

10 1 22.8 29.8

lower #

seeing very good

seeing very fine

2 6.0

Date. 1875, Feb. 1  
 First minute-break. Feb. 13

c, set at.

Sum  
 Mean.

| N. Coll.    | S. Coll. |
|-------------|----------|
| Obs. W.A.R. |          |
| Recd. F.M.  |          |

| a.               | s.                      | Mag.                     | REMARKS.                                       |
|------------------|-------------------------|--------------------------|------------------------------------------------|
| 4 11 17<br>10 53 | 78 50 56<br>539         | 8.0                      |                                                |
| 12 40<br>11 292  | 75 51 38<br>353         | 9.2                      | lower & pr. #                                  |
| 15 18<br>14 05   | 70 54 32<br>289         | 8.9<br>9.0               |                                                |
| 16 56<br>15 863  | 80 52 33<br>309         | 8.5<br><del>8.8</del>    |                                                |
| 18 32<br>17 131  | 90 52 21<br>118         | 9.0<br>8.8<br>9.0<br>8.9 | 2 <sup>nd</sup> 8 pr.<br>2 <sup>nd</sup> 8 pr. |
| 18 51<br>18 329  | 90 53 36<br>329         | 9.0<br>9.0               |                                                |
| 20 49<br>19 296  | 90 53 47<br>436         | 9.0<br>8.8               | 222                                            |
| 21 31<br>20 119  | 90 53 33<br>297         | 8.9<br>9.0               | 222                                            |
| 22 17<br>20 579  | 95 53 58<br>548         | 9.6                      | lost 1 <sup>st</sup> wire<br>9.6 obs. ?        |
| 23 21<br>22 20   | 94 52 31<br>288<br>5244 | 8.8<br>9.0<br>7.4        | 222 8.8 pr. in A.R. only                       |

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

15 2 332 45.1

35 0 31.7 43.9

30 4 33.7 44.6

30 4 35.6 41.5

30 1 47.8 57.8

30 1 47.1 53.0

40 3 56.6 7.7

40 3 53.1 59.1

30 0 26.9 38.3

30 0 27.4 34.1

15 4 41.4 51.2

15 4 41.9 46.4

30 3 59.2 8.8

30 4 5.0 10.9

A.R.

5 3 47.0 52.4

30 4 33.0 43.1

30 3 9.8 15.4

Date. 1875, Feb. 1  
 first minute-break. Feb. 13

Sum  
 Mean.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
|          |          |

| a.                |    |              |  | Mag.       | REMARKS.                           |
|-------------------|----|--------------|--|------------|------------------------------------|
| 4 24 01<br>22 421 | 90 | 52 44<br>419 |  | 8.9<br>8.4 | faint comp. above<br>rej. md, wire |
| 25 8<br>23 491    | 90 | 54 5<br>16   |  | 8.9<br>9.0 | 22                                 |
| 25 58<br>24 387   | 85 | 54 45<br>416 |  | 8.7<br>8.2 |                                    |
| 27 36<br>26 170   | 82 | 54 18<br>147 |  | 8.3<br>8.3 |                                    |
| 28 41<br>27 282   | 87 | 51 45<br>428 |  | 9.0<br>8.8 |                                    |
| 30 34<br>29 208   | 95 | 51 27<br>250 |  | 9.4<br>9.6 |                                    |
| 31 50<br>30 813   | 83 | 53 19<br>170 |  | 7.0<br>8.0 |                                    |
| 33 11<br>31 517   | 88 | 53 29<br>273 |  | 9.0        | 22 2                               |
| 34 00<br>32 406   | 85 | 54 17<br>154 |  | 8.9<br>8.2 | 9.0 lost 2 <sup>nd</sup> wire      |
| 35 28<br>34 95    | 93 | 55 2<br>599  |  | 9.2<br>9.0 | upper & foll. #                    |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

20 1 11.5 19.9

20 1 39.9 45.8

0 1 42.0 52.1

0 1 51.9 57.1

20 0 27.0 38.4

20 0 29.9 36.9

45 0 49.1 58.0

45 3 42.8 47.5

20 0 25.1 37.9

20 0 32.9 41.8

35 3 32.9 44.5

35 3 31.1 38.4

45 0 37.0 47.2

45 0 44.5 51.7

35 2 8.9 19.0

35 1 12.6 18.4

45 3 24.5 33.3

45 3 27.9 33.9

0 3 46.3 56.4

0 3 57.0 2.9

date.

1874, Feb 1

first minute-break.

Feb. 13

set at.

Sum

Mean.

N. Coll.

S. Coll.

 $\alpha$ . $\delta$ .

Mag.

REMARKS.

4 46 8 89 51 32 8.8 lost 1<sup>st</sup> & 4<sup>th</sup> wires  
 44 54.6 300  
 9.0

47 47 94 53 42 9.2  
 46 27.2 403  
 8.6 foll. of 3 stars

48 56 80 52 44  
 47 42.5 41.5  
 9.0 not seen.

50 25 87 54 23 8.0  
 49 9.7 212  
 8.0

51 24 93 54 26 9.1 lower & pr. #  
 50 3.9 24.2  
 8.6

52 47 78 54 45 7.5 2  
 51 27.7 42.8  
 8.0

53 41 80 54 42 7.5  
 52 19.7 39.9  
 7.9

54 44 89 37 43 8.8 lower & pr. #  
 53 30.2 41.3  
 8.5

55 37 85 51 3 7.9  
 54 23.5 1.7  
 8.6

56 36 92 52 00 9.3  
 55 21.8 58.3

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 3 46.9 55.8

30 3 16.0 23.1

20 3 46.1 54.9

20 3 57.0 2.8

15 4 57.8 3.7

40 2 40.2 49.9

40 2 34.8 40.5

40 0 10.8 19.7

40 0 21.1 28.2

20 2 7.9 16.8

20 2 7.4 13.2

25 0 16.7 26.4

25 0 15.6 22.9

20 2 34.6 45.0

20 2 47.2 55.3

0 2 31.3 41.8

0 2 36.1 43.0

5 1 10.7 21.0

date. 1875, Feb. 1

first minute-break.

Feb. 13

Sum  
Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

4 58 8 91 52 11 8.8 lower & pr. #  
56 454 90

8.7

59 46 85 52 80 8.8 lower & foll. #  
58 262 71

8.4

1 14 79 53 3 6.4  
59 34.5 13

8.0 ref. A + 1

2 41 84 53 59 9.0  
1 204 568

9.0

3 54 80 51 16 6.5 <sup>sure</sup>  
2 32.8 149

7.0

4 57 85 51 11  
3 262 95

8.5

6 05 92 50 24 9.2  
4 57.4 257

9.2

7 56 89 52 15 9.0 2  
6 35.6 129

9.0

8 52 83 54 48 2 Current failed  
7 312 463

8.8

9 49 80 54 55 Current failed  
8 285 538

8.3

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

50 4 4.2 13.3

50 4 13.9 20.9

55 2 54.3 3.4

55 3 9.5 16.1

0 1 33.9 43.7

0 1 37.9 44.0

5 3 27.1 36.1

5 3 35.0 40.9

45 4 1.9 11.8

45 4 6.1 13.9

55 0 16.8 27.7

55 0 25.9 35.9

35 4 34.8 44.4

35 4 13.9 21.4

50 1 8.2 18.0

50 1 6.0 12.0

15 3 37.0

15 3 39.7 45.6

10 1 8.1 14.9

seeing very bad indeed  
seeing very bad indeed

Date.  
First  
c, set at

Date.

First minute-break.

c, set at.

N. Coll.

S. Coll.

Sum

Mean.

Obs. W.A.R. y A.R.  
Rec. f. m. y f. m.

a.

s.

Mag.

REMARKS.

Feb. 18

|   |    |      |      |     |            |              |            |     |     |
|---|----|------|------|-----|------------|--------------|------------|-----|-----|
| 4 | 5  | 11   | 10   | 20  | 50         | 15.0<br>14.0 | 9.2<br>9.2 | 222 | 9.2 |
| 8 | 5  | 11   | 56   | 9.5 | 51         | 57<br>54     |            |     | —   |
| 5 |    | 11   | 41.3 |     |            |              |            |     |     |
| 1 | 13 | 53   | 87   | 50  | 20<br>19.9 | 9.4<br>9.0   |            |     | 8.8 |
| 5 |    |      |      |     |            |              |            |     |     |
| 2 | 15 | 20   | 9.0  | 53  | 11<br>10.8 | 8.8<br>9.1   |            |     | 9.0 |
| 1 | 13 | 59.1 |      |     |            |              |            |     |     |
| 3 | 17 | 2    | 81   | 53  | 30<br>27.7 | 8.5<br>8.8   |            |     | 8.2 |
| 2 |    |      |      |     |            |              |            |     |     |
| 4 | 18 | 3    | 8.3  | 53  | 57<br>56.9 | 9.3          |            |     | 9.2 |
| 3 | 16 | 42.2 |      |     |            |              |            |     |     |
| 6 | 20 | 16   | 8.8  | 53  | 33<br>32.4 | 8.9<br>8.7   |            |     | 8.8 |
| 4 |    |      |      |     |            |              |            |     |     |
| 7 | 21 | 15   | 8.9  | 54  | 41<br>39.6 | 8.8<br>8.9   |            |     | 9.0 |
| 6 | 19 | 54.2 |      |     |            |              |            |     |     |
| 8 | 22 | 52   | 9.4  | 54  | 36<br>35.7 | 9.0<br>9.4   | 222        |     | 9.5 |
| 7 | 21 | 30.8 |      |     |            |              |            |     |     |
| 9 | 23 | 42   | 9.3  | 54  | 53<br>51.7 | 9.4<br>9.4   |            |     | 9.8 |
| 8 | 22 | 21.1 |      |     |            |              |            |     |     |

