

KG
11366
v.550

Jone
Chronograph Records
Circle Readings
From 1876, Aug. 6 to Dec. 23, 1876
A. 21.

Charles W. Sever, University Bookstore, Cambridge.

1876phae.proj.1554R

hel
—
LTL

1876, Aug. 3

Obs. W.A.R.
Reef. F.M.

h m s			mag	S		
16	28	55	8.0	53	16	
16	35	15	9.0	54	54	
16	52	5	8.9	51	20	9.4
17	3	10	9.3	53	21	9.6
17	3	53	8.8	51	3	9.0
17	7	35	9.0	54	35	8.8 9.0
17	38	6	9.0	53	23	8.8
17	42	6	9.0	54	37	
17	44	17	9.0	54	13	9.1
17	47	34	8.8	54	40	9.1
17	50	37	8.0	52	23	8.1

5 0 2.9 ~~0.3~~ 3.0 ~~55.1~~

not seen

0 4 39.9 ~~37.4~~ 37.9 ~~84.1~~

20 3 7.4 ~~5.3~~ 6.5 ~~51.2~~

2nd 12.1 4.5 2 8.2 7.1

Ch. failed 0 2 9.6 7.4

not seen here

10 1 53.8 52.1

40 3 26.1 23.9

0 1 9.6 9.9

Seeing very bad indeed

¹⁸⁷⁶ Aug 6 MAR obs. Aug. 8 Mr. A. Roberts
 6 I.M. recd. J. F. M. ...
 17 38 6 90 53 23 84 ~~84~~

17 42 6 90 54 37

17 44 17 90 54 13 8.9

8.7

9.2

8.8

17 47 34 88 54 40 9.0

9.0

17 50 37 89 52 23 8.3

8.0

17 56 47 89 50 18 9.0

8.8

17 56 47 89 50 18

17 58 15 8.5 53 21 8.4

8.2

18 0 01 80 50 42 8.0

7.9

18 2 42 83 50 21 8.3

8.5

18 4 42 78 53 10 7.9

8.2

18 8 24 93 53 28 8.0

9.2

8.2

a 9.2 foll.

Remarks

md. wire + foll
lost

0 3 2.1 59.9
lost

not seen (sure)

not seen (sure)

2nd S pe.

10 2 47.6 44.9

lost 1st wire of 2nd #

10 3 34.6 32.8
10 3 41.8 39.3

2 false strokes follow.

45 0 52.0 49.2

false obs. pe.

45 1 16.1 14.1

0 1 31.8 30.8

0 1 37.1 34.4

rej. A₊₁

25 1 24.1 22.9

25 1 27.9 27.1

not seen

not seen

rej. A₊₁

5 0 10.4 8.9

5 0 10.6 8.6

rej. A₊₁

40 4 32.3 30.3

40 4 36.9 34.2

5 1 33.1 31.0

5 1 43.3 41.9

15 1 18.6 16.1

15 1 17.0 14.2

55 4 31.3 28.9

55 2 54.0 57.2

Seeing very fine!

55 3 18.4 15.9

Lost d 3 of 2nd #
seeing pretty good.

1876, Aug. 9

Ch. W.A.R.
Rec. J. T. M.

h	m	s	Mag	U'	mag.
17	38	6	9.0	53	23 8.8
17	43	59	7.5	53	28 7.6
					7.5
17	47	42	9.4	54	28 9.3
					9.4
17	49	9	9.3	57	30
17	50	23	8.8	53	18 9.0
					9.0
17	55	11	8.7	57	58 9.0
					9.4
17	58	20	8.9	54	17 8.6
					8.7
17	59	03	8.9	51	9 9.0
					9.0
18	3	6	8.8	53	58 9.0
					8.8
18	7	53	9.2	51	38 9.2
					9.1
18	10	6	9.4	54	30 9.3
					9.5
18	12	54	8.8	54	31 8.4
					8.5

1876, Aug. 10

Obs. W.A.A. 2
Recy. 7. 2. 2

0 3 0.8 58.0

lost

false obs. pr.

45 4 7.7 4.1

45 3 44.9 41.5

45 4 53.0 49.6

50 0 12.9 9.4

not seen.

not seen

0 0 5.9 2.9

55 4 50.9 47.4

25 1 31.1 29.9

25 4 ^{since} 17.9 14.8

5 4 3.9 0.1

5 4 18.9 14.5

15 1 22.9 21.5

15 1 12.1 10.9

25 4 54.2 50.9

25 4 46.1 41.9

40 3 23.4 20.9

40 3 16.4 13.1

50 3 10.1 7.1

50 3 15.0 10.5

50 4 58.2 54.1

50 4 27.5 23.9

wrong #

~~lower~~ upper pr. #

last 2 wires

a 9.9 pr. same S

seeing very bad

seeing pretty fair.

1876 Aug. 12

h m s

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

1876 Aug. 13

17	38	6	90	53	23	8.8
						8.4

17	47	48	88	54	46	8.8
17	41	39	9.3	52	18	9.2

17	56	44	88	53	29	2.2
17	42	15	83	52	00	8.7

17	54	11	9.2	50	34	
17	47	48	88	54	46	8.6
						8.6

17	50	37	9.0	52	23	8.4
						8.7

17	56	44	88	53	29	2.2
----	----	----	----	----	----	-----

17	57	11	9.2	50	34	
----	----	----	-----	----	----	--

9.4

18	2	50	89	52	50	8.9
						8.9

18	8	11	88	53	29	8.2
						8.8

18	9	17	88	53	29	9.1
						9.1

18	11	01	83	52	29	8.6
						8.8

18	18	07	89	53	26	9.0
						9.0

S. W. M. M.

$\begin{matrix} & 2 & & 9 \\ 0 & 2 & 42.1 & 39.2 \\ 0 & 2 & 15.6 & 13.1 \\ 5 & 3 & 26.9 & 24.6 \\ 5 & 3 & 25.1 & 22.6 \\ 25 & 1 & 51.6 & 49.9 \end{matrix}$

lost

$\begin{matrix} 40 & 0 & 40.4 & 38.1 \\ 40 & 0 & 33.9 & 32.1 \\ 0 & 1 & 46.4 & 43.8 \\ 0 & 1 & 32.0 & 30.9 \end{matrix}$

not seen

lost

$\begin{matrix} 45 & 3 & 3.9 & 2.1 \\ 35 & 1 & 11.9 & 9.5 \\ 35 & 1 & 8.8 & 5.9 \\ 55 & 2 & 50.1 & 47.5 \\ 55 & 3 & 5.6 & 3.1 \\ 55 & 1 & 23.8 & 21.9 \\ 55 & 1 & 41.1 & 38.9 \\ 55 & 2 & 12.2 & 9.9 \\ 55 & 2 & 17.7 & 14.4 \\ 55 & 4 & 57.7 & 55.3 \\ 55 & 4 & 42.1 & 43.1 \end{matrix}$

seeing very good

seeing moderately good

1876, Aug. 21
Aug. 23Obs. W.A.R. W.A.R.
Rec. J.F.M. J.F.M.
Mag. J.F.M.

17 57 11 9.2 50 34

9.0

9.6

18 0 1 8.2 50 44

8.4

8.2

18 2 50 8.8 52 50

9.0

9.0

18 4 59 8.7 52 53

8.9

9.0

18 9 18 8.4 52 02

8.0

8.0

18 11 2 9.3 52 30

9.3

9.5

18 18 7 8.9 53 26

9.0

9.1

18 19 12 6.8 51 29

7.4

6.5

18 20 35 7.1 54 21

7.4

7.7

18 21 17 9.1 53 45

9.2

9.3

18 23 35 8.6 52 40

9.1

8.9

18 25 37 8.4 52 21

8.2

8.8

Max Min

Remarks

Circle Readings

	50	2	38.5	38.3
	50	3	5.9	6.0
	40	4	30.9	30.1
	40	4	45.8	46.0
	35	1	15.1	14.1
	35	1	7.1	5.9
	30	2	39.9	39.3
	30	2	44.9	43.9
	20	4	26.7	26.1
false stroke & cattle after S	20	4	29.4	29.8
Some stroke for S	55	1	39.7	39.9
S only for pr. #. reject	55	2	17.9	17.1
	~~55~~	~~2~~	~~16.6~~	~~59.1~~
	55	4	54.9	52.9
	0	0	8.6	7.1
	55	2	21.7	21.1
	55	2	30.1	30.5
	0	4	51.1	48.9
	0	4	53.9	57.8
	40	0	58.5	56.9
ind. wire & foll.	40	1	32.9	31.6
	45	1	19.5	18.1
	45	1	24.6	23.3
seeing, very bad	0	4	7.0	5.9
seeing pretty bad	0	4	15.8	14.5

1876, Aug. 26

Aug. 28

Obs. M.A.R., M.A.R.
Recy. T. m. / T. m.

17	58	20	89	54	17	8.8
						8.8

18	2	29	81	53	21	8.3	2
						8.4	

18	3	00	83	54	30	8.2
						8.2

18	8	11	80	54	31	7.5
						7.7

18	9	17	88	53	29	9.0	2
						9.0	

18	10	06	94	54	30	9.2
						9.1

18	12	54	88	54	31	8.6
						8.9

~~18~~	~~21~~	~~04~~	~~65~~	~~53~~	~~14~~	~~7.8~~	
18	20	35	91	54	21	7.2	2
						7.5	

18	21	17	91	53	45	
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9.1

~~18~~	~~49~~	~~18~~	~~8.2~~	~~4.54~~	~~44~~	~~8.2~~
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8.4

18	50	27	85	54	43	8.3
----	----	----	----	----	----	-----

8.3

8.6

8.7

1st for 2nd

5	4	27.4	25.5
5	4	20.9	20.2
5	0	5.0	4.0
5	0	11.1	11.0
55	1	30.4	29.6
55	1	33.8	33.2
50	4	28.1	26.9
50	4	32.1	31.9
55	1	29.8	28.9
55	1	35.3	35.2
55	0	54.4	52.7
55	0	54.7	53.9
50	4	37.1	34.5
50	4	38.4	37.1
0	4	51.4	48.1
0	4	42.2	41.5

false stroke + cattle after S

not seen

40	1	10.6	9.4
~~40~~	~~0~~	~~59.3~~	~~57.8~~
40	1	15.9	14.9
40	2	26.0	23.9
40	2	26.2	26.1

reg. order, 2nd star structure first
reg. order.

1876, Aug. 26

19 0 43 8.7 52 04 8.8
9.0

19 1 46 5.3 54 48 9.4 a 9.3 pr. 3rd below
9.4

19 5 33 7.9 52 44 7.3
7.2

19 7 56 8.9 54 22 8.7
8.7

19 10 29 8.9 54 53 8.9
8.8
8.8
8.7

19 12 23 7.7 54 56 7.0
7.0

19 15 26 7.9 53 20 8.3 star?
8.2

19 22 26 8.5 54 17 8.8
8.7

19 24 52 8.7 52 54 8.6
8.8

19 27 26 8.8 52 20 8.6
8.7

19 28 36 9.0 53 54 8.5 22
8.8

19 29 23 9.0 53 59 8.8

~~8.8 a 9.5 full. 4 all.~~

neg. order, 1 stroke for each S

" " " " " " "

20	1	31.5	30.6
20	1	26.5	27.1
35	2	58.3	55.9
35	2	53.1	51.9
40	2	14.6	12.9
40	1	54.7	54.9
0	3	52.1	49.5
0	3	43.0	42.0
30	2	4.1	1.9
30	2	5.8	4.9
25	4	10.9	7.9
25	4	18.0	16.1
0	1	12.7	11.7
0	0	48.8	46.9
5	3	10.1	8.1
5	3	7.1	5.5
30	1	9.1	7.2
30	0	57.1	57.4
0	4	39.9	37.9
0	4	44.1	42.9
30	0	23.7	21.9
~~30~~	~~0~~	~~22.5~~	~~21.9~~
25	1	30.4	28.8
~~25~~	~~1~~	~~32.1~~	~~31.4~~

seeing pretty good

c. Above ~~much better~~
~~new bad~~

1876 Aug. 29 Obs. W.A.R. W.A.R.
 Aug. 30 Rec. J.T.M. J.T.M.

18 3 6 88 53 58 9.2

9.5

18 8 24 93 53 28 8.6

8.4

18 18 7 89 53 26 9.1

8.9

~~18 21 04 65 53 14 9.2~~

18 19 11 90 52 17 9.2

18 21 04 65 53 14 7.0

7.0

18 49 18 82 54 44 8.8

8.4

18 50 27 85 54 43 8.8

8.6

19 0 26 94 57 28 9.5

9.6

19 1 46 83 54 48 9.6

9.6

19 5 31 75 53 26 7.8

9.0

19 7 56 89 54 22 9.0

9.0

19 10 29 88 54 53 9.8

one stroke each S

8.9

Stopped on a.c.
 lost in. J. Taint

upper #

30 0 25.1 26.9

30 0 11.5 11.9

55 3 0.9 2.0

55 3 10.1 10.9

0 0 9.9 11.1

0 0 13.0 13.9

5 2 58.1 58.6

false stroke between 344m. 5 3 13.7 13.1

rej. A₊₁

10 2 6.0 6.8

10 2 21.8 21.9

40 1 21.1 21.1

40 1 21.6 21.4

40 2 35.6 34.9

reg. order. rej. 3rd stroke of 1st 40 2 27.8 28.4

55 3 1.1 1.9

55 2 48.1 48.5

35 3 5.9 5.4

35 3 5.4 4.9

0 0 45.5 45.6

55 4 49.9 49.4

0 3 53.3 53.2

0 3 39.5 39.1

lower 1st wirelost 1st wirelost 1st wire

account of extremely seeing
 t. Stars rather difficult to see. 30 1 57.4 58.1
 on account of phase 30 2 1.9 0.1

1876, Sept. 2
Sept. 3Obs. W.A.R. W.A.R.
Rec. J.F.M. J.F.M.

19	12	33	77	54	56	8.5
						7.9
19	15	29	90	54	00	8.9
						9.0
19	22	18	94	53	11	9.3
						9.3
19	26	25	83	54	55	9.32
						9.3
19	27	19	85	52	50	8.5
						8.3
19	28	11	91	52	23	9.3
						9.4
19	29	35	90	53	49	8.3
						8.2
19	30	46	89	53	11	8.9
						8.7
19	32	09	86	53	55	8.4
						8.5
19	33	08	85	53	5	~~8.5~~ 2 8.7
						8.6
19	33	59	79	52	01	7.6
						8.0
19	35	41	90	51	15	8.9
						8.9

25 4 29.8 27.2

25 4 25.7 24.5

25 0 24.1 22.9

20 4 54.9 52.8

10 4 42.6 39.1

10 4 41.0 38.6

30 0 31.9 29.5

30 0 40.6 38.9

35 0 11.4 10.1

35 0 12.1 10.9

0 2 42.5 40.7

0 2 42.7 41.0

35 1 40.9 37.9

35 1 27.3 26.5

10 4 36.2 33.4

10 4 38.0 36.5

30 0 11.7 9.1

30 0 15.1 13.9

20 0 31.0 29.4

20 0 37.9 36.4

25 0 10.6 8.9

25 0 15.1 14.5

10 0 52.0 50.1

10 0 55.2 54.9

new zero for sheet

Seeing pretty fair
Seeing pretty bad.

1876, Sept. 5 reg. Sept 5 Obs. W.A.R.
Rec. 7. m.

4 ~ 8 } 85 53 21
17 58 15

18 8 24 9.3 53 28

18 18 32 80 53 21 ~~8.5~~

18 21 17 9.1 53 45

18 49 18 8.2 54 44 8.4

50 27 8.5 54 43 ~~8.3~~
~~8.4~~

19 0 26 9.9 53 28

1 46 9.3 54 48

5 45 9.2 53 36 8.3

7 56 8.9 54 22 8.9

8 25 9.4 54 53 9.3

10 29 8.9 54 53 9.1
9.3

reg. order, 1 stroke

lost

lost

~~5 0 44.9 43.6~~

Current failed

~~40 1 23.1 23.5~~

for each S

~~40 2 37.1 35.5~~

not seen (sure)

not seen

~~45 4 49.2 46.8~~~~0 3 47.2 45.5~~

wrong #?

~~15 0 47.9 47.2~~~~30 2 5.1 4.0~~

1876 ~~Sept 5~~ Oct 2 ~~Oct 3~~ 1
 Obs. M.A.R. M.A.R.
 Per. J.T.M. J.T.M.

h m s
 19 12 33.77 54 56 ~~78~~ 8.3
 12 9.0 54 54.7 8.5

22 8 9.3 52 57 9.3 lost 1st wire
 21 446 52 55.4 9.5

~~26 25 9.3 54 55 9.0 2 2 2~~
 30 05 8.9 54 16 9.1 false streaked for

~~27 12 8.5 52 50 8.8~~
 30 58 8.7 57 33 8.6
 30 33.2 51 30.8

35 17 9.1 54 20 9.2 2 2 2
 34 92.9 54 77.8 9.1

35 58 9.2 51 109.3 lost 1st wire
 35 334 51 7.4 9.1

38 42 9.2 51 43 9.2 One reading reg. order
 38 16.0 51 40.7 8.7
 8.9

39 57 8.4 54 43 2 Aquilar
 39 32.6 54 40.7 8.3

42 23 8.6 54 43
 41 53.8 54 40.5 8.8

43 25 6.5 54 5
 43 0.7 54 2.9 6.5

44 27 9.3 51 9
 44 1.0 51 6.9 9.2

46 59 8.9 53 58 8.6
 46 34.7 53 56.0 9.0

false strike + rattle after S
lower + pr. #

25 4 16.1 20.1
~~25 4 10.5 8.4~~

25 4 7.7 11.3

30 0 26.9 31.5

30 0 15.8 19.9

10 0 30.9 34.9

10 0 31.1 35.1

50 2 57.2 1.9

50 2 54.1 59.1

5 0 36.7 39.9

5 1 9.3 12.2

15 1 29.1 34.0

15 1 4.5 9.4

40 2 56.0 0.4

40 2 40.4 44.6

lost

40 2 18.9 22.6

40 2 38.4 41.0

40 2 34.9 37.8

lost

20 0 12.4 16.1

lost

15 1 16.1 20.8

25 2 12.1 15.4

25 2 2.5 5.9

1 stroke for 2nd 8

1876, Oct. 2
Oct. 3

19	48	19	9.0	53	11	8.8
	47	54.5		53	9.0	9.0
19	50	45	9.3	54	20	9.4
	50	19.0		54	18.0	9.4
19	52	08	9.0	54	26	9.2
	51	42.4			23.9	9.0
19	53	56	8.0	54	40	8.4
	53	30.5			37.5	8.5
19	54	53	8.4	54	49	8.4
	54	27.7			46.2	8.4
19	55	41	8.5	54	49	8.0
	55	15.6			46.4	8.3
19	57	20	8.1	54	50	8.5
	56	14.4			47.8	8.7
19	58	25	9.0	54	41	9.0
	57	59.5			88.9	9.2
19	59	24	8.8	54	16	8.0
	58	58.5			13.9	8.2
20	0	59	7.9	54	6	7.5
	0	32.2			3.7	7.8
20	2	29	9.0	54	36	9.2
	2	2.4			33.9	9.0
20	3	48	8.0	54	16	8.5
	3	21.2			13.7	8.0