|     | Runs. | Pointer. | Stroke. | Rev. | A.   |      | C. |  | REMARKS.                                 |
|-----|-------|----------|---------|------|------|------|----|--|------------------------------------------|
|     |       |          |         |      |      |      |    |  |                                          |
| 18  |       | Feb. 18  | 50      | 0    | 51.0 | 55.5 |    |  | Feb. 18 for                              |
| 9.2 |       | Feb. 15  | 50      | 0    | 58.0 | 2.3  |    |  |                                          |
|     |       |          | 50      | 0    | 55.0 | 2.2  |    |  |                                          |
|     |       | Feb. 18  | 0       | 4    | 32.8 | 36.0 |    |  | first of 3#35. lost 1 <sup>st</sup> wire |
|     |       | Feb. 18  | 45      | 0    | 23.9 | 29.1 |    |  |                                          |
| 8.8 |       | Feb. 15  | 40      | 4    | 26.4 | 29.9 |    |  |                                          |
|     |       |          | 45      | 0    | 26.1 | 32.5 |    |  |                                          |
|     |       | Feb. 18  | 55      | 0    | 49.5 | 52.9 |    |  |                                          |
| 9.0 |       | Feb. 15  | 55      | 0    | 42.7 | 46.0 |    |  |                                          |
|     |       |          | 55      | 0    | 57.2 | 3.0  |    |  |                                          |
|     |       | Feb. 18  | 35      | 2    | 37.2 | 40.2 |    |  |                                          |
| 8.2 |       | Feb. 15  | 35      | 2    | 29.3 | 33.0 |    |  |                                          |
|     |       |          | 35      | 2    | 0.9  | 35.5 |    |  |                                          |
| 9.2 |       | Feb. 18  | 5       | 4    | 43.7 | 46.0 |    |  |                                          |
|     |       |          | 5       | 4    | 39.9 | 43.9 |    |  |                                          |
|     |       | Feb. 18  | 30      | 2    | 27.9 | 30.4 |    |  |                                          |
| 8.8 |       | Feb. 15  | 30      | 2    | 20.5 | 22.9 |    |  |                                          |
|     |       |          | 30      | 2    | 38.4 | 41.3 |    |  |                                          |
|     |       | Feb. 18  | 25      | 0    | 52.9 | 55.9 |    |  |                                          |
| 9.0 |       | Feb. 15  | 25      | 0    | 58.4 | 1.2  |    |  | ref. A <sub>+</sub>                      |
|     |       |          | 25      | 1    | 9.2  | 14.3 |    |  |                                          |
|     |       | Feb. 18  | 35      | 4    | 58.1 | 1.0  |    |  |                                          |
| 9.5 |       | Feb. 15  | 30      | 0    | 1.4  | 4.4  |    |  | false stroke after 8                     |
|     |       |          | 30      | 0    | 7.5  | 12.2 |    |  |                                          |
|     |       | Feb. 18  | 10      | 3    | 44.7 | 46.7 |    |  |                                          |
| 9.8 |       | Feb. 15  | 10      | 3    | 31.6 | 35.7 |    |  |                                          |
|     |       |          | 10      | 3    | 38.5 | 41.9 |    |  |                                          |

date.

first minute-break.

set at.

1875 Feb. 15  
Feb. 18  
Feb. 28

Sum  
Mean.

N. Coll.

S. Coll.

| a. |     |     |    | s.  |     | Mag. | REMARKS.       | Feb. 18 |
|----|-----|-----|----|-----|-----|------|----------------|---------|
| 5  | 24  | 36  | 83 | 53  | 1   | 9.0  |                | 9.3     |
|    | 23  | 150 |    | 52  | 596 | 9.4  |                |         |
| 26 | 03  | 60  | 84 | 19  |     | 6.0  |                | 6.0     |
| 24 | 420 |     |    | 185 |     | 6.3  |                |         |
| 28 | 34  | 85  | 53 | 29  |     | 9.0  |                | 8.6     |
| 27 | 129 |     |    | 284 |     | 9.0  |                |         |
| 29 | 39  | 90  | 53 | 27  |     | 9.0  |                | 9.0     |
| 28 | 105 |     |    | 263 |     | 9.1  |                |         |
| 31 | 08  | 94  | 53 | 28  |     | 9.5  |                | 9.4     |
| 29 | 467 |     |    | 266 |     | 9.3  |                |         |
| 32 | 04  | 92  | 53 | 28  |     | 9.0  |                | 8.5     |
| 30 | 417 |     |    | 275 |     | 8.5  |                |         |
| 33 | 22  | 90  | 54 | 48  |     | 8.2  |                | 6.5     |
| 32 | 88  |     | 54 | 465 |     | 7.2  |                |         |
| 34 | 33  | 88  | 54 | 43  |     | 8.6  |                | 8.9     |
| 33 | 125 |     | 54 | 420 |     | 8.6  |                |         |
| 36 | 30  | 83  | 51 | 24  |     | 9.7  | wires 324 very | 9.5     |
| 35 | 155 |     |    | 240 |     | 9.5  |                |         |
| 37 | 66  | 94  | 54 | 43  |     |      | not seen       | 9.5     |
| 36 | 338 |     |    | 420 |     | 9.5  |                |         |

Runs.

Sum  
Mean.

A.

C.

| Pointer. | Stroke. | Rev.     | A.   | C.   | REMARKS.                  |
|----------|---------|----------|------|------|---------------------------|
| Feb. 18  | 5       | 1        | 2.8  | 5.0  |                           |
| Feb. 15  | 5       | 1        | 5.0  | 6.9  | lost 1 <sup>st</sup> wire |
|          | 5       | 0        | 51.0 | 55.1 |                           |
| Feb. 18  | 45      | 0        | 42.7 | 47.1 |                           |
| Feb. 15  | 45      | 0        | 40.9 | 45.0 |                           |
|          | 45      | 0        | 33.9 | 38.1 |                           |
| Feb. 18  | 35      | 1        | 47.2 | 49.5 |                           |
| Feb. 15  | 35      | 1        | 39.9 | 43.0 |                           |
|          | 35      | 1        | 46.2 | 50.4 |                           |
| Feb. 18  | 35      | 4        | 16.8 | 18.9 |                           |
| Feb. 15  | 35      | 4        | 16.4 | 18.4 |                           |
|          | 35      | 4        | 15.2 | 17.9 |                           |
| Feb. 18  | 40      | 0        | 10.7 | 14.4 |                           |
| Feb. 15  | 40      | 0        | 3.9  | 8.1  |                           |
|          | 40      | 0        | 8.6  | 12.8 |                           |
| Feb. 18  | 35      | 4        | 32.7 | 33.9 |                           |
| Feb. 15  | 40      | 0        | 5.0  | 7.9  | lower pr. #               |
|          | 35      | 4        | 32.2 | 36.9 |                           |
| Feb. 18  | 15      | 3        | 9.9  | 13.2 |                           |
| Feb. 15  | 15      | 3        | 6.1  | 9.3  |                           |
|          | 15      | 3        | 8.3  | 13.5 |                           |
| Feb. 18  | 20      | 3        | 49.4 | 51.7 |                           |
| Feb. 15  | 20      | 3        | 51.4 | 53.8 |                           |
|          | 20      | 3        | 35.5 | 40.7 |                           |
| Feb. 18  | 40      | 1        | 29.1 | 33.6 |                           |
| Feb. 15  | 40      | 1        | 35.6 | 41.0 |                           |
|          | 40      | 1        | 46.1 | 43.1 |                           |
| Feb. 18  | 20      | 3        | 33.0 | 35.2 | (8 extremely bad seeing)  |
| Feb. 15  |         | Not seen |      |      | gave up zone on acc.      |
|          | 20      | 3        | 26.8 | 30.8 | Feb. 15                   |

date.

1875. Feb. 18

first minute-break.

Feb. 28

Sum

Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

5 39 30 93  
38 7.6

54 1  
01

9.2  
9.2

49 19 70  
47 51.2

54 32  
320

6.8

7.5 lost 1st row

50 37  
49 15.4

90 54 33  
330

9.0

8.8

52 27  
51 12.4

90 51 10  
9.5

9.1

222

9.0

53 02  
51 39.7

90 53 46  
460

9.0

8.9

54 19  
53 57.1

90 53 50  
49.7

9.0

9.0

56 49  
55 27.2

88 54 41  
41.1

8.7

9.0

57 56  
56 33.8

80 53 8  
8.5

8.3

8.3

0 30  
59 8.6

90 53 31  
30.6

8.8

9.0

2 35  
1 13.8

90 52 45  
45.0

8.7

8.8

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 0 29.0 31.1

5 0 36.5 42.3

30 4 9.9 12.9

30 4 52.4 55.7

30 3 32.4 34.7

30 3 35.0 39.9

55 1 24.6 28.6

55 1 27.9 33.9

20 1 17.2 19.7

20 0 57.0 2.6

15 1 16.7 17.9

15 1 8.7 12.8

20 4 15.6 20.0

20 4 26.3 29.5

55 1 57.7 58.3

55 2 5.0 9.5

35 0 2.7 4.9

30 4 1.2 4.4

20 0 44.9 48.2

20 0 42.8 46.7

Date.

First minute-break.

c<sub>2</sub> set at.

N. Coll.

S. Coll.

Sum

Mean.

$\alpha$ .

$\delta$ .

Mag.

REMARKS.