10	3	6.5	9.1
10	3	15.0	17.9
0	4	58.1	1.4
5	0	6.3	9.7
55	3	57.0	0.2
55	4	2.5	5.9
45	0	29.1	32.5
45	0	42.3	45.8
35	1	58.4	2.1
35	1	55.3	58.6
35	1	54.2	57.9
35	1	45.9	48.9
35	0	11.9	15.0
35	0	16.1	19.5
40	3	45.4	47.9
40	3	48.3	51.3
5	4	25.1	28.1
5	4	31.7	34.6
15	4	3.7	5.7
15	4	5.1	7.5
45	3	52.9	55.9
45	4	0.9	3.0
5	3	38.3	41.1
5	3	37.7	40.4

1876, Oct. 2
Oct. 3

20	4	30	8.5	54	56	9.0
	4	3.0			53.9	8.6
7	17	8.8	54	54	28.5	
6	50.4			51.2		8.4
8	4	8.8	54	3	8.7	
7	37.5			0.5		8.8
9	15	9.0	54	21	8.8	
8	48.2			15.2		8.7
10	20	7.0	54	44	6.1	
9	53.5			41.3		6.4
11	22	8.4	54	8	8.6	
10	55.7			4.6		8.5
12	33	9.1	54	16	9.0	
12	6.6			13.5		9.1
13	44	8.8	54	17	8.8	
13	17.8			13.8		8.8
14	51	8.9	54	8	8.7	
14	24.1			4.9		9.0
17	14	9.4	54	0	9.0	
16	47.8			5.3	57.4	9.1
18	27	8.4	54	58	8.4	
17	59.5			54.8		8.6
20						
18	44	6.7	54	15	6.6	
19	16.1			12.4		6.4

25 3 53.5 56.2

25 3 27.4 31.0

30 1 55.9 59.9

30 1 49.6 53.1

20 2 7.9 10.9

20 2 0.3 3.1

0 3 50.4 54.1

0 3 54.8 57.9

40 0 57.0 0.1

40 0 49.2 53.5

15 2 56.6 59.5

15 2 52.8 56.9

5 3 27.8 30.2

5 3 35.3 37.6

5 3 0.1 2.9

5 3 2.9 5.1

15 2 34.8 37.2

15 2 34.5 37.2

20 3 56.2 58.7

20 3 54.9 57.1

25 2 40.1 42.8

25 2 37.5 40.6

5 4 42.1 44.9

5 4 47.0 48.9

1876, Oct. 2
Oct. 3

20 21 27 9.9 55-01 7.7
20 59.7 54 58.4 6.4

22 26 7.9 54 43 8.3
21 58.2 39.9 8.3

23 26 8.5- 50 8 22.2

24 27 8.5 50 29

26 25 7.3 53 16 8.0
25 57.8 53 13.2 7.7

27 41 8.1 54 98.9 2.2
27 13.2 6.1 8.1 3.9 lost mid wire

28 17 8.2 53 41
27 49.3 53 37.9 8.2

29 41 6.8 54 01 7.4
29 13.5 53 57.3 6.9

31 00 8.4 54 8 9.4
30 32.8 5.2 9.1

32 17 9.0 54 8 9.1
31 49.6 5.2 9.1

34 6 8.4 53 25 8.7
33 38.5 53 20.7 8.2

36 0 8.5- 53 5.9 9.5
35 32.1 53 58.2 9.6 lost 1st wire

20 3 40.6 43.1

20 3 52.9 56.0

40 2 21.7 24.5

40 2 15.9 19.3

not seen

not seen

5 3 48.2 52.0

5 3 45.1 48.1

15 0 54.1 57.4

15 1 20.5 24.5

15 0 51.8 54.8

lost

40 4 9.0 11.3

20 4 10.3 12.9

20 4 18.5 20.9

15 1 46.5 47.9

15 1 46.4 49.1

15 1 33.1 36.1

15 1 38.5 41.0

0 1 15.6 19.4

0 1 5.5 8.3

25 1 55.5 58.9

25 1 43.4 45.7

lost 1st wire
 of 1st H. reg. order

tolerably good towards the last.

seeing variable

seeing, very good

1876 Oct. 10

Oct. 12

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

19 54 14 8.8 50 40 2.3
~~55 7.8~~ ~~16~~

53 73 7.2 50 19 7.8
~~55 7.8~~ ~~16.1~~ 7.0

56 48 9.0 50 26 9.2
~~5 21.2~~ ~~23.6~~ 9.2

57 24 9.0 51 30 9.2
~~56 58.5~~ ~~27.7~~ 8.8

58 51 8.5 51 51 8.7
~~58 2.57~~ ~~88.5~~ 8.8

59 55 8.0 51 22 7.82
~~59 29.7~~ ~~19.9~~ 7.8

0 45 8.7 51 24 8.72 2
~~0 18.4~~ ~~24.1~~ 8.6

1 37 6.2 51 28 6.0
~~1 10.8~~ ~~52.7~~ 6.2

2 52 5.9 52 47 6.5
~~2 24.0~~ ~~44.5~~ 5.5

4 37 8.6 51 21 8.8
~~4 10.6~~ ~~18.1~~ 8.5

5 56 7.8 51 18 8.3
~~5 29.8~~ ~~15.0~~ 8.0

6 59 5.2 51 25 9.1
~~6 32.5~~ ~~22.8~~ 9.2

lost
not seen

15	1	50.2	55.2
5	1	32.8	37.9
55	4	27.9	33.1
55	4	40.9	45.9
55	0	35.9	40.9
55	0	7.8	12.0
30	4	15.2	19.2
30	4	0.3	3.5
0	2	43.0	46.9
0	2	42.3	46.4
0	1	20.9	26.0
0	1	50.9	55.7
55	2	5.6	9.9
55	2	14.1	17.8
35	3	1.9	5.0
35	3	2.5	5.0
0	3	49.8	54.1
0	4	1.9	6.0
5	2	27.0	32.2
5	2	33.6	37.5
55	4	24.0	28.9
55	4	37.8	42.0

1876, Oct. 10

Oct. 12

1 8 12 8.2 51 17 7.7
 7 8.56 14.7 8.1

9 25 8.9 51 52 9.0
 8 8.81 98.0 9.0

10 27 9.1 51 31 9.0
 10 0.5 28.4 9.0

13 22 8.0 51 50 9.4
 12 5.5.3 47.0 9.4

14 27 8.0 51 44 8.6
 14 0.8 41.7 8.5

15 26 8.1 51 35 7.4
 14 5.9.1 31.4 7.0

16 24 8.5 51 5 8.9 reg. order.
 15 5.9.8 2.1 8.9

17 31 8.9 51 18 9.2
 17 4.8 14.6 8.6

19 3 8.8 51 43 8.8
 18 36.6 40.2 8.5

20 11 8.7 51 6 9.1
 19 44.3 2.5 9.0

21 27 9.1 51 22 9.1
 21 0.4 19.2 9.0

22 46 8.7 51 6 2.2

upper + jr. #

5 2 21.5 26.0

5 2 24.5 30.0

30 3 40.9 44.9

30 3 48.0 51.7

50 3 27.8 31.9

50 3 28.9 33.8

35 1 16.5 20.1

35 1 29.5 33.4

40 0 30.1 35.2

40 0 33.1 37.6

50 0 46.4 50.5

50 0 52.7 57.1

20 1 2.9 6.5

20 0 47.8 52.5

20 0 59.2 3.9

20 0 46.2 51.9

5 2 39.4 43.5

5 2 42.4 46.1

40 1 59.8 4.9

40 2 5.1 9.1

15 4 54.4 50.4

15 4 57.1 1.8

0 2 55.2 59.9

0 2 53.2 58.1

not seen

not seen

1876, Oct. 10

h ~ s mag o i
 20 23 27 8.6 51 35

24 38 8.5 51 15 8.3
 24 12.2 12.3 8.4

25 54 7.9 52 56 8.1
 25 27.6 52.5 7.4

26 56 8.8 52 34 9.0
 26 29.1 30.5 8.5

27 39 6.9 51 52 6.1
 27 12.5 49.1 6.5

29 34 9.0 50 14 9.0
 29 7.0 10.8 8.8

31 04 6.3 51 25 6.2
 30 36.8 21.6 6.8

32 39 8.8 52 52 9.2
 32 11.9 49.1 8.8

33 33 6.5 52 31 9.2
 33 5.8 28.1 6.4

34 22 8.8 50 39 2 2 2
 23 54.0 35.4

35 6 8.5 50 38 8.8
 34 38.4 34.7 8.7

36 s 9.4 50 41 2 2 2

not seen.
not seen

5	4	42.3	45.1
5	4	44.4	47.9
25	3	55.4	58.6
25	4	4.5	7.2
50	1	12.9	16.0
50	1	9.2	12.1
30	2	56.5	1.0
30	3	1.7	5.0
10	0	25.1	30.1
10	0	22.4	28.0
0	0	18.8	23.4
0	0	25.5	29.1
30	2	59.5	2.9
30	2	58.6	2.4
50	3	53.4	57.6
50	3	42.2	45.0

not seen (sure)
not seen

45	1	41.9	46.4
45	1	41.3	44.8

not seen (sure)
not seen

1876, Oct. 10
Oct. 12

h	m	s	mag.	0	1	2
20	39	59	8.7	50	14	9.0 22
	39	31.5			10.2	9.0

40	34	84	50	34	8.8
	40	5.9		30.2	8.8

41	30	9.0	50	19	9.2
	41	1.8		15.3	8.7

42	37	62	52	31	6.2
	42	9.2		28.0	6.5

43	39	8.2	50	17	8.0
	43	10.9		13.3	8.3

45	34	8.8	50	4	8.9
	45	6.0		0.6	9.0

46	~~32~~	~~9.1~~	~~53~~	32	9.2
					9.2

48	2	9.4	50	48	9.5
	47	32.7		44.7	9.2

49	55	9.0	54	58	9.1
	49	26.2		55.0	9.0

51	01	8.1	55	6	2 examine degree
----	----	-----	----	---	------------------

51	52	8.5	54	27	9.2
	51	23.6		21.8	8.5

53	19	9.3	50	34	9.5 lost 1 st wire
	51.2	49.8		30.4	9.0

false str. after S

10 0 56.4 0.9

10 0 58.9 3.9

50 1 22.0 27.4

50 1 25.1 29.9

5 1 37.5 41.7

5 ^{seen} 2 27.9 32.9

50 3 27.8 31.1

50 3 42.1 44.5

5 2 28.9 33.1

5 2 29.2 33.0

20 0 45.7 50.2

~~20 1 11.7 15.6~~~~50 4 46.5 48.2~~~~50 4 48.2 50.4~~

35 1 31.9 36.0

35 1 42.8 51.0

25 1 37.8 40.0

25 1 20.9 23.9

not seen

55 3 53.9 57.6

55 4 1.2 4.2

50 1 4.9 9.1

50 0 50.8 55.9

hazy

876, Oct. 10

Oct. 12

h	m	s	may	c	i
20	54	24	9.0	54	43
	53	59.4		39.3	

9.0

56	11	6.4	54	42	7.52	2
	55	46.0		38.9		

7.0

56	57	9.1	50	53	9.0	lower #
	56	28.0		49.1		

9.0

58	30	8.0	52	9	9.0
	58	1.7		57	8.4

59	52	8.3	53	26
	59	23.9		23.0

8.2
8.5

~~2.45 for~~
2.45 for

~~2~~	~~8~~	~~8.5~~	~~53~~	~~53~~
21	0	5.2	9.5	52
	0	21.7		21.7

9.6

2	8	8.5	53	53
1	37.0		49.7	

8.8

4	9	9.5	52	1
3	38.2		0.5	

6	0	8.6	52	33
	5	29.3		29.3

8.8

7	42	6.5	53	14
	7	11.1		9.7

6.9

8	35	8.0	53	22
	8	02		18.3

8.0

9	39	8.8	52	2
	9	8.4		51

8.6

Seeing good but hazy towards the last
not seen

40 1 59.6 2.7

40 2 11.3 13.5

40 2 13.7 16.5

30 3 56.1 0.4

30 3 51.9 56.1

15 0 35.0 38.5

15 0 32.1 35.9

~~55 2 47.0~~

55 2 53.8 57.7

55 4 34.9 38.7

30 4 13.1 15.7

too faint to obs.

50 1 33.4 36.9

10 1 40.1 41.9

0 2 54.0 57.1

20 2 23.5 27.8

Seeing variable but better towards the last.

1876, Oct. 15

Oct 16

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

h m s mag. c
20 43 14 7.7 52 18
4.7

44 16 9.0 54 39 8.8
43 48.5 36.2
9.0

45 34 6.3 50 50 22 6.7
45 9.9 46.6
7.0

46 15 7.8 52 6 7.5
45 46.6 2.8

47 28 9.0 51 26 9.1
46 59.8 22.4
9.2

48 32 9.0 52 10 9.0
48 37 6.9
9.0

49 55 9.0 54 58 8.8
49 26.2 55.0
9.1

51 49 8.9 54 3 8.9
50 50.4 53 57.1
8.4

52 19 8.5 50 14 5.8
51 50.2 10.4
6.4

53 19 9.3 50 34 9.0
52 49.8 30.4
9.3

54 27 8.9 52 58 22.2

55 00 8.9 52 25

lost

not seen

45 0 30.9 32.9

45 0 13.1 13.9

30 4 42.4 44.5

30 4 1.9 6.3

15 3 50.9 54.1

lost

55 3 52.2 55.9

55 3 52.2 54.9

10 4 35.4 36.1

10 4 48.0 50.2

25 1 51.8 53.0

25 1 34.9 37.0

20 4 43.5 43.0

sure 15 3 59.3 1.0

10 0 53.8 57.5

10 0 54.5 58.7

50 0 45.9 49.1

50 0 57.4 1.4

not seen

not seen sure

not seen

not seen sure

1876, Oct. 15

h = 16

~~57 41 8.0 52 41 minute?~~~~58 49 8.9 52 33~~~~59 50 9.0 52 13 9.0 sure~~~~1 26 8.8 52 23~~~~3 09 9.1 52 46~~~~4 28~~~~4 58 9.0 52 59~~~~5 52 9.4 52 28 8.4~~~~21 5 56 8.1 53 14 8.3~~

5 20.6

9.0

~~7 22 8.8 52 20 6.7~~~~7 42 6.5 53 14 7.4~~

7 11.1

9.4

~~8 58 9.5 55 01 9.3~~~~8 27.7 54 57.4 9.6~~~~9 56 8.7 57 25 8.7~~~~9 28.3 20.8 8.5~~~~11 11 8.2 50 12 9.0~~

10 39.6

8.2

~~12 15 9.0 50 44 9.0~~

11 44.0

40.2

40 3 54.9 55.2

not seen

10 0 27.4 30.0

10 1 47.9 48.5

10 1 45.9 47.1

10 1 47.9 48.9

10 1 49.7 52.1

20 3 38.1 38.2

20 3 49.1 50.1

0 0 12.1 13.9

0 0 17.6 20.5

10 2 13.6 15.1

not seen

40 3 15.3 17.7

lost 1st wire

Seeing good Stopped Clouds

1876 Oct. 15

Oct-17

New Home.

h ~ s' mag
21 13 36 8.3 51 31'

13 57

27.0

8.8

14 26 8.0 51 28 8.9

13 55.0

28.6

9.1

15 43 8.5 51 41 9.1

15 10.5

37.7

9.5

17 06 8.3 50 27 9.3

16 34.8

22.7

9.1

18 28 8.8 51 40 8.6

17 55.5

36.1

9.0

20 27 8.7 53 31 8.9

19 54.8

27.1

9.0

21 28 8.8 54 50 8.6

28 22.0

45.4

8.6

30 56 8.0 51 35 8.8

30 22.8

21.2

9.1

33 03 8.5 52 16 8.6

32 29.0

11.7

8.8

34 53 8.4 53 6 8.8

34 19.3

1.5

36 7 8.9 53 27 9.0

35 32.0

22.4

38 2 7.9 52 25 8.8

37 28.7

20.7

Recd.

not seen

50 3 7.1 9.4

35 1 17.4 19.1

55 1 30.2 33.1

40 2 56.0 58.9

40 3 8.8 11.6

55 2 51.8 55.1

55 2 50.5 53.4

40 4 17.4 19.2

40 4 20.0 22.9

50 3 50.1 50.4

50 3 53.0 55.4

30 4 41.9 41.9

30 4 30.1 31.8

45 4 3.5 3.9

45 4 1.0 3.4

5 4 10.4 11.0

5 4 8.1 9.0

15 4 3.4 3.8

~~15 4 0.1 1.8~~

55 3 4.8 5.1

lost clouds

55 4 38.1 38.6

876, Oct. 15

Oct 17

4	21	45	9	9.1	53	46	8.0
		44	33.8			41.7	8.8
							8.2

46	25	8.6	54	48	8.8
45	49.9			43.9	
					8.3

48	2	6.7	54	4	7.0
47	26.3			0.1	
					6.4

49	14	9.4	53	12	9.3
48	38.0			7.3	9.0
					8.9

50	33	8.4	53	6	8.1
49	57.8			1.8	
					8.8

51	52	8.3	52	49	8.1
51	16.5			44.9	
					8.4

53	00	8.8	52	12	9.0
52	24.0			7.0	
					9.0

54	13	6.8	54	59	
----	----	-----	----	----	--

55	28	7.5	53	29	6.5
54	31.5			24.8	
					8.0

56	56	8.4	53	22	8.5
56	19.1			17.0	
					8.6

2	6	7.9	52	31	8.5
1	28.0			26.2	
					8.6

3	6	9.3	52	55	9.3 several #'s in field
2	28.3			50.5	
					9.4

happy

2nd Spr lost 2nd & 3rd wire of 2nd #
 part #

35	3	15.4	14.9
35	2	56.6	58.2
35	1	25.0	26.7
35	1	26.1	29.7
15	4	56.1	56.4
20	0	8.9	11.2

2nd Spr repeat Reading

10	0	2.1	3.2
10	1	0.8	1.7
10	0	32.4	35.8
15	4	9.0	9.1
15	3	56.5	57.1
35	0	56.0	57.1
35	0	56.9	57.0
10	2	14.0	15.1
10	2	16.1	17.8

not seen

not seen (since)

55	0	11.9	13.1
55	0	8.9	11.9
0	2	6.4	7.9
0	2	17.0	19.2
50	3	56.2	58.0
50	3	57.1	53.5
30	2	8.6	9.5
30	2	2.0	4.8

seeing variable
 seeing bad

876, Oct. 18

Obs. W.A.R. W.A.R.