6 3 86 86 52 11 8.2  
1 443 115  
8.5

4 23 88 50 494 8.2  
3 84 494  
8.5

5 58 87 53 31 8.7  
4 359 312  
8.3

6 57 83 52 21 8.5  
5 353 219  
8.4 lower + foll #

8 11 88 53 33 9.5  
6 504 344  
9.8  
" "

11 32 90 53 33  
10 112 344  
6.0  
" "

12 32 80 53 5  
11 108 72

13 56 90 50 5 9.0  
12 408 55  
9.0

15 49 93 53 26  
14 286 278

16 53 84 53 27 9.0  
15 324 295  
9.3  
" "

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

53 0 35.1 37.9

55 0 26.8 31.6

15 2 50.1 52.9

15 2 55.5 58.1

30 4 55.1 55.9

30 4 52.1 55.1

40 3 42.6 45.9

40 3 47.0 50.5

30 4 31.7 32.7

30 4 24.8 26.7

not seen

35 0 52.1 55.1

not seen

not seen

0 0 29.3 33.1

0 0 27.9 32.4

not seen

not seen

40 0 17.7 20.3

40 0 11.1 15.1

better at the last  
seeing pretty bad, but  
seeing horrible

Date.

1875, Feb. 22.

First minute-break.

Feb. 24

c, set at.

Sum  
Mean.

N. Coll.

S. Coll.

Obs. M.A.R.

M.A.R.

Rec. J. M.

J. M.

$\alpha$ .

$\delta$ .

Mag.

REMARKS.

6 28 97 89 14 02  
27 188 16

9.1

31 04 88 ~~1325~~  
29 42.0 54 09 86

9.0

8.5 obs. 8.5 in A.R. pr.

32 07 83 14 38  
30 49.4 335

8.2

222

8.5

32 50 90 54 08  
31 27.9 76

8.9

8.7

33 80 65 58 25  
32 28.4 257

6.8

6.4

34 57 73 53 12  
33 35.1 129

7.8

222

7.3

35 26 85 53 45  
34 4.4 46.4

8.3

8.6

36 42 91 54 15  
35 19.8 15.9

9.0

9.2

38 11 91 53 16  
36 48.6 16.5

9.0

upper & foll. #

9.0

39 31 85 53 55  
38 9.4 55.8

8.7

8.0

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

Feb. 24 0 2 59.1 12.8

55 3 22.2 26.6

55 3 9.0 22.0

30 3 18.4 23.0

30 3 15.1 29.1

55 4 48.0 57.7

55 4 43.8 57.2

40 0 59.9 4.5

40 0 52.1 5.9

50 3 36.7 40.9

50 3 33.2 46.5

20 0 25.6 29.8

20 0 16.9 30.8

50 2 54.8 57.9

50 2 44.3 57.1

45 4 55.5 58.5

45 4 47.8 59

10 1 57.2 2.2

10 1 47.9 1.1

Date. 1875, Feb. 22  
First minute-break. Feb. 24  
c, set at.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
| Sum      |          |
| Mean.    |          |

| a.                | s.               | Mag.       | REMARKS.          |
|-------------------|------------------|------------|-------------------|
| 6 40 36<br>39 137 | 87 53 07<br>80   | 9.0        | 222<br>Ch. failed |
| 41 02<br>39 413   | 85 54 21<br>219  | 9.1        | ch. failed        |
| 42 00<br>40 404   | 85 54 10<br>109  | 8.0        | Ch. failed        |
| 43 48<br>42 259   | 90 53 31<br>327  | 9.0        | ch failed         |
| 44 88<br>43 140   | 85 54 49<br>483  | 9.1<br>8.8 |                   |
| 46 27<br>44 559   | 91 54 36<br>374  | 9.6<br>9.5 |                   |
| 47 41<br>46 239   | 88 54 39<br>39.9 | 8.5<br>9.0 |                   |
| 48 50<br>44 294   | 89 54 16<br>174  | 8.5<br>8.8 |                   |
| 49 16<br>48 354   | 85 54 37<br>381  | 8.9<br>8.8 |                   |
| 52 05<br>50 444   | 90 53 09<br>105  | 9.0<br>8.9 | upper 2 pr. #     |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

55 3 46.8 51.0

45 1 6.0 12.0

55 0 12.7 18.0

30 4 1.7 4.9

20 0 2.6 8.2

15 4 53.0 7.1

30 0 51.0 56.6

30 0 0.7 14.8

25 0 55.6 0.1

25 0 35.3 49.1

50 0 8.1 12.8

50 0 6.9 20.0

25 3 26.8 30.9

25 3 17.7 30.2

55 0 43.2 48.9

55 0 40.1 54.0

Date. 1875 Feb. 22  
 First minute-break. Feb. 24

set at.

Sum  
 Mean.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
|          |          |
|          |          |

| $\alpha$ .         | $\delta$ .          | Mag.       | REMARKS. |
|--------------------|---------------------|------------|----------|
| 6 52 54<br>51 32.8 | 83 53 08<br>88      | 9.2<br>9.5 |          |
| 55 52<br>54 31.2   | 88 53 48<br>58 49.5 | 8.8<br>8.6 |          |
| 56 40<br>55 19.3   | 88 53 16<br>15.8    | 8.9<br>8.8 | 222      |
| 57 31<br>56 9.7    | 85 53 41<br>41.8    | 9.0<br>9.0 |          |
| 58 34<br>57 20.8   | 87 53 18<br>54.3    | 8.9<br>8.7 |          |
| 59 59<br>58 37.7   | 90 53 41<br>42.8    | 9.0<br>9.1 |          |
| 1 22<br>1 2.0      | 84 54 22<br>23.1    | 8.2<br>8.6 |          |
| 2 21<br>1 0.5      | 88 53 10<br>11.3    | 9.4<br>9.3 |          |
| 4 45<br>2 43.7     | 93 53 03<br>4.2     | 9.2<br>9.1 | 22       |
| 4 58<br>3 37.2     | 89 53 53<br>54.6    | 8.8<br>8.8 |          |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

55 4 32.9 37.9

55 4 6.1 18.5

15 <sup>3</sup> ~~not seen~~ 6.6, 10.8

15 3 7.2 20.0

50 0 43.7 49.1

50 0 46.2 58.9

25 1 7.8 12.4

25 1 28.5 42.5

45 4 47.9 51.1

45 4 50.8 1.8

20 4 39.0 43.2

20 4 40.3 54.5

40 4 44.9 47.8

40 4 52.1 6.1

55 1 30.2 35.3

55 1 25.8 40.0

5 0 9.2 14.3

5 0 3.0 16.1

Ch.f. ~~10 4 9.5 13.7~~ seeing pretty good  
 10 3 36.0 48.9 seeing very good

|                     |              |          |             |
|---------------------|--------------|----------|-------------|
| Date.               | 1875 March 4 | N. Coll. | Alb. W.A.R. |
| First minute-break. | March 17     | S. Coll. | Alb. W.A.R. |
| set at.             | March 18     | Sum      | Rec f.7.m   |
|                     |              | Mean.    | Rec f.7.m   |

|    |     |    |    |     |     | REMARKS.         |          |
|----|-----|----|----|-----|-----|------------------|----------|
|    |     |    |    |     |     |                  | March 17 |
| 6  | 13  | 14 | 79 | 50  | 50  |                  |          |
|    | 11  | 59 |    |     | 498 |                  |          |
| 14 | 6   | 89 | 50 | 5   |     |                  |          |
| 12 | 50  |    |    | 50  |     |                  |          |
| 15 | 44  | 84 | 54 | 25  | 8.4 |                  | 8.4 m    |
| 14 | 217 |    |    | 250 | 9.0 |                  |          |
| 16 | 56  | 91 | 58 | 0   | 9.2 |                  | 8.9 m    |
| 15 | 337 |    |    | 01  | 9.3 |                  |          |
| 17 | 56  | 88 | 53 | 20  |     |                  |          |
| 16 | 338 |    |    | 196 |     |                  |          |
| 18 | 12  | 87 | 53 | 52  | 9.1 | 2 2 2            | 9.6 m    |
| 17 | 499 |    |    | 521 |     | too faint to obs |          |
| 20 | 01  | 83 | 50 | 59  |     | 2 2 2            |          |
| 18 | 457 |    |    | 595 |     |                  |          |
| 20 | 51  | 79 | 53 | 51  | 8.0 |                  | 7.7 m    |
| 19 | 294 |    |    | 511 | 7.7 |                  |          |
| 23 | 06  | 80 | 53 | 44  | 9.0 |                  | 8.6 m    |
| 21 | 442 |    |    | 443 | 9.0 |                  |          |
| 24 | 42  | 80 | 54 | 10  | 8.0 |                  | 8.5 m    |
| 23 | 199 |    |    | 104 | 8.1 |                  |          |

March 17, mag.

| Runs. | A. |  | C. |  |
|-------|----|--|----|--|
|       |    |  |    |  |
| Sum   |    |  |    |  |
| Mean. |    |  |    |  |

| Pointer.   | Stroke.       | Rev.         | A.              | C.   | REMARKS.              |
|------------|---------------|--------------|-----------------|------|-----------------------|
|            | <del>40</del> | <del>0</del> | <del>36.5</del> |      | for<br>March 17, 1875 |
| 4 March 17 | 40            | 0            | 18.3            | 28.9 |                       |
| 4 March 4  | 40            | 0            | 36.5            | 42.7 |                       |
|            | 40            | 0            | 27.1            | 30.9 |                       |
| 9 March 17 | 5             | 2            | 27.9            | 37.3 |                       |
| 4          | 5             | 2            | 40.9            | 47.0 |                       |
|            | 5             | 2            | 36.9            | 41.8 |                       |
|            | lost          |              |                 |      |                       |
| 6 March 17 | 10            | 0            | 28.8            | 38.1 |                       |
| 4          | 10            | 0            | 17.7            | 23.9 |                       |
|            |               |              |                 |      | too faint to obs.     |
| March 17   | 10            | 4            | 56.6            | 5.5  |                       |
| 4          | 10            | 4            | 51.9            | 55.0 |                       |
|            | 10            | 4            | 0.1             | 40   |                       |
| March 17   | 20            | 2            | 16.1            | 23.9 |                       |
| 4          | 20            | 2            | 50.5            | 55.0 |                       |
|            | 20            | 2            | 18.1            | 23.4 |                       |
| March 17   | 50            | 4            | 48.0            | 56.1 |                       |
| 4          | 50            | 4            | 51.2            | 55.5 |                       |
|            | 50            | 4            | 55.8            | 58.0 |                       |

1875phae.pro.1550R

Date. 1875, March. 4

First minute-break. March. 17

c. set at. March 18

Sum  
Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

March 17

6 26 52  
25 299

80 53 35  
852

8.4  
8.2

8.5 m

28 41  
27 188

89 54 2  
1.6

9.0  
8.9  
8.8  
8.8

8.8 m  
8.8

30 44  
29 218

76 53 31  
310

7.5  
7.7

7.3 m

32 28  
31 137

80 50 45  
454

9.1  
9.0

9.0 m

33 42  
32 201

90 54 50  
502

8.9

too cloud

9.2 m

34 56  
33 343

89 55 00  
54 597

8.7

22 too cloudy to obs 8.7 m

35 45  
34 260

85 52 22  
224

9.2  
8.7

false stroke 2<sup>nd</sup> wire 8.5 m

36 40  
35 179

89 53 40  
460

8.6

~ Pan. ~ 51 bph.