Oct. 19

Rec'd J.M.

mag's

70	9	88	84	50	15	222	8.6
----	---	----	----	----	----	-----	-----

10	15	6.5	52	44	222	7.0
----	----	-----	----	----	-----	-----

7.0

~~10~~	~~59~~	~~8.8~~	~~54~~	21		
---------------	---------------	----------------	---------------	----	--	--

~~8.6~~

8.8

12	36	9.0	50	48		
----	----	-----	----	----	--	--

9.0

9.0

13	34	9.3	50	11		
----	----	-----	----	----	--	--

9.5

9.5

14	47	9.5	50	15		
----	----	-----	----	----	--	--

9.5

9.4

15	47	8.7	50	50	2	
----	----	-----	----	----	---	--

8.5

8.4

16	30	8.7	50	51		
----	----	-----	----	----	--	--

8.8

8.8

8.4

17	40	7.5	50	56.7		
----	----	-----	----	------	--	--

8.8

19	20	8.6	52	59		
----	----	-----	----	----	--	--

8.7

7.3

8.3

6.9

20	24	8.8	50	35		
----	----	-----	----	----	--	--

9.3

8.9

21	13	8.8	50	36		
----	----	-----	----	----	--	--

9.0

8.8

Remarks

Circle Readings

15 0 51.1 54.8

faint comp. foll. $\frac{5}{2}$ below

40 1 47.2 49.9

40 1 56.2 58.9

~~0 4 22.0 25.2~~

0 4 26.8 29.5

35 2 3.7 7.4

35 2 2.8 5.9

10 4 30.9 34.9

10 4 43.1 46.4

10 0 44.5 46.9

10 0 31.1 35.9

35 0 21.9 26.1

35 0 28.9 32.8

reg. order
pr. #

30 4 20.9 24.4

30 4 53.9 58.9

30 4 32.9 36.4

not seen

25 1 14.9 19.1

40 0 35.4 38.5

reg. order.

reg. order

sure 25 0 35.8 40.5

(50 2 (sure 23.4 sure 57.0)

50 2 30.4 34.5

lower + pr. #

45 4 45.5 48.8

45 4 41.4 44.5

Oct. 18

Oct. 19

$$20 \begin{matrix} 15 \\ 44 \end{matrix} \begin{matrix} 92 \\ 5347 \end{matrix}$$

$$21 \begin{matrix} 17 \\ 7 \end{matrix} \begin{matrix} 90 \\ 5013 \end{matrix}$$

$$22 \begin{matrix} 22 \\ 90 \end{matrix} \begin{matrix} 5027 \\ 22 \end{matrix}$$

$$21 \begin{matrix} 6 \\ 77 \end{matrix} \begin{matrix} 5053 \end{matrix}$$

$$23 \begin{matrix} 27 \\ 86 \end{matrix} \begin{matrix} 5035 \\ 8.7 \end{matrix}$$

8.7

$$24 \begin{matrix} 45 \\ 86 \end{matrix} \begin{matrix} 5013 \\ 9.0 \end{matrix}$$

8.8

$$25 \begin{matrix} 574 \\ 77 \end{matrix} \begin{matrix} 5256 \\ 8.0 \end{matrix}$$

8.0

$$29 \begin{matrix} 56 \\ 90 \end{matrix} \begin{matrix} 5019 \\ 9.0 \end{matrix}$$

8.9

$$32 \begin{matrix} 39 \\ 8.4 \end{matrix} \begin{matrix} 5042 \end{matrix}$$

8.3

$$33 \begin{matrix} 18 \\ 90 \end{matrix} \begin{matrix} 5043 \end{matrix}$$

9.5

9.1

$$34 \begin{matrix} 22 \\ 88 \end{matrix} \begin{matrix} 5039 \end{matrix}$$

9.0

8.4

$$36 \begin{matrix} 59 \\ 9.4 \end{matrix} \begin{matrix} 5237 \end{matrix}$$

45 4 24.4 26.9

45 4 12.5 16.6

10 1 38.9 42.1

10 1 40.1 43.8

25 4 15.0 16.1

25 4 5.1 7.4

5 1 16.8 19.8

5 1 15.2 20.1

lost

40 3 0.1 36

~~40 2 52.4 56.2~~

~~40 2 52.4 56.2~~

40 2 33.6 37.9

~~45 1 6.9 10.1~~

45 1 23.9 28.1

not seen

not seen

new

Oct 18
Oct 19

20 38 19 9.3 52 58 8.7 reg. order
9.0
8.5
9.0

~~40 05 89 52 13 2.2~~
39 14 7.2 51 49 7.0
6.9

40 05 89 52 13 9.0

9.0

42 11 90 53 2 9.1

9.1

43 19 77 51 18 8.1 both?

6.5

44 28 90 53 30 9.0

9.0

45 30 6.6 53 45 2.2

6.5

6.4

46 15 78 52 6 7.3

8.0

47 45 80 53 36 7.5

7.5

48 34 84 54 20 8.8

8.3

49 55 90 54 58 9.0

8.9

51 01 81 54 6 8.0

8.3

new zero for sheet

25 1 50.1 52.5

25 1 45.5 47.6

35 0 29.7 33.3

35 0 34.7 37.9

10 2 14.1 16.3

10 2 14.5 18.9

20 3 15.4 17.9

20 3 11.2 12.6

5 0 49.5 52.4

5 0 50.0 54.2

55 0 0.8 3.9

50 4 55.5 59.9

40 0 0.9 3.1

40 0 2.8 6.1

15 3 42.9 44.9

15 3 44.8 46.8

~~45 4 17.2 19.0~~

45 4 17.2 19.0

45 4 9.2 10.7

0 4 27.1 28.1

0 4 27.2 29.5

25 1 20.7 21.6

25 1 52.9 54.9

15 3 51.9 52.9

15 4 1.1 2.0

Oct. 18
Oct. 19

20 52 40 90 53 27 9.0

9.1

54 13 6.8 54 59 58

70

55 31 88 52 9 9.0

8.8

56 59 8.8 52 41 8.9

9.0

58 82 86 52 16 8.5

8.8

59 52 83 53 26 8.0

8.1

8.2

8.3

0 52 9.5 52 26 9.8

2 08 8.5 53 56 8.7

9.0

3 34 90 54 18 8.9

9.0

4 28 95 52 44 10.0

6 12 78 51 54 8.2

8.0

7 35 84 57 30 8.5 seeing bad

8.5

55 3 18.2 19.9

55 3 27.0 29.9

25 0 58.9 59.9

25 0 46.2 48.2

15 1 30.5 32.9

15 1 29.5 32.6

40 3 27.4 30.1

40 3 22.0 24.4

5 3 41.1 43.1

5 3 30.5 32.9

55 3 2.9 3.9

55 3 1.1 4.0

55 4 42.4 44.3

too faint to obs.

25 4 16.3 17.2

25 4 12.2 14.1

5 1 8.1 9.9

5 0 58.8 1.9

35 3 2.6 4.4

too faint to obs.

30 0 53.9 56.9

30 0 33.9 37.9

55 0 7.8 10.1

50 4 57.6 2.4

2nd S for 1 stroke for each S

" " " " " " "

lost mid. wire $\Delta T = 12^s$

upper #

new zero for sheet

especially towards the last
seeing perfectly horrid

1876, Oct. 24

Oct. 25

O. H. M. A. R. W. A. R.
Rec'd T. M. C. f. 2. m.
$$\begin{array}{r} 21 \quad 36 \quad 38 \quad 75 \quad 54 \quad 45 \\ \underline{34 \quad 53 \quad 84 \quad 53 \quad 6} \\ 34 \quad 19.3 \quad 1.5 \end{array}$$

8.0

$$\underline{36 \quad 38 \quad 75 \quad 54 \quad 45}$$

8.0 #?

$$\begin{array}{r} 38 \quad 2 \quad 79 \quad 52 \quad 25 \\ \underline{37 \quad 28.7 \quad 20.7} \end{array}$$

8.2

$$\begin{array}{r} 40 \quad 06 \quad 7.7 \quad 54 \quad 47 \\ \underline{39 \quad 32.9 \quad 42.9} \end{array}$$

8.0

$$\begin{array}{r} 40 \quad 56 \quad 9.4 \quad 52 \quad 38 \\ \underline{40 \quad 21.9 \quad 33.8} \end{array}$$

9.5

$$\begin{array}{r} 42 \quad 48 \quad 8.7 \quad 54 \quad 27 \\ \underline{42 \quad 14.5 \quad 22.9} \end{array}$$

8.3

reg. order

$$\begin{array}{r} 43 \quad 49 \quad 8.8 \quad 53 \quad 31 \\ \underline{43 \quad 14.2 \quad 26.5} \end{array}$$

8.7

$$\begin{array}{r} 45 \quad 32 \quad 8.0 \quad 53 \quad 38 \\ \underline{44 \quad 56.6 \quad 33.8} \end{array}$$

7.2 pr. #

$$\begin{array}{r} 47 \quad 48 \quad 8.7 \quad 53 \quad 52 \\ \underline{47 \quad 12.6 \quad 48.0} \end{array}$$

8.9

$$\begin{array}{r} 49 \quad 27 \quad 8.7 \quad 53 \quad 41 \\ \underline{48 \quad 51.7 \quad 36.9} \end{array}$$

8.9

reg. order

$$\begin{array}{r} 50 \quad 41 \quad 8.0 \quad 53 \quad 34 \\ \underline{50 \quad 5.6 \quad 29.1} \end{array}$$

8.0

reg. order

$$\begin{array}{r} 52 \quad 13 \quad 8.7 \quad 52 \quad 57 \\ \underline{51 \quad 37.8 \quad 46.9} \end{array}$$

8.8

20 4 55.6 61.1

~~35 3 34.5 39.3~~

0 0 10.6 14.5

~~55 4 42.8 48.0~~

35 2 32.4 34.9

~~35 2 13.1 18.1~~

45 1 40.9 44.2

~~45 1 29.0 34.6~~

55 2 31.9 34.5

trouble with ch.