52 47  
51 329

90 50 28  
293

9.0  
8.8

9.0 m

53 05  
53 458

89 52 51  
519

9.3  
9.1

8.5 m

| Runs.    | A.      |       | C.   |      | REMARKS.           |
|----------|---------|-------|------|------|--------------------|
|          | Sum     | Mean. |      |      |                    |
| Pointer. | Stroke. | Rev.  | A.   | C.   |                    |
| 17       | 30      | 1     | 41.7 | 49.9 |                    |
| March 4  | 30      | 1     | 41.9 | 47.6 | for March 17, 1875 |
|          | 30      | 1     | 51.9 | 54.7 |                    |
| March 4  | 10      | 4     | 23.1 | 27.3 | reg. order. 32.7   |
|          | 0       | 4     | 5.2  | 10.1 | 0 4 23.6 16.1      |
|          | 0       | 4     | 20.1 | 23.1 | 0 4 8.6 57.9       |
| 17       | 35      | 0     | 41.1 | 50.4 |                    |
| March 4  | 35      | 0     | 41.1 | 46.1 |                    |
|          | 35      | 0     | 42.8 | 48.1 |                    |
| 17       | 20      | 1     | 36.2 | 45.9 |                    |
| March 4  | 20      | 1     | 46.9 | 51.5 |                    |
|          | 20      | 1     | 48.9 | 53.9 |                    |
| March 17 | 10      | 4     | 52.1 | 0.1  |                    |
|          | 10      | 4     | 56.9 | 59.8 | not seen           |
| March 17 | 5       | 2     | 38.7 | 46.2 |                    |
|          | 5       | 2     | 40.0 | 45.0 |                    |
| 17       | 45      | 0     | 58.8 | 8.5  |                    |
| March 4  | 45      | 0     | 4.7  | 10.9 |                    |
|          | 45      | 0     | 4.6  | 8.1  |                    |
| March 17 | 25      | 0     | 6.8  | 15.5 | lost 1st wire      |
|          | 25      | 0     | 24.9 | 28.9 |                    |
| 17       | 35      | 4     | 44.0 | 53.6 |                    |
| March 4  | 35      | 4     | 34.2 | 41.1 |                    |
|          | 35      | 4     | 44.9 | 48.5 |                    |
| 17       | 10      | 4     | 42.1 | 49.8 |                    |
| March 4  | 15      | 0     | 18.7 | 25.1 |                    |
|          | 10      | 4     | 37.5 | 40.3 |                    |

Date.

1875 March. 17

First minute-break.

March. 18

Set at.

Sum

Mean.

N. Coll.

S. Coll.

$\alpha$ .

$\delta$ .

Mag.

REMARKS.

March 17

6 56 16 90 50 52  
55 21 530

not seen

57 40 81 54 46  
55 191 47

8.5

8.0 m

59 07 84 54 33  
57 46.2 349

8.3

8.7 m

8.6 upper + foll. #

0 15 84 53 27  
58 588 285

8.4

8.5 m

8.5

2 21 94 58 10  
1 0.5 113

9.4

9.2 m

9.3

3 30 94 52 57  
2 114 589

9.3

upper + foll. #

9.1 m

9.2

4 25 80 58 15  
3 42 497

9.0

7.8 m

8.0 reg. order

(not seen March 4)

not seen

6 37 86 58 30  
5 173 388

7 45 80 52 11  
6 258 126

8.8

(several small stars in field 4) m

8.8

9 40 84 49 54 8.0  
8 265 49 557

8.0

8.0 m

8.7

1875phae.proj.1550R

| Runs. | A. |  | C. |  |
|-------|----|--|----|--|
|       |    |  |    |  |
| Sum   |    |  |    |  |
| Mean. |    |  |    |  |

| Pointer. | Stroke.  | Rev. | A. | C.   | REMARKS.        |
|----------|----------|------|----|------|-----------------|
|          |          |      |    |      | for<br>march 17 |
| 0        | march 17 | 20   | 0  | 51.5 | 59.9            |
|          |          | 20   | 0  | 21.9 | 25.9            |
|          | 17       | 30   | 2  | 58.7 | 51.9            |
| 7        | march 4  | 30   | 2  | 46.6 | 51.5            |
|          |          | 30   | 3  | 0.0  | 3.7             |
|          | 17       | 35   | 3  | 54.3 | 1.9             |
| 5        | march 4  | 35   | 3  | 58.1 | 3.1             |
|          |          | 35   | 3  | 49.4 | 51.7            |
|          | 17       | 55   | 1  | 33.0 | 42.2            |
| 2        | march 4  | 55   | 1  | 25.7 | 31.9            |
|          |          | 55   | 1  | 30.8 | 34.8            |
|          | 17       | 5    | 3  | 27.8 | 35.6            |
| 1        | march 4  | 10   | 3  | 18.9 | 24.4            |
|          |          | 5    | 3  | 29.7 | 31.9            |
|          | 17       | 15   | 3  | 26.5 | 34.8            |
| 8        | march 4  | 15   | 3  | 45.7 | 50.8            |
|          |          | 15   | 3  | 36.5 | 40.1            |
|          |          | 15   | 2  | 44.0 | 47.1            |
|          |          |      |    |      | not seen        |
| 0        | march 17 | 55   | 0  | 33.3 | 42.0            |
| 4        | march 4  | 55   | 0  | 32.2 | 38.5            |
|          |          | 55   | 0  | 34.9 | 40.9            |
|          | 17       | 10   | 3  | 28.4 | 37.9            |
| 0        | march 4  | 10   | 3  | 29.1 | 35.1            |
|          |          | 10   | 3  | 30.0 | 33.9            |

Date. 1875, March 17  
First minute-break. March 18  
c, set at.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
| Sum      |          |
| Mean.    |          |

|   |   | a.      |     | S.    | Mag.  | REMARKS.                                      | March 17 |
|---|---|---------|-----|-------|-------|-----------------------------------------------|----------|
| 6 | 7 | 11 32   | 9.0 | 58 33 | 9.0   | 22 upper & pr. #                              | 9.0      |
|   |   | 10 11.2 |     | 34.2  | 9.1   |                                               |          |
|   |   | 12 29   | 9.4 | 53 23 | 9.5   | upper & pr. #                                 | 9.5      |
|   |   |         |     | 25.7  | 9.7   |                                               |          |
|   |   | 14 00   | 9.3 | 53 48 | 9.0   | (star ?                                       | 8.7      |
|   |   |         |     | 50.4  | 9.0   | setting ?                                     |          |
|   |   | 15 49   | 9.3 | 53 26 | 9.0   |                                               | 9.0      |
|   |   | 14 28.6 |     | 27.8  | 9.0   |                                               |          |
| 2 | 1 | 16 53   | 8.4 | 53 27 | 8.7   |                                               | 8.3      |
|   |   | 15 32.4 |     | 29.5  | 8.3   |                                               |          |
| 3 | 2 | 17 44   | 9.1 | 53 12 | 9.3   | account of phase. seeing very bad. gave up on | 17 8.8   |
|   |   | 16 23.3 |     | 19.0  | 9.2   |                                               |          |
| 4 | 3 | 19 12   | 8.8 | 50 22 |       |                                               | 8.5      |
|   |   | 17 58.3 |     | 24.2  | 8.6   |                                               |          |
| 6 | 5 | 20 11   | 9.0 | 50 9  | 2.2 2 |                                               | 9.0      |
|   |   | 18 50.1 |     | 10.7  | 9.0   | False breaks after wires                      |          |
| 7 | 6 | 20 54   | 7.8 | 50 12 |       |                                               | 7.5      |
|   |   | 19 37.5 |     | 14.3  | 7.5   |                                               |          |
| 9 | 8 | 21 57   | 9.3 | 53 52 |       |                                               | 9.2      |
|   |   | 20 36.4 |     | 53.1  | 9.6   |                                               |          |