50 3 39.0 42.3

Trouble with ch.

long calttr

45 1 15.1 17.9

~~45 1 33.9 39.1~~

30 2 25.5 28.6

~~30 2 7.1 11.9~~

40 3 53.8 56.6

~~40 3 47.6 53.8~~

50 0 46.1 49.5

~~50 0 37.0 43.9~~

30 3 49.5 52.9

~~30 3 39.0 43.6~~

Oct. 24, 1876

Oct 25

21	53	17	8.9	57	56	29.0
	52	47.9		52.0		

54	11	8.5	53	37	82.2
	53	34.2		32.9	

56	1	9.0	53	33	9.1	reg. order
	55	24.0		28.3	9.1	

57	5	9.0	52	19	8.9
	56	28.0		14.7	9.0

~~59~~	~~30~~	~~9.0~~	~~52~~	~~2~~
2	25	9.0	54	32

~~22~~	~~0~~	~~24~~	~~9.0~~	~~54~~	~~3~~	~~9.0~~
	3	33	8.9	51	42	8.8
	2	55.9		37.5		

~~2~~	~~25~~	~~9.0~~	~~54~~	~~32~~	~~8.9~~
	5	38	9.0	52	45
	5	0.3		40.4	

7	40	7.5	54	28	26.5
	7	2.0		23.1	

8	34	8.0	54	40	7.0
	7	56.8		35.7	

9	41	9.2	54	48	9.0
	9	3.2		43.3	

11	14	8.2	54	11	8.0
	10	36.0		6.6	8.0

12	15	8.8	54	10	8.8
	11	37.8		5.8	8.8

several #'s in field

25 3 26.8 30.9

25 3 4.0 8.9

45 2 1.4 4.4

45 1 50.9 56.6

1 stroke each S. same R.A.

50 1 8.5 11.1

50 1 48.8 57.8

50 1 12.9 18.9

50 2 14.1 18.7

5 0 2.1 5.3

5 0 10.1 15.4

not seen (sure)

new zero for shut

40 0 9.9 13.9

40 0 17.0 23.8

35 4 8.6 11.0

lost

55 1 48.5 51.1

Ch failed

40 4 5.8 8.2

Ch failed

35 1 30.8 34.4

Ch failed

10 3 35.9 38.9

10 3 28.1 33.5

10 3 46.0 47.9

10 3 52.5 57.7

East Ch.

1876, Oct. 24

Oct 25

22 13 55 9.5 54 38 9.3
 13 176 330 9.3

15 41 8.0 54 12 2 7.0
 15 3.3 7.9

16 31 8.8 54 35 2 8.2
 15 53.5 30.5 6.9
 9.0

17 22 8.7 54 9 8.7
 16 44.2 9.3 8.7

18 37 9.2 54 36 9.2
 17 59.0 31.1 9.0

19 34 8.4 54 13 8.0
 18 56.1 8.0 8.5

20 52 8.5 55 2 8.8
 20 13.2 54 56.7 8.7

22 11 9.0 53 50 9.0
 21 32.3 44.8 8.8

24 21 6.5 53 35 7.0
 23 41.8 30.1 6.0

25 41 8.7 53 38 8.9
 25 1.0 32.9 8.4

27 56 9.0 53 29 9.0
 27 16.1 24.3 8.8

false streak

Seeing part of the time tolerably good.

45 1 38.3 40.9

45 1 23.2 29.8

10 2 50.4 53.5

10 2 30.9 36.3

45 3 59.1 2.2

45 3 53.6 58.9

15 0 41.3 43.9

15 0 43.2 48.3

45 3 33.3 35.6

45 3 27.3 31.9

10 1 44.2 47.6

10 1 41.4 47.5

20 3 9.9 12.9

20 2 55.1 0.2

30 4 52.0 55.4

30 4 44.9 48.7

45 4 18.7 21.2

45 4 15.4 20.0

45 1 15.5 18.6

45 1 6.4 11.1

55 0 36.0 39.9

55 0 35.4 41.8

like and rather after 8
 seeing good at first, but very bad towards the last.
 part of the time very bad

1876, Oct. 29

Oct. 30

h m s ny, v

21	33	15	8.1	50	55	8.5
	32	40			51.0	9.0

35	20	88	51	36	22
----	----	----	----	----	----

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

36	7	8.9	53	27	8.6
35	32.0			22.4	8.5

38	31	7.6	53	11	8.0
37	56.7			6.4	8.0

40	56	8.4	52	38	9.3
40	21.9			33.8	9.3

41	42	9.4	54	56	9.6
40	80			51.8	

42	48	8.9	54	27	(8.7 Double!) reg. order
42	14.5			22.9	pr. #
					8.8

50	3	8.3	52	54	7.7
49	27.6			49.6	

51	1	9.4	52	52	9.1
50	25.8			47.7	9.2

53	10	8.7	50	43	9.0
52	33.6			38.3	9.0

55	3	9.0	54	12	8.92
54	27.7			7.9	8.9

55	48	9.1	54	58	8.8 prob. wrong #
55	12.9			53.3	9.2

2 ¹ ₅	4	3 ¹¹ _{9.1}	4 ¹¹ _{5.1}
30	0	9.1	14.9

not seen

not seen

55	2	58.9	3.0
----	---	------	-----

55	3	0.8	5.5
----	---	-----	-----

10	3	44.7	48.8
----	---	------	------

10	3	3.5	7.2
----	---	-----	-----

45	1	31.8	35.9
----	---	------	------

45	1	24.4	29.9
----	---	------	------

25	3	42.9	45.9
----	---	------	------

lost

55	3	0.9	5.5
----	---	-----	-----

55	3	0.9	5.5
----	---	-----	-----

55	2	26.2	31.3
----	---	------	------

30	0	2.8	7.9
----	---	-----	-----

lost

30	2	38.7	43.0
----	---	------	------

30	2	3.2	6.9
----	---	-----	-----

40	0	46.5	53.6
----	---	------	------

40	0	54.5	1.4
----	---	------	-----

10	2	45.1	49.4
----	---	------	------

10	2	25.5	31.2
----	---	------	------

10	2	36.4	40.5
----	---	------	------

25	1	56.7	1.5
----	---	------	-----

20	4	55.0	0.8
----	---	------	-----

1876, Oct. 29

Oct. 30

21	56	43	9.0	54	45	8.8
	56	7.0		41.0		8.5
	58	52	9.1	52	27	8.8
	58	146		226		9.0
22	0	48	9.3	52	35	9.0
	0	105		301		8.9
2	42		6.2	52	40	5.0
	2	41		305		5.8
3	38		9.5	54	54	9.4
	3	0.8		498		9.4
8	02		9.0	53	27	8.9
	7	229		228		9.0
						lost 1 st wire
9	27		9.2	53	54	8.8
	8	497		495		8.9
10	14		9.2	53	52	9.1
	9	363		476		9.1
11	6		9.8	54	2	7.0
	10	271		52	56.9	8.0
						lost 4 th wire
13	3		8.9	51	26	9.0
	12	245		223		9.0
14	8		8.5	51	29	8.4
	13	294		237		8.8
16	35		8.5	53	25	

35 4 22.8 26.8

35 4 27.4 32.2

55 3 11.2 15.9

55 3 2.3 6.9

45 4 53.1 57.8

45 4 44.9 50.1

40 3 57.5 1.5

40 3 58.1 3.4

30 0 21.5 26.2

30 0 19.3 25.9

55 2 14.0 18.2

55 2 37.2 40.7

30 0 11.3 15.8

30 0 25.2 31.0

30 2 39.6 43.5

30 2 59.1 3.1

20 2 59.0 3.1

20 3 19.4 23.4

55 2 24.6 30.9

55 2 18.6 25.0

55 1 6.1 11.4

55 1 10.6 16.1

not seen

not seen

1876, Oct. 29

Oct. 30

h v s my o ' 1

~~22 18 31 91 50 43~~

9.1 several #'s in the field

22 17 36 99 57 13

9.0

16.587

7.9

18 31 91 50 43

9.4

17.534

246

9.1

19 32 89 57 26

8.8

18.541

20.8

8.9

21 02 87 50 11

8.9

20.214

6.0

9.1

22 25 80 57 19

7.8

21.472

1.39

8.2

23 46 92 57 26

9.2-2

20.75

21.0

9.5

24 20 80 51 50

7.42

23.470

45.2

25 14 88 53 45

8.322

24.341

39.7

9.0

~~27 14 65 53 22~~

8.2

26 9 82 50 28

25.30.8

22.7

8.8

27 14 65 53 22

6.8

26.343

16.8

6.6

28 14 93 52 36

9.1

27.341

30.7

9.3

30 07 90 53 00

—

29.274

52.553

8.9

ld ha.

10	1	56.4	1.5

10	1	42.4	47.9
----	---	------	------

40	2	40.1	46.1
----	---	------	------

40	2	40.6	45.0
----	---	------	------

55	3	48.0	53.3
----	---	------	------

55	3	55.1	1.4
----	---	------	-----

10	3	36.8	41.7
----	---	------	------

10	3	37.8	44.0
----	---	------	------

5	0	22.5	28.2
---	---	------	------

5	0	19.8	27.3
---	---	------	------

55	3	41.1	45.7
----	---	------	------

55	4	13.9	19.5
----	---	------	------

30	4	48.6	56.9
----	---	------	------

lost

40	0	4.1	8.8
----	---	-----	-----

40	0	20.1	25.9
----	---	------	------

55	1	42.8	48.1
----	---	------	------

55	1	52.7	59.1
----	---	------	------

0	2	8.8	11.9
---	---	-----	------

0	2	10.6	15.5
---	---	------	------

45	3	57.7	1.9
----	---	------	-----

44	4	12.8	17.9
----	---	------	------

20	4	29.2	33.2
----	---	------	------

seeing pretty good

seeing very good, except towards the last

20	4	23.5	28.7
----	---	------	------

1876, Oct. Nov. 4

h m s. Nov. 5

Obs. W.A.R. W.A.R.

Rec. J.T.M. J.T.M.