|          |         | A.   |      | C.   |                                                  |
|----------|---------|------|------|------|--------------------------------------------------|
| Runs.    |         |      |      |      |                                                  |
| Sum      |         |      |      |      |                                                  |
| Mean.    |         |      |      |      |                                                  |
| Pointer. | Stroke. | Rev. | A.   | C.   | REMARKS.                                         |
| 17       | 30      | 4    | 14.9 | 21.9 |                                                  |
| March 4  | 30      | 4    | 6.5  | 12.6 | for<br>March 17, 1875                            |
|          | 30      | 4    | 23.0 | 25.1 |                                                  |
| 17       | 40      | 3    | 19.8 | 26.1 |                                                  |
| March 4  | 40      | 3    | 24.7 | 27.5 |                                                  |
|          | 40      | 3    | 28.4 | 30.1 |                                                  |
| 17       | 15      | 0    | 41.1 | 49.1 |                                                  |
| March 4  | 15      | 1    | 41.2 | 46.9 |                                                  |
|          | 15      | 0    | 47.5 | 49.9 |                                                  |
| 17       | 40      | 1    | 15.1 | 23.0 |                                                  |
| March 4  | 40      | 1    | 16.0 | 20.5 |                                                  |
|          | 40      | 1    | 23.2 | 25.0 |                                                  |
| 17       | 35      | 3    | 50.9 | 57.4 |                                                  |
| March 4  | 35      | 3    | 59.1 | 3.1  |                                                  |
|          | 35      | 4    | 1.0  | 3.2  |                                                  |
| 17       | 50      | 4    | 52.3 | 59.8 |                                                  |
| March 4  | 55      | 0    | 9.9  | 15.9 |                                                  |
|          | 50      | 4    | 54.9 | 57.9 |                                                  |
| March 17 | 40      | 4    | 21.9 | 31.1 |                                                  |
|          | 40      | 4    | 27.7 | 33.0 |                                                  |
| March 17 | 50      | 3    | 6.6  | 15.9 | several # in field                               |
|          | 50      | 3    | 21.8 | 26.8 |                                                  |
| 17       | 50      | 4    | 44.5 | 52.8 |                                                  |
|          | 50      | 4    | 41.6 | 45.2 |                                                  |
| 17       | 10      | 4    | 47.4 | 56.1 | lost 1 <sup>st</sup> wire<br>seeing for March 17 |
|          | 10      | 4    | 30.6 | 33.9 | tolerable fair<br>tolerably good                 |

Date. 1875 March 8

first minute-break. March 11

set at.

Sum  
Mean.

N. Coll.

S. Coll.

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

|   | a.  |           | δ.        | Mag.             | REMARKS. |
|---|-----|-----------|-----------|------------------|----------|
| 6 | 52  | 14.74     | 53° 33'   | 8.0              |          |
|   | 50  | 53.2      | 34.5      | 7.8              |          |
|   | 53  | 16        | 9.0 53 36 | 9.0              |          |
|   | 51  | 55.5      | 37.5      | 9.0              |          |
|   | 55  | 52        | 8.8 53 48 | 8.5              |          |
|   | 55  | 52        | 8.8 53 48 | 8.8              |          |
|   | 54  | 31.2      | 9.9       | 8.7              |          |
|   | 56  | 40        | 8.8 53 16 | 9.1              |          |
|   | 53  | 19.3      | 13.8      | 8.6              |          |
|   | 57  | 31        | 8.5 53 41 | 9.0              |          |
|   | 56  | 27        | 41.8      | 8.8              |          |
|   | 58  | 34        | 8.9 53 18 | 8.7              |          |
|   | 57  | 13.3      | 19.7      | 8.7              |          |
| 7 | 0   | 15        |           | 8.7              |          |
| 7 | 0   | 15        | 8.4 53 27 | 8.7              |          |
|   | 58  | 53.8      | 28.5      | 8.7              |          |
|   | 1   | 22        |           | 8.4              |          |
|   | 1   | 22        | 8.4 54 24 | 8.4              |          |
|   | 2   | 30        | 9.2 53 16 | 9.1              |          |
|   | 1   | 9.5       | 17.2      | 9.2              |          |
| 4 | 25  | 8.0 53 48 | 8.0       | 22 lower + pr. # |          |
| 3 | 4.2 | 49.7      | 8.2       |                  |          |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 2 42.5 48.0

30 3 58.3 6.9

25 4 38.8 45.2

25 4 42.8 50.5

15 3 0.1 5.9

15 3 2.9 11.7

50 0 45.8 51.5

50 0 41.8 49.9

25 1 12.5 19.8

25 1 9.1 18.9

45 4 42.6 47.9

45 4 42.4 49.1

35 3 47.9 53.1

35 3 50.9 58.9

40 4 50.0 55.6

45 0 5.9 14.5

50 1 10.9 17.3

50 1 24.0 31.8

15 3 27.1 31.7

15 3 25.0 32.8

Date. 1875 March 8

First minute-break. March 11

C, set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

s.

Mag.

REMARKS.

7 4 58 89 53 53 9.1  
 3 37.2 54.6  
 9.0

6 37 86 54 30 8.4  
 5 17.3 30.9  
 8.4

8 11 88 53 33 8.8  
 6 52.4 34.4  
 8.8

9 38 88 54 16 8.7  
 8 18.8 17.2  
 8.9

11 32 9.0 53 33 9.0 upper + pr. #  
 10 11.2 34.2  
 9.2

12 29 9.4 53 23 9.5 upper + pr. #  
 11 8.2 25.1  
 9.6

14 0 9.3 53 48 8.8  
 12 39.0 82.4  
 9.1

15 49 9.3 53 26 9.0  
 14 28.6 27.8  
 9.1

16 53 8.4 53 27 7.9  
 15 32.4 29.5  
 8.5

17 44 9.1 53 12 8.7 22  
 16 23.3 14.0  
 8.8

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

10 3 54.1 0.0

10 3 59.4 7.1

35 1 39.1 45.7

35 1 26.1 35.0

30 3 49.1 55.5

30 3 49.0 55.9

50 0 35.8 42.0

50 0 34.5 42.1

30 4 1.1 5.9

30 4 13.6 20.3

40 3 26.7 32.1

40 3 20.1 28.0

15 0 48.9 54.5

15 0 36.1 44.5

40 1 15.6 20.6

40 1 17.1 24.6

35 3 49.9 54.9

35 4 1.1 7.9

30 4 48.1 53.9

50 4 48.8 55.9

Date. 1875 March 8  
 First minute-break. March 11  
 Set at.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
| Sum      |          |
| Mean.    |          |

| a. |                  | s.             |    | Mag. | REMARKS. |
|----|------------------|----------------|----|------|----------|
| 7  | 18 33<br>17 12.4 | 8.9 53<br>24.5 | 27 | 8.3  |          |
|    | 20 11<br>18 50.1 | 9.0 53<br>10.7 | 9  | 9.1  |          |
|    | 21 37<br>20 16.2 | 9.0 53<br>57.6 | 56 | 9.1  |          |
|    | 22 35<br>21 14.2 | 9.3 53<br>17.2 | 15 | 9.0  |          |
|    | 24 7<br>22 46.2  | 8.5 53<br>52.7 | 51 | 8.6  |          |
|    | 25 32<br>24 12.2 | 8.6 54<br>49.2 | 48 | 8.5  |          |
|    | 27 4<br>25 44.2  | 7.2 54<br>9.3  | 8  | 7.0  |          |
|    | 28 24<br>27 4.0  | 9.0 54<br>57.9 | 50 | 9.1  |          |
|    | 29 44<br>28 25.3 | 8.0 54<br>46.8 | 46 | 8.3  |          |
|    | 30 43<br>29 24.2 | 9.0 52<br>0.9  | 58 | 9.1  |          |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

35 4 24.3 29.0

35 4 13.5 20.6

55 2 27.7 33.0

5 5 2 27.2 35.8

10 1 49.1 54.7

10 1 51.6 59.1

50 1 26.2 30.9

50 1 26.2 32.5

15 0 59.1 5.1

10 4 57.1 5.8

15 3 44.9 50.4

15 3 44.1 51.7

55 4 9.9 15.3

55 4 13.2 20.7

15 1 56.4 1.4

15 1 53.0 0.0

20 2 6.8 11.6

20 2 4.1 11.1

5 3 23.8 29.0

5 3 27.3 35.0

date. 1875, March 8

first minute-break. March 11

set at.

Sum  
Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

7 31 55 88 54 57 8.6 22

30 36.3 54.7

8.4

32 39 87 54 55 8.3

31 19.7 56.6

8.8

34 3 9.1 53 33 9.1

32 44.4 35.1

9.1

35 44 9.4 53 14 9.5

34 25.0 16.0

9.3

38 36 8.5 54 1 8.7

~~37 7.3~~ ~~31.2~~

37 17.3 2.0 8.5

39 38 9.1 53 53 9.1

38 19.5 54.7

9.1

40 59 63 54 27 6.2

39 40.3 28.7

5.5

42 59 9.3 53 59 9.3

41 39.8 58.5

9.2

44 29 9.2 53 19 9.2

43 9.5 21.7

9.0

47 12 8.5 49 54 8.0

45 59.2 58.8

8.3

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 4 47.9 53.0

5 4 56.1 4.7

10 2 44.8 48.8

10 2 59.9 8.1

30 3 21.2 25.2

30 3 22.7 29.1

50 2 49.0 53.8

50 2 49.9 56.9

5 2 56.2 2.0

5 2 57.9 5.9

10 3 51.2 56.1

10 3 49.9 56.8

35 4 51.4 56.2

35 4 49.5 57.5

10 0 30.1 37.5

10 1 4.9 12.8

45 3 5.1 9.8

45 3 7.3 14.9

10 1 37.9 45.1 seeing very fine

10 1 29.9 39.7 seeing pretty good

Date.

1875. March 23

first minute-break.

March 25

Sum

Mean.

N. Coll.

S. Coll.

Obs. W.A.R. W.A.R.  
Regif. 7. M. / 7. M.

a.

s.

Mag.

REMARKS.

49 40 45 50 41 7.8 222  
7 48 290 438  
7.8

50 11 80 49 52  
45 58

51 06 68 53 48 7.0  
49 483 504  
7.8

52 28 88 54 52 9.0  
51 103 539  
8.8

53 31 87 54 31 9.0  
52 134 305  
8.8

54 38 88 54 47 9.2  
53 227 572  
9.8  
sure  
wrong #?

55 48 91 53 55 9.5  
54 313 583  
9.1

54 04 80 54 29 8.5  
55 458 311  
7.5

58 30 71 50 30 7.5  
57 141 334  
7.9

59 37 87 51 19 8.6  
58 209 214  
8.3

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

March 22

25 0 21.4 27.9

25 0 23.0 29.0

not seen (curve)

not seen (curve)

March 22

15 3 19.1 22.3

15 3 18.5 21.4

March 22

15 1 33.2 37.3

15 1 29.3 34.6

35 0 57.0 50.6

35 0 52.9 57.3

20 1 46.9 50.5

20 2 11.0 15.3

10 1 35.9 40.0

10 1 45.2 49.2

35 2 53.2 55.9

35 2 45.8 50.4

35 1 29.9 33.7

35 1 27.8 33.5

45 3 22.8 26.6

45 3 22.9 28.9

Date. 1875, March 23  
First minute-break. March 25  
Set at.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
|          |          |
|          |          |
| Sum      |          |
| Mean.    |          |

| a.                                                   | s.                                   | Mag.       | REMARKS.       |
|------------------------------------------------------|--------------------------------------|------------|----------------|
| 8.1 <del>26</del> 38<br>10 7.0220                    | 8.2 52 <del>34</del><br>221<br>271   | 7.6<br>7.5 |                |
| 2 <del>45</del><br>1 224<br>0 54.9                   | 52 <del>41</del><br>84<br>422<br>112 | 8.4<br>8.2 |                |
| 3 47<br>3 <del>51</del><br>2 <del>291</del>          | 9.4 53 38<br>52 15<br>467 409        | 9.3<br>9.3 | <del>222</del> |
| 5 10<br>4 <del>26</del><br>3 <del>61</del><br>3 52.2 | 9.0 53 19<br>54 51<br>85 525<br>22.1 | 8.7<br>8.3 | 222            |
| 5 46<br>4 28.2                                       | 8.6 53 39<br>418                     | 8.2<br>8.4 |                |
| 7 40<br>6 21.9                                       | 8.4 53 19<br>218                     | 8.3<br>8.0 | 22             |
| 8 23<br>7 6.2                                        | 6.5 54 31<br>344                     | 6.7<br>5.0 |                |
| 9 31<br>8 14.4                                       | 9.3 54 31<br>339                     | 9.5<br>9.6 | 232            |
| 10 15<br>9 3.8                                       | 8.1 50 44<br>442                     | 8.0<br>7.9 |                |
| 12 32<br>11 15.2                                     | 9.0 54 49<br>523                     | 9.0<br>9.0 |                |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

40 2 31.6 35.5

40 2 30.5 36.7

55 3 19.9 24.1

55 3 19.2 24.5

25 2 56.9 59.0

25 2 59.0 5.0

45 2 12.5 16.0

45 2 12.1 17.2

25 2 48.9 52.9

25 2 45.9 49.9

45 2 53.1 55.5

45 2 45.7 49.9

30 4 46.9 48.9

30 4 42.6 45.8

35 1 45.7 48.8

35 1 43.4 49.7

25 1 26.5 31.1

25 1 25.1 30.5

15 2 34.9 39.7

15 2 40.5 45.8

date.

first minute-break.

set at.

N. Coll.

S. Coll.

Sum

Mean.

1875, March 23

March 25

| a.                 | S.              | Mag.       | REMARKS.             |
|--------------------|-----------------|------------|----------------------|
| 8.13 41<br>12 29.8 | 89 50 32<br>350 | 8.8<br>8.8 | false candle after 8 |
| 14 43.<br>13 32.8  | 85 50 34<br>366 | 8.8<br>8.7 | 22                   |
| 15 34<br>14 16.9   | 89 54 25<br>281 | 9.0<br>9.0 |                      |
| 17 16<br>15 58.9   | 78 54 04<br>68  | 7.1<br>7.8 |                      |
| 18 21<br>17 10.9   | 88 50 13<br>162 | 9.1<br>9.0 |                      |
| 19 49<br>18 38.4   | 85 50 51<br>536 | 8.5<br>8.4 |                      |
| 20 50<br>19 33.7   | 72 54 33<br>365 | 6.2<br>6.5 |                      |
| 21 57<br>20 41.5   | 91 54 02<br>55  | 8.6<br>8.0 | lower & full #       |
| 23 03<br>22 47.1   | 91 54 08<br>112 | 9.6        | too faint to be      |
| 24 03<br>22 52.6   | 88 51 27<br>301 | 8.8<br>8.6 |                      |

Runs.

Sum

Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 4 12.9 16.3

30 4 13.5 19.4

30 1 46.7 52.0

30 1 40.2 46.1

40 1 37.7 41.1

40 1 34.8 39.7

0 4 5.0 7.1

0 4 6.2 10.6

50 3 51.5 55.5

50 3 49.6 55.1

15 0 26.1 30.5

15 0 19.8 24.9

30 4 17.0 19.9

30 4 14.6 18.5

5 2 27.4 30.6

5 2 24.5 28.9

~~35 4 49.7 53.5~~

not seen

35 4 49.7 53.5

35 4 55.3 58.5

date.

1875, March 23

first minute-break.

1875, March 25

set at.

Sum

Mean.

N. Coll.

S. Coll.

a.

s.

Mag.

REMARKS.

1 25 37  
24 271

94

51 07

9.3

222

104

9.2

26 8  
24 522

86

54 10

7.5

lost 1<sup>st</sup> wire

126

7.8

27 58  
26 420

92

54 14

9.4

174

9.3

29 02  
27 461

85

54 10

8.5

222

181

8.2

29 51  
28 347

94

54 30

9.7

380

9.5

31 06  
29 498

92

53 35

9.2

222

383

8.8

31 53  
30 078

90

54 05

9.0

115

9.0

33 50  
32 401

84

52 28

8.3

312

8.5

36 12  
34 559

88

53 9

8.6

116

8.8

37 12  
35 558

90

53 32

8.7

347

8.7

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

|    |   |      |      |  |
|----|---|------|------|--|
| 55 | 4 | 45.4 | 49.8 |  |
| 55 | 4 | 38.9 | 43.4 |  |
| 55 | 2 | 30.1 | 33.1 |  |
| 55 | 2 | 36.3 | 40.9 |  |
| 50 | 2 | 56.2 | 57.6 |  |
| 50 | 2 | 48.9 | 53.4 |  |
| 55 | 1 | 52.8 | 55.8 |  |
| 55 | 1 | 50.0 | 54.1 |  |
| 35 | 2 | 26.1 | 28.5 |  |
| 35 | 2 | 25.0 | 28.3 |  |
| 30 | 2 | 6.2  | 9.0  |  |
| 30 | 2 | 11.2 | 15.9 |  |
| 55 | 3 | 63.7 | 6.4  |  |
| 55 | 2 | 59.4 | 4.0  |  |
| 35 | 4 | 55.2 | 58.9 |  |
| 35 | 4 | 55.1 | 0.7  |  |
| 55 | 3 | 18.8 | 21.1 |  |
| 55 | 3 | 19.0 | 24.6 |  |
| 35 | 1 | 16.4 | 19.9 |  |
| 35 | 1 | 13.8 | 18.1 |  |

date.

March 23

first minute-break.

March 25

Sum

Mean.

N. Coll.

S. Coll.

a.

s.

Mag.

REMARKS.

8 38 15  
36 59.2

86 54 53  
56.1

8.5

8.3

39 57  
38 40.6

85 54 36  
39.3

8.6

222

8.7

40 42  
38 26.0

9.1 54 19  
22.4

9.4

9.2

42 26  
41 8.9

90 53 00  
2.2

9.0

9.0

43 52  
42 35.8

83 54 14  
16.7

8.2

222

7.9

44 41  
43 24.4

85 54 48  
50.9

8.4

8.8

45 42  
44 33.2

85 50 45  
48.6

8.5

8.7

46 35  
45 25.8

85 50 20  
23.9

8.6

8.4

49 09  
47 53.5

85 54 36  
39.1

9.0

8.7

50 35  
49 20.0

83 54 16  
20.0

7.8

7.8

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

15 0 19.9 23.4

15 0 9.1 14.5

30 2 27.9 30.3

30 2 28.5 32.9

45 3 20.2 22.5

45 3 26.0 30.9

5 2 28.7 27.7

5 2 36.8 41.0

50 4 0.0 1.3

50 3 57.5 1.0

15 4 30.4 32.2

15 4 28.4 30.0

20 2 26.1 29.7

20 2 25.9 31.3

45 2 31.2 35.9

45 2 28.9 35.0

30 0 46.2 49.9

30 0 46.9 50.3

50 0 31.7 34.9 seeing bad

50 0 29.1 33.7 seeing very fine

| N. Coll.    | S. Coll. |
|-------------|----------|
| Obs. W.A.R. |          |
| Ref. 7. m.  |          |
| Sum         |          |
| Mean.       |          |

Date. 1875, March 27  
28

First minute-break.

c, set at.

Sum  
Mean.

| a. |                  | δ. |                  | Mag.       | REMARKS. |
|----|------------------|----|------------------|------------|----------|
| 27 | 53 39<br>52 20.8 | 77 | 53 06<br>92      | 8.5<br>7.7 |          |
|    | 54 37<br>53 19.3 | 80 | 54 02<br>41      | 7.7<br>6.9 |          |
| 56 | 32<br>55 14.5    | 85 | 54 54<br>56.2    | 8.7<br>8.4 | 22       |
| 57 | 34<br>56 16.3    | 82 | 53 58<br>58.7    | 8.3<br>7.7 |          |
| 59 | 30<br>58.117     | 87 | 54 39<br>41.5    | 9.0<br>8.8 | 22       |
| 0  | 23<br>59 52      | 89 | 54 10<br>116     | 8.8<br>9.1 |          |
| 1  | 20<br>0 28       | 70 | 53 37<br>53 39.9 | 6.8<br>6.0 | 22       |
| 2  | 11<br>0 54.9     | 84 | 52 08<br>112     | 8.2<br>8.7 |          |
| 3  | 48<br>2 32.0     | 88 | 52 08<br>112     | 8.4<br>8.9 |          |
| 5  | 05<br>3 42.3     | 91 | 52 29<br>32.1    | 9.0<br>9.2 |          |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

0 0 7.3 19.3

55 4 57.0 7.2

0 4 41.0 50.9

0 4 33.2 44.8

10 2 59.9 11.0

10 2 56.1 6.7

10 1 23.3 35.6

10 1 26.7 37.1

25 2 59.4 10.9

25 3 7.3 16.9

55 2 0.3 12.8

55 3 7.5 18.7

25 4 26.1 37.5

25 4 25.8 36.9

55 3 1.6 13.6

55 3 6.0 16.2

55 3 2.7 13.6

55 2 56.8 8.0

35 3 1.5 11.9

35 2 55.7 6.2

Date. 1875, March 27  
28

First minute-break.

set at.