22 16 16 8.8 54 4 8.8

~~15 44~~
36.8

53 59.3 9.1

18 38 8.7 53 11 8.6

18 54

5.6

8.8

19 33 8.9 54 4 8.7

19 48

53 58.3

9.0

20 40 9.0 53 26 8.4

20 52

20.8

8.9

21 35 8.5 53 59 8.7

20 55

54.0

8.9

22 16 9.3 54 1 9.5

21 36.9

53 36.2

9.6

24 26 8.7 53 27 8.5

23 46.7

21.2

8.8

25 41 8.8 54 14 8.3

25 17

9.2

8.7

26 56 9.0 54 47 8.8

26 16.1

82.1

8.9

28 05 8.4 54 26 8.5

27 25.7

20.9

8.6

29 4 7.3 53 25 7.5

28 24.2

19.9

8.3

30 12 8.9 53 45

~~29 32.1~~~~35.9~~

20 0 3.0 8.2
20 0 18.4 24.2

several #'s in field, rej. 1st #

~~10 4 11.9 16.4~~
10 3 55.4 0.7
10 3 51.6 56.5

20 1 26.8 31.9

20 1 34.1 38.6

55 3 45.0 50.9

55 4 4.9 9.9

25 0 30.4 40.3

25 0 51.4 56.9

20 3 49.1 54.1

20 3 57.6 2.0

55 3 0.6 6.1

false stroke + catch after 8 55 3 4.9 8.6

10 0 17.9 24.1

10 0 21.1 26.2

35 2 7.6 12.7

35 2 20.0 24.8

55 3 24.9 30.5

55 3 42.4 46.8

55 4 18.5 22.9

55 4 26.0 31.5

not seen

not seen

1876, Nov. 4

Nov. 5

h m s

22 31 8

30 27.1

8.9

54

27

2.13

9.0

9.1

8.9

9.0

9.3

8.8

6.0

8.9

8.8

5.5

8.9

8.9

8.5

8.8

6.6

6.7

9.1

8.9

8.6

8.6

8.2

8.4

83

9.0 on paper + foll. #

32 16 9.1

31 85.8

54

28

22.8

33 10 9.4

32 29.5

54

20

19.4

34 34 9.1

33 53.9

54

19

13.6

35 38 8.7

34 57.9

54

21

15.3

37 7 6.0

36 25.9

53

14

8.8

38 59 8.5

38 17.5

54

55

49.6

40 14 8.9

39 32.3

54

16

10.7

41 16 9.1

40 34.3

54

12

6.6

42 57 9.0

42 15.3

53

21

15.9

44 24 8.4

43 42.4

53

59

54.4

45 49 8.5

45 6.2

53

14

5.8

4 stars in field

55 4 56.4 2.8

55 4 59.5 5.1

55 2 12.2 17.2

55 2 12.1 16.1

5 0 17.2 23.1

~~5 0 10.8 15.3~~

too faint to obs.

5 0 38.1 43.1

5 0 37.7 41.9

0 3 49.8 55.1

0 3 40.9 45.4

10 0 20.3 26.8

10 0 15.5 20.9

25 4 42.0 45.2

25 4 45.4 50.1

5 3 15.5 20.7

5 3 9.9 12.8

10 2 58.2 3.0

10 2 52.7 57.9

0 2 56.4 1.2

0 3 6.2 10.2

20 4 39.6 43.6

20 4 38.9 42.7

10 0 10.2 15.4

10 0 13.8 18.6

1876 Nov. 4

Nov. 5

22	46	52	87	53	45	9.0
	45	52.9			40.1	9.0

48	3	95	53	19	9.5
	47	19.8		14.0	9.5

pr. #

48	55	85	54	44	8.2
	48	12.1		37.7	8.3

50	29	80	53	34	8.3
	49	4.8		28.7	8.1

52	0	8.5	53	22	8.4
	51	16.6	7.7	17.1	9.0

53	50	9.2	52	21	8.8	a ^{mag} 9.1 Jollis.
	53	7.2		15.6	8.8	

55	19	90	53	14	9.1
	54	35.1		13.4	9.3

56	15	90	54	4	9.0
	55	30.9		53	38.7
					9.1

57	2	89	53	29	2.2
----	---	----	----	----	-----

57	51	7.5	52	37
	57	8.0		31.3

58	56	8.5	52	16
----	----	-----	----	----

1	49	8.6	54	10
---	----	-----	----	----

35	3	50.6	55.1
35	3	52.8	57.9
5	0	28.0	34.6
5	0	37.7	42.1
40	1	16.4	22.8
40	1	23.1	27.9
50	0	37.4	42.2
50	0	35.4	40.2
0	2	19.1	24.1
0	2	14.2	18.1
0	3	37.2	42.1
0	3	36.0	40.0
5	0	27.5	33.1
5	0	29.4	34.5
20	0	35.9	41.9
20	0	35.1	40.5

lost

" lost

" lost

"

seeing very good.
seeing very bad

not seen

"

1876, Nov. 12
Nov. 13Obs. M. A. R. W. P. R.
Rec'd. J. M. J. M. close

22 27 17 8.2 54 32

8.8 faint, comp. pr.

28 12 8.8 54 6

8.7
8.3

8.9

9.0

30 12 8.8 53 45

8.8

8.0

31 5 9.2 54 25

8.9

lower pr. of

8.7

32 20 8.8 54 35

9.3

9.5

33 8 8.0 54 54

8.8

9.6 an 8.8 pr.

34 47 9.5 53 19

9.4

9.2

36 11 8.8 53 24

8.7

8.8

37 11 9.3 53 34

7.5

7.3

39 20 9.0 53 35

9.0

8.9

40 44 9.0 54 11 22 8.8

8.8

9.0

41 20 8.9 54 15

8.9

9.0

$\frac{5}{2}$ above
Mean S & R.A.

50 2 33.8 36.9

50 2 19.0 24.4

15 3 37.9 40.6

15 3 30.2 34.9

40 4 0.9 4.8

40 4 53.6 58.5

Epstars, probably wrong

0 1 52.3 57.0

0 1 52.2 57.1

50 3 94.2 48.1

50 3 39.3 42.0

30 0 58.7 2.9

30 0 41.4 45.9

35 0 51.4 54.1

35 1 0.9 5.3

0 0 7.7 11.4

0 0 9.0 12.2

50 0 0.9 4.9

50 0 4.9 9.4

45 4 8.6 11.4

45 4 14.6 18.1

10 3 22.3 26.1

10 3 45.3 49.7

several stars in field lost

~~10 0 35.4 39.9~~

1876, Nov. 12

h m s.13.13 ny. 0 1

22 43 29 6.0 53 44 6.0

6.4

44 29 8.1 53 22 8.0

8.0

45 56 9.0 53 37 9.0

~~8.8~~47 6 8.4 55 00 8.4 *Piscis*~~8.4~~

52 28 8.3 53 57 8.5

8.5

54 37 8.9 54 48 8.9

9.0

55 21 7.7 53 37 7.2 *Pegasi*

7.7

23 ~~5 26~~ ~~7.2 52 22~~ 8.4
3 50 8.1 53 54 8.56 21 ~~8.1 52 29~~ 7.8

5 26 7.2 52 22 7.4

6 29 8.4 53 50 (9.3 sure)

8.4

9 00 8.5 53 14

9.0

10 58 9.0 53 44

9.0

40 0 24.0 28.3

40 0 23.1 27.9

0 3 8.9 12.2

0 3 3.0 7.2

45 1 54.2 57.8

~~45 1 50.4 55.1~~

20 4 36.1 38.5

~~20 4 37.1 40.5~~

25 1 58.5 57.9

25 1 43.3 47.5

35 1 16.1 20.4

35 1 31.7 35.9

45 2 4.9 8.6

45 2 3.3 6.6

30 0 18.4 22.1

30 0 25.0 29.9

0 2 56.0 0.0

0 2 43.8 48.1

clouds

30 4 14.9 17.7

30 4 0.9 4.7

clouds

not seen

10 0 26.1 31.1

clouds

40 2 14.9 17.9

1876 Nov. 12

4 ~ Nov. 13

23 12 3 85 53 43 222

9.1

12 41 88 53 42

9.3

14 7 93 58 42

9.5 lost 1st wire

15-11 99 54 58 222

9.3

15-50 80 54 7 —

8.0

16 49 79 53 32

8.0

17 47 87 54 55 8.8

8.9

19 3 7.5 54 23 8.2

7.7

20 11 7.9 54 10

7.7

21 12 9.0 54 6 (8.2 wire)

8.9

22 22 9.1 54 39 9.0

9.1

23 16 7.8 54 27 7.2

7.7

clouds

40 4 54.9 57.9

clouds

40 2 54.1 58.4

clouds

25 0 4.4 9.2

clouds

25 1 35.3 40.3

15 2 45.7 49.4

15 2 8.1 10.4

50 3 31.1 34.9

50 3 25.6 29.3

25 4 35.2 38.4

25 4 32.1 36.0

0 1 49.2 52.5

0 1 35.6 39.9

clouds

not seen

15 3 51.6 54.9

15 3 45.3 48.9

45 1 39.1 42.3

45 1 34.9 38.2

55 3 52.8 56.6

55 3 54.5 58.2

1876, Nov. 12

h = 50 mg. c'

232428 845343

9.5

91

zoll. + upper

25 40 80 53 53

9.3

26 39 85 55 4 8.0

18.0

79

27 37 80 58 49 812

8.2

8.2

29 33 88 53 32 287

87

90

3010 84 53 46 8.4

8.4

8.3

81 27 89 54 14 8.9

8.9

9.2

32 24 85 54 6 8.3

8.3

86

34 33 79 54 26 7.2

7.2

8.7

36 15 83 53 54 8.7

8.7

8.5

38 16 7.7 5-24 47 7.8

7.8

7.8

38 47 9.0 54 37 ~~8.8~~

~~0.8~~

89:0

#P

40 2 5.0 7.5
 40 3 54.9 58.2
 30 3 27.1 30.9
 not seen

20 0 53.9 57.5
 20 0 57.4 1.9
 85 1 23.5 26.9
 35 1 30.4 34.1
 50 3 13.9 17.5
 50 3 22.0 26.1
 35 4 14.4 17.8
 35 4 41.2 44.2
 10 0 15.9 20.4
 10 0 15.1 18.7
 15 3 53.9 57.4
 15 3 50.4 54.4
 55 3 20.2 24.9
 55 3 29.9 33.9
 30 1 9.6 11.9
 30 1 14.9 18.3
 85 2 46.9 49.6
 35 3 20.0 24.0
~~45 3 53.4 56.5~~
 45 3 47.1 50.5

indeed
 seeing very good
 seeing pretty good

1876, Dec. 5

L Dec. 19

Obs. W.A.R. W.A.R.
Rec. J.T. Mc J.T. Mc.

0	3	25	84	50	5	22	8.8
	2	84.5			00		9.0

4	6	86	50	28		8.5
3	154			225		9.0

5	10	85	50	46		8.7
4	190			406		

6	7	80	50	46		8.3
5	169			410		

7	32	87	52	51	2	8.4
6	328			457		

8	26	73	52	42		
---	----	----	----	----	--	--

10	56	78	53	00		7.9 a very
10	37		52	54.3		8.8

12	13	9.1	52	35		9.0
11	207			296		9.1

14	30	9.3	52	24		9.0
13	383			188		9.3

15	42	9.0	52	22		8.9
14	496			167		9.1

17	11	8.7	50	11		8.7
16	203			55		9.0

18	8	84	50	1		7.8
----	---	----	----	---	--	-----

17	174		48	555		8.6
----	-----	--	----	-----	--	-----

15	4	10.0	11.9
----	---	------	------

~~15~~	~~4~~	~~17.0~~	~~17.9~~
---------------	--------------	-----------------	-----------------

55	1	55.9	58.9
----	---	------	------

~~55~~	~~1~~	~~57.9~~	~~0.1~~
---------------	--------------	-----------------	----------------

35	4	11.6	12.8
----	---	------	------

35	3	30.1	32.8
----	---	------	------

lost 1st wire

30	3	54.9	56.5
----	---	------	------

not seen sure

faint comp. foll. $\frac{1}{2}$ sec. above 20

20	4	48.1	48.9
----	---	------	------

20	4	32.5	32.9
----	---	------	------

45	4	24.8	26.9
----	---	------	------

45	4	22.1	23.1
----	---	------	------

0	0	2.0	4.1
---	---	-----	-----

55	4	58.7	58.9
----	---	------	------

0	2	5.6	7.9
---	---	-----	-----

0	2	7.9	6.9
---	---	-----	-----

10	3	34.8	35.9
----	---	------	------

10	3	32.1	32.5
----	---	------	------

20	3	33.7	36.5
----	---	------	------

20	3	27.9	29.8
----	---	------	------

1876 Dec 5
Dec. 19

0 19 32 90 53 48	8.7
	8.9
0 20 29 90 53 22	8.7
	8.7
0 21 36 8.7 52 14 L	8.7 #?
	8.6
0 22 27 8.7 52 37	8.7
	8.4
0 24 01 8.9 52 55	9.4
	9.3
0 25 20 8.8 53 15 L	8.5
	8.8
0 26 11 9.0 53 16	8.7
	8.5
0 27 8 9.3 53 22	7.0 sure
	6.8
0 28 22 7.1 53 30	6.8
	7.0
29 35 9.4 53 58	9.4
	9.5
31 35 9.0 53 51	9.0
	9.1
33 48 9.2 52 6	9.1
	8.9

rej. md. wire

Rj 5th 2_w✓

		E	G
35	1	24.9	25.9
35	1	24.1	24.4
0	2	58.9	59.3
0	2	58.5	58.9
5	0	24.8	27.1
5	0	4.2	4.1
40	4	16.9	16.8
40	4	18.6	17.6
45	4	29.4	31.0
45	4	22.3	22.3
10	0	33.5	35.1
10	0	22.1	21.9
5	3	48.2	48.4
5	3	47.9	45.2
0	3	14.2	14.2
0	3	13.0	10.9
50	4	55.1	55.5
50	4	36.5	36.0
25	1	34.9	35.8
25	1	42.8	41.4
30	3	46.3	46.2
30	3	39.8	37.9
15	3	14.4	15.9
15	3	17.0	16.1

1876, Dec. 5
Dec. 19

42	43	8.7	52	11	9.0
					8.5
46	40	9.0	52	24	9.1
					9.0
48	27	9.0	53	59 22	9.0
					8.9
49	17	8.9	52	39	9.0
					9.0
50	18	8.2	52	52	8.0
					8.0
~~52 35~~	~~8.5~~	~~52 33~~			8.8
51 33	8.9	53 56			9.0
52 50	8.8	53 29			9.0
					9.0
54 1	8.9	53	7		8.7
					8.6
54 56	8.5	53 33			8.8
					8.8
56 29	8.6	52 10			8.8
					8.7
					8.6
57 31	8.8	52 45			8.7
					8.6
58 33	9.0	54 5			8.9
					8.7

below
a very faint comp. pr.

10	3	54.2	56.9
10	3	47.4	46.5
0	0	11.5	12.9
0	0	14.5	14.1
25	0	44.9	45.6
25	0	50.6	49.4
45	0	22.1	23.7
45	0	20.5	20.3
30	1	35.3	36.9
30	1	31.9	32.1
25	2	38.2	39.0
25	2	43.5	41.1
55	0	8.0	9.9
55	0	5.5	5.1
15	1	40.6	42.1
15	1	39.7	39.1
50	0	57.9	58.8
50	0	53.0	51.9
10	3	52.1	54.0
10	3	52.1	54.0
10	3	53.0	52.3
10	3	53.0	52.3
35	4	50.4	51.0
35	4	46.2	45.4
15	4	31.1	31.1
15	4	33.4	33.1

1876 Dec 5
Dec. 19

1 0 44 6.8 53 32

7.0

6.8

2 2 8.6 53 56

8.7

8.8

2 59 8.8 53 37

9.0

9.0

3 56 8.7 52 2 2

8.8

8.5 #?

5 44 9.0 51 55

8.8

8.7

7 32 8.7 52 29

~~8 26 7.3 52 42~~

Polaris.

~~9 11 9.1 52 5~~

24 34 8.6 54 4

25 29 9.1 53 12

9.2

9.0

27 28 8.7 54 4

8.8

8.8

28 21 9.0 54 3

7.3

7.5

29 29 8.1 53 27

8.0

8.5 seeing pretty b

50	1	46.3	47.4
50	1	49.3	47.9
25	2	59.9	60.1
25	2	58.1	57.0
45	2	5.6	6.1
45	2	4.8	3.3
20	2	59.2	0.4
20	3	1.5	0.3
25	4	35.9	36.9
25	4	30.0	30.0
~~25~~	~~4~~		

not seen

not seen

lost

10	3	11.1	11.9
10	2	44.2	43.0
15	4	56.3	56.5
15	4	53.5	51.4
20	2	20.4	21.1
20	2	33.9	32.1
55	2	30.7	31.9
55	2	13.0	11.8

seeing moderately good
 bad at 1st half - tolerable
 good towards the end.

1876 Dec. 6

Dec. 23

O.H. M.A.R. W.A.R.
R. J. M. J. M.h 30^m 40^s 8.3 54 59

31 56 8.2 54 25

8.5

8.6

34 0 9.2 53 28

not seen

9.3

35 17 8.8 54 33

9.0

8.8

9.0

36 42 8.4 54 31

8.5

8.2

37 44 8.5 54 42

8.8

8.7

39 5 8.6 55 2

8.6

8.5

40 3 8.0 55 3

8.2

8.3

41 37 9.2 54 14

9.1

9.2

42 54 8.4 54 46

8.1

8.0

43 50 9.0 54 45

9.0

9.0

45 18 8.6 54 58

6.8

6.8

not seen

55 4 31.9 32.0

55 4 30.5 29.7

lower + foll. #

55 2 1.8 1.8

50 0 4.1 5.2

50 1 43.1 43.9

50 0 10.5 10.6

50 1 42.0 40.8

50 4 6.1 4.8

50 4 0.8 0.0

40 3 32.4 32.5

40 3 31.9 31.2

20 2 22.2 23.9

20 2 33.1 32.7

20 0 58.6 59.8

20 0 50.1 48.9

10 0 49.8 49.4

10 0 56.9 56.2

35 3 32.9 33.4

35 3 34.6 32.9

35 3 49.9 49.9

35 3 52.3 50.5

25 1 52.4 53.0

25 1 54.2 54.1

1876, Dec. 6
Dec. 23

1 46 22 9.0 54 7

9.0

9.0

47 13 8.0 54 57

8.0

8.4

48 21 9.2 54 44

9.1

9.1

50 17 7.6 54 18 E

8.0

7.7

51 6 9.0 54 12

8.8

9.0

53 25 9.0 54 10

8.8

8.8

54 34 7.9 54 37

7.7

8.0

55 27 9.3 54 57

9.3

9.4

56 24 8.9 55 1 2

6.6

6.3

57 15 8.9 54 19

9.0

9.0

59 43 9.2 54 38

9.3

9.4

1 14 8.5 54 53

8.8

8.8

15 4 9.6 9.2

15 3 59.9 58.1

25 3 1.0 0.9

25 3 3.9 1.9

40 0 13.0 13.0

40 0 15.1 14.1

25 2 42.6 41.3

~~25.2~~ 25.2 29.4 28.5

10 3 3.8 3.9

10 3 23.9 25.1

10 4 13.2 13.2

10 4 31.4 30.5

45 2 52.7 51.6

45 3 0.9 0.1

25 3 22.0 21.4

25 3 15.5 16.4

20 4 23.9 24.7

20 4 34.1 32.2

5 1 10.0 10.1

5 1 13.6 13.0

45 2 14.4 13.8

45 2 22.8 21.2

30 2 1.9 2.2

30 2 8.1 8.1

seeing very good
seeing very good