Sum  
Mean.

N. Coll.

S. Coll.

| a. |      | s. |        | Mag. | REMARKS. |
|----|------|----|--------|------|----------|
| 8  |      |    |        |      |          |
| 6  | 33   | 77 | 52 40  | 7.5  |          |
| 5  | 172  |    | 478    | 7.8  |          |
| 4  | 40   | 84 | 53 19  | 8.3  |          |
|    |      |    |        | 8.6  |          |
| 8  | 35   | 84 | 51 59  | 9.2  |          |
| 7  | 191  |    | 52 120 | 9.5  |          |
| 9  | 58   | 80 | 53 8   | 8.7  | 2 2 2    |
| 8  | 398  |    | 110    | 8.8  |          |
| 10 | 31   | 87 | 53 28  | 8.4  |          |
| 9  | 126  |    | 311    | 8.8  |          |
| 12 | 17   | 91 | 52 59  |      | 2 2 2    |
| 13 | 02   | 81 | 50 21  | 9.1  |          |
| 11 | 51.3 |    | 237    | 9.4  |          |
| 14 | 01   | 85 | 51 05  | 8.8  |          |
| 12 | 504  |    | 76     | 9.1  |          |
| 15 | 37   | 89 | 53 13  | 8.2  | 2 2      |
| 14 | 183  |    | 53 163 | 8.7  |          |
| 16 | 23   | 92 | 53 04  | 9.0  |          |
|    |      |    |        | 9.1  |          |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

20 2 55.3 6.4

20 2 53.1 2.2

45 2 34.0 46.5

45 2 45.9 55.3

5 3 11.7 21.9

5 3 17.9 28.0

55 3 12.1 22.9

55 3 11.8 22.5

35 4 15.4 26.2

35 4 17.6 26.3

not seen (sure)

not seen (ii)

45 0 16.0 28.8

45 0 22.6 33.9

0 1 13.9 27.1

0 1 22.7 34.8

50 4 14.0 23.1

50 4 19.3 28.9

0 3 30.2 42.1

0 3 36.7 46.6

Date.

First minute-break.

C, set at.

N. Coll.

S. Coll.

Sum

Mean.

1875 March 27  
28

α.

δ.

Mag.

REMARKS.

8 18 16 177 53 52 7.7  
16 578 53 555 7.5

19 45 85 50 51 8.6 222  
18 390 536 9.0

20 18 84 51 04 8.5  
19 7.0 74 8.7

21 48 8.5 53 33 8.0  
20 308 21 364 8.5

22 59 64 53 32 6.0 222  
21 416 357 6.0

23 28 86 51 5 8.4  
22 183 51 78 8.8

5-1 50 90 50 10 8.9  
50 339 140 9.2

5-3 58 90 53 15 9.0  
52 484 195 9.1

5-5 40 90 53 47 8.8  
54 251 509 9.0

5-7 11 84 53 45 8.7 222  
55 560 494 8.8

52 54

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

10 4 20.1 30.8

10 4 17.4 27.2

15 0 18.2 32.0

15 0 15.1 26.1

0 1 38.9 50.7

0 1 37.8 48.9

30 3 54.7 5.1

30 3 57.6 6.9

30 3 54.5 4.6

30 3 57.2 7.0

0 1 16.1 27.8

0 1 15.7 26.9

55 1 27.8 40.4

55 1 37.4 47.8

50 1 8.3 19.2

50 1 11.0 21.1

20 0 56.3 8.5

20 1 15.1 24.7

20 1 40.1 50.6

20 1 40.1 49.9

Date.

1875, March 27

First minute-break.

28

C, set at.

Sum  
Mean.

N. Coll.

S. Coll.

a.

δ.

Mag.

REMARKS.

8 57 44  
56 286

8.0 52 59  
53 27

9.2  
9.4

lost 1<sup>st</sup> w. ref. 1<sup>st</sup> stroke

8 59 13  
57 184

8.0 53 47  
51.5

8.8  
8.2  
8.7  
8.6

9  
0 34  
59 121

9.4 54 w  
9.1

9.4  
9.7

1 32  
0 247

9.3 57 34  
346

9.2  
9.0

2 56  
1 487

6.5 50 59  
51 28

6.8  
6.9

4 20  
3 69

8.9 53 34  
377

9.1  
8.8  
9.1  
8.9

5 42  
4 290

8.0 53 14  
184

8.0  
8.3  
8.3  
8.7

reg. order  
2<sup>nd</sup> 8 2 sec. late  
pr. + lower #

7 14  
6 12

9.0 53 09  
130

9.0  
9.1

8 16  
7 3.5

8.7 58 27  
304

8.5  
8.3

9 53  
8 401

8.8 58 01  
58

9.0  
9.0

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 3 21.4 32.9

for 8

5 3 39.1 48.7

20 0 41.0 51.0

15 3 31.3 42.7

20 0 49.1 58.8

15 3 42.2 51.5

0 2 1.9 12.8

0 2 10.0 20.9

30 1 39.6 52.5

30 1 47.5 59.4

5 4 14.2 25.2

5 4 22.0 32.2

30 4 26.6 36.6

30 4 4.9 14.8

30 4 35.9 46.6

30 4 8.9 17.0

50 3 0.2 10.1

50 3 12.1 21.8

0 1 14.7 25.5

0 1 11.0 21.8

40 0 11.7 22.4

40 0 13.7 23.5

5 1 18.6 28.1

5 1 21.3 32.2

Date. 1875, March 27  
 28

First minute-break.

c, set at.

Sum  
 Mean.

N. Coll. S. Coll.

a. s. Mag. REMARKS.

9 11 20 7.0 53 0 6.9  
 10 16.7 40 6.8

12 55 83 54 18 8.5 2 2 2  
 11 40.3 13.9 8.7

13 25 9.0 54 07 9.0 2 2  
 12 12.9 11.5

14 18 8.0 53 50 8.7  
 13 5.0 54.2 9.0

16 26 83 54 40 9.3 2 2  
 15 10.7 44.3 9.3

17 04 83 54 21 8.2 9.3 pr.  
 15 48.8 21.3

19 10 93 53 06 9.4 2 2 2 lower + foll #  
 17 57.5 9.9 9.5

19 42 87 54 23 9.0 perhaps false stroke after H  
 18 28.3 26.7 9.1 lost 1<sup>st</sup> wire

21 42 88 53 22 8.7  
 20 29.5 25.7 9.2

23 41 91 53 28 9.1  
 22 28.2 13.1 9.1

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 2 38.4 49.2

5 2 45.3 55.2

55 1 23.4 34.2

55 1 48.9 58.5

55 4 45.8 56.0

lost

15 1 55.5 5.5

15 1 49.1 59.0

25 3 32.1 43.1

25 3 43.1 52.7

50 0 24.3 34.1

lost

0 1 37.4 47.9

0 1 28.9 41.0

45 0 48.5 59.5

45 1 21.9 31.3

45 1 7.9 17.7

45 1 14.2 23.8

35 3 49.1 58.7 seeing very fine

35 3 45.2 55.0 seeing bad

Date.

First minute-break.

c, set at.

1875, March 29  
March 30

Sum

Mean.

N. Coll.

S. Coll.

Obs. Mr. A. R.

Rec. J. F. M.

| a. |     | s.  |     | Mag. | REMARKS.         |
|----|-----|-----|-----|------|------------------|
| 49 | 14  | 90  | 51  | 23   | <del>51 23</del> |
| 50 | 11  | 80  | 49  | 54   |                  |
| 8  | 13  | 04  | 80  | 49   | 53               |
|    | 11  | 523 | 49  | 560  | 7.8              |
| 14 | 16  | 85  | 51  | 57   | 8.4              |
| 13 | 06  |     | 52  | 01   |                  |
| 15 | 13  | 91  | 54  | 33   | 9.3              |
| 13 | 563 |     | 364 |      |                  |
| 16 | 23  | 92  | 53  | 04   | 9.2              |
| 15 | 65  |     | 69  |      | 9.0              |
| 17 | 23  | 92  | 53  | 57   | 9.1              |
|    |     |     |     |      | 9.3              |
| 19 | 06  | 88  | 54  | 13   | 8.6              |
| 17 | 486 |     | 159 |      | 8.8              |
| 20 | 10  | 90  | 51  | 46   | 9.3              |
| 18 | 520 |     | 489 |      | 9.4              |
|    |     |     |     |      | 9.34             |
|    |     |     |     |      | 9.31             |
| 21 | 21  | 87  | 54  | 31   | 8.8              |
| 20 | 38  |     | 365 |      | 222              |
|    |     |     |     |      | 8.3              |
|    |     | 54  | 0   |      |                  |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

~~10 3 36.1 4~~~~35 3 36.~~

10 3 36.1 48.8

5 4 33.6 45.9

30 3 25.9 37.6

0 3 25.9 36.9

0 3 26.7 39.8

5 4 50.1 59.8

5 4 53.9 8.0

50 3 55.6 5.2

50 3 51.4 3.0

20 1 23.8 35.6

20 1 21.0 36.5

35 1 30.1 42.3

35 1 25.1 38.6

Date. 1875, March 29  
First minute-break. March 30

c, set at.

Sum  
Mean.

N. Coll.

S. Coll.

$\alpha$ .

$\delta$ .

Mag.

REMARKS.

|          |          |     |                       |  |  |
|----------|----------|-----|-----------------------|--|--|
| 2        |          |     |                       |  |  |
| 21 58    | 85 54 00 | 8.4 |                       |  |  |
| 20 42.3  | #2.5     | 8.3 |                       |  |  |
| 23 03    | 91 54 8  | 9.7 | rej. ind. wire, #?    |  |  |
| 2 2 47.1 | 11.2     | 9.8 |                       |  |  |
| 24 2 5   | 93 52 18 | 9.2 | false strokes after 8 |  |  |
| 23 10.2  | 218      | 9.4 |                       |  |  |
| 25 34    | 93 52 18 | 9.4 |                       |  |  |
| 24 19.8  | 209      | 9.4 |                       |  |  |
| 26 08    | 86 54 10 | 8.0 |                       |  |  |
| 24 52.2  | 126      | 8.4 |                       |  |  |
| 27 58    | 92 54 14 | 9.3 |                       |  |  |
| 26 42.0  | 174      | 9.4 |                       |  |  |
| 28 55    | 91 53 54 | 9.2 | 2 2 2                 |  |  |
| 28 16.0  | 57.4     | 9.2 |                       |  |  |
| 30 09    | 94 53 11 | 9.7 | lsb.                  |  |  |
| 28 49.6  | 139      |     | too faint to obs.     |  |  |
| 50 00    | 85 54 29 | 8.9 |                       |  |  |
| 48 44.5  | 817      | 9.0 |                       |  |  |
| 51 00    | 90 54 3  | 9.1 | faint comp. folls.    |  |  |
| 49 45.0  | 67       | 9.0 |                       |  |  |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 2 30.0 40.7

5 2 30.0 44.9

55 4 5.3 14.5

55 4 12.0 24.9

45 3 22.5 32.4

45 3 23.6 37.9

45 3 46.9 57.0

45 3 40.7 54.0

52 2 14.4 23.1

55 2 23.0 37.0

50 2 51.6 0.8

50 2 58.8 11.2

10 2 49.4 58.9

10 2 51.7 4.1

55 1 56.9 7.9

35 4 28.7 40.2

35 4 10.5 24.1

5 0 26.1 36.1

5 0 6.0 19.9

Date.

First minute-break.

set at.

N. Coll.

S. Coll.

Sum

Mean.

a.

s.

Mag.

REMARKS.

52 03  
50 48.5

83 54 2  
57

8.4  
8.5

54 18  
53 27

70 53 36  
403

6.8  
7.0

56 27  
55 118

90 54 24  
263

9.0 222  
9.0

57 05  
55 49.8

80 54 48  
525

9.4 222  
9.0

57 44  
56 286

80 52 59  
53 27

9.2

58 55  
57 39.5

84 53 46  
504

8.4 222  
8.5

59 32

87 54 2

1 1  
59 49.2

89 57 56  
52 06

8.8  
8.8

2 1  
0 54.3

91 57 50  
536

9.1 2  
8.9

2 56  
1 48.7

65 50 59  
57 28

7.0  
6.5

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

5 0 24.2 36.6

5 0 33.4 48.5

30 0 17.8 27.9

30 0 13.6 27.3

40 4 47.8 57.7

40 4 51.5 4.9

15 3 20.9 31.1

15 3 17.0 30.4

5 3 25.1 34.5

20 0 44.9 54.1

20 0 44.9 57.8

not seen (sure)

not seen

5 4 50.8 0.0

5 4 51.4 5.3

15 2 22.3 31.7

15 2 14.5 28.4

5 4 48.5 59.0

5 4 19.8 34.4

Date.

First minute-break.

Set at.

1874, March 29  
March 30

Sum  
Mean.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
|          |          |
|          |          |

| a.              | s.                         | Mag.                     | REMARKS.                      |
|-----------------|----------------------------|--------------------------|-------------------------------|
| 9 9 9<br>2 558  | 92 53 32<br>365            | 9.1<br>9.4<br>9.2<br>8.9 | fol. #                        |
| 5 6<br>3 512    | 88 54 35<br>395            |                          |                               |
| 6 84<br>5 189   | 86 54 57<br>547            | 9.4<br>9.2               | 2 2 2                         |
| 7 23<br>6 106   | 84 53 47<br>573 473<br>573 | 9.3<br>9.4               |                               |
| 8 17<br>7 42    | 85 53 13<br>169            | 8.5<br>8.7               |                               |
| 10 08<br>8 550  | 91 53 14<br>184            | 9.2<br>9.3               |                               |
| 11 30<br>10 167 | 90 53 20<br>40             | 6.5<br>7.7               | false stroke + rattle after 8 |
| 12 55<br>11 403 | 83 54 18<br>139            | 8.0<br>8.8               | 2 2 2                         |
| 13 32<br>12 254 | 83 57 33<br>374            | 8.4<br>8.7               |                               |
| 15 57           | 80 53 56                   | 8.0                      |                               |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

30 3 42.3 53.8

30 4 33.0 45.4

30 4 2.5 14.8

30 1 21.2 32.0

15 2 20.2 31.1

15 2 20.9 34.1

20 1 13.8 23.9

20 1 5.6 18.4

50 4 20.3 30.4

50 4 20.4 33.2

50 2 52.8 2.9

50 2 48.9 1.9

5 2 35.4 44.6

5 2 35.2 46.9

45 4 18.9 28.5

45 4 21.0 34.1

30 3 31.4 41.5

30 3 33.1 46.8

10 0 44.8 54.9

10 0 41.1 53.9

date. 1875, March 29  
 first minute-break. March 30  
 set at.

Sum  
 Mean.

| N. Coll. | S. Coll. |
|----------|----------|
|          |          |
|          |          |
|          |          |

| a.                        | s.                          | Mag.                     | REMARKS.                                                                  |
|---------------------------|-----------------------------|--------------------------|---------------------------------------------------------------------------|
| 7<br>16 59<br>15 444      | 93 54 16<br>199             | 9.4<br>8.5<br>9.5<br>9.9 | lost wire of 1 #<br><del>222 lower part #</del><br>9.5 in A. R. only 9.5? |
| 18 28-<br>19 39<br>18 254 | 89 54 48<br>90 54 48<br>508 | 8.9<br>9.1               |                                                                           |
| 20 46<br>19 324           | 85 54 13<br>454             | 8.6<br>8.7               |                                                                           |
| 21 51<br>20 369           | 93 54 39<br>420             | 9.3<br>9.6               | pr. + lower #                                                             |
| 23 21<br>22 7.8           | 91 53 28<br>323             | 8.9<br>9.1               |                                                                           |
| 25 03<br>23 497           | 95 53 0<br>41               | 7.8<br>7.8               |                                                                           |
| 26 52<br>25 386           | 82 53 53<br>572             | 8.0<br>8.3<br>8.5<br>8.6 | 2 close comp pr 1/2 sec. above<br>reg. order                              |
| 27 40<br>26 263           | 75 54 43<br>463             | 8.8<br>8.9               | 2                                                                         |
| 28 81<br>27 168           | 88 54 53<br>564             | 8.9<br>9.3               |                                                                           |

Runs.

Sum  
Mean.

A.

C.

Pointer.

Stroke.

Rev.

A.

C.

REMARKS.

|    |   |      |      |
|----|---|------|------|
| 50 | 1 | 58.9 | 6.8  |
| 50 | 0 | 53.1 | 2.4  |
| 50 | 0 | 18.2 | 32.0 |

not seen

|    |   |      |      |
|----|---|------|------|
| 20 | 1 | 10.0 | 20.8 |
|----|---|------|------|

|    |   |     |      |
|----|---|-----|------|
| 20 | 1 | 8.1 | 20.0 |
|----|---|-----|------|

|    |   |      |     |
|----|---|------|-----|
| 25 | 0 | 55.1 | 6.3 |
|----|---|------|-----|

|    |   |      |      |
|----|---|------|------|
| 25 | 0 | 56.8 | 10.0 |
|----|---|------|------|

|    |   |      |      |
|----|---|------|------|
| 25 | 4 | 35.1 | 44.3 |
|----|---|------|------|

|    |   |      |      |
|----|---|------|------|
| 25 | 4 | 28.1 | 40.7 |
|----|---|------|------|

|    |   |      |     |
|----|---|------|-----|
| 35 | 3 | 50.5 | 1.8 |
|----|---|------|-----|

|    |   |      |     |
|----|---|------|-----|
| 35 | 3 | 48.7 | 1.1 |
|----|---|------|-----|

|   |   |      |      |
|---|---|------|------|
| 5 | 1 | 25.3 | 36.2 |
|---|---|------|------|

|   |   |      |      |
|---|---|------|------|
| 5 | 1 | 20.7 | 32.9 |
|---|---|------|------|

|    |   |      |      |
|----|---|------|------|
| 15 | 0 | 13.0 | 23.7 |
|----|---|------|------|

|    |   |     |      |
|----|---|-----|------|
| 15 | 0 | 7.8 | 20.7 |
|----|---|-----|------|

lost

|    |   |      |      |
|----|---|------|------|
| 25 | 1 | 10.7 | 22.3 |
|----|---|------|------|

|    |   |      |     |
|----|---|------|-----|
| 15 | 0 | 58.7 | 9.8 |
|----|---|------|-----|

|    |   |      |      |
|----|---|------|------|
| 15 | 1 | 30.4 | 43.9 |
|----|---|------|------|

seeing very fine

seeing moderately good

1875phae.proj.1550R

Date.

First minute-break.

c, set at.

Sum

Mean.

N. Coll.

S. Coll.

$\alpha$ .

$\delta$ .

Mag.

REMARKS.











