

KG
11365
26

A.26

Transit Circle.
New Group of Five wires.
from February 17th 1857
to Sept 21st 1857.

From Feb 17th to March 4 1857 Copied from
another Book

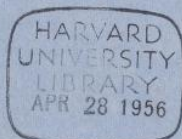
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1857 phase proj. 269



KG 11365.26

KG 11365,26



Lamp West.

Assumed corrections.
from meridian marks.

1857.

Feb. 17-18

 $a_2 = .24$
 $b_2 = .29$
 $c_2 = .03$

22.

 $a_2 = .20$ $b_2 = .24$ $c_2 = .05$

W.C.B.

R.F.B.

Antares	D's limb.	α Lyrae.	57. Cephei.	α Can. maj.	E Can. maj.
16.. 20.. 23.0	16.. 54.. 46.2	lost.	6.. 29.. 52.2	6.. 38.. 33.9	6.. 52.. 43.0
27.0	50.3	lost.	31.. 08.0	37.4	47.0
-26.07 30.7	-26.25 54.3	lost.	32.. 20.1	41.0	50.8
34.8	58.2	18.. 32.. 01.3	33.. 31.0	44.5	54.6
38.7	2.5	6.0	34.. 46.2	48.4	58.9
1542	2115		1575	2052	2545
16.. 20.. 30.84	16.. 54.. 54.30				
- 25	- .25	18.. 31.. 56.60	6.. 32.. 19.50	6.. 38.. 41.04	6.. 52.. 50.90
- 12	- .12		+ 2.94	- .18	- .22
- 3	- .3		- 3.55	- .13	- .09
16.. 20.. 30.44	16.. 54.. 53.90		- 1.04	- .05	- .06
38.76			6.. 32.. 17.85	6.. 38.. 40.68	6.. 52.. 50.53
E.C. Slow - 8.32			6.. 32.. 27.40	51.77	61.53
			EE - 9.55	- 11.09	- 11.00

at 16.20 E.C. Slow - 8.32 Daily rate being 0.5

March		$a_2 = .24$			
25th		$b_2 = .29$		27th.	
R. F. B.		$c_2 = .03$			
		"		m.c.B.	
α^2 Geminorum.	Procyon.	α Persei.	η Tauri.	α Ceti.	
γ .. 25 .. 09.3	γ .. 31 .. 31.0	β .. 13 .. 43.3	β .. 38 .. 38.4	α .. 54 .. 28.3	
13.6	34.5	48.9	42.5	31.7	
17.4	38.0	54.3	46.2	35.0	
21.9	41.3	59.7	50.0	38.5	
<u>25.8</u>	<u>45.0</u>	<u>5.0</u>	<u>53.9</u>	<u>42.1</u>	
880	1898	2112	2310	1756	
		42.24			
γ .. 25 .. 17.60	γ .. 31 .. 37.96	β .. 13 .. 54.24	β .. 38 .. 46.20	α .. 54 .. 35.12	
		+ .04	- .08	- .15	
		- .44	- .30	- .23	
		- .05	- .03	- .03	
		β .. 13 .. 53.79	β .. 38 .. 45.79	α .. 54 .. 34.71	
		14 .. 07.44	59.38	48.30	
		13.65	13.59	13.59	

1857.
March 3^d

Illumination West.

 $a_2 - .24$ $b_2 - .29$ $c_2 - .03$

MCB. α Uti.	MCB α Persei.	MCB γ Tauri.	MCB ϵ Tauri.	MCB α Tauri.	MCB BAC. 1526
2..54..26.8	3..13..42.1	3..38..37.2	4..19..54.5	4..27..21.5	4..48..45.4
30.5	47.6	41.2	58.3	25.2	49.2
33.9	52.8	44.9	1.9	28.9	52.9
37.2	58.0	48.6	5.6	32.5	56.4
<u>40.9</u>	<u>3.6</u>	<u>52.5</u>	<u>9.2</u>	<u>36.2</u>	<u>00.1</u>
1693	2041	2244	1295	1443	2040
33.86	40.82	44.88	25.90	28.86	40.80
2..54..33.86	3..13..52.82	3..38..44.88	4..20..01.90	4..27..28.86	4..48..52.80
— .15	+ .04	— .08	— .10	— .11	— .11
— .23	— .44	— .25	— .28	— .27	— .27
<u>— .03</u>	<u>— .05</u>	<u>— .03</u>	<u>— .03</u>	<u>— .03</u>	<u>— .03</u>
2..54..33.45	3..13..52.37	3..38..44.52	4..20..01.49	4..27..28.45	4..48..52.39
54..48.21	14..07.35	59.32	20..16.47	..43.43	49..07.38
E.C. Slow 14.76	14.98	14.80	14.98	14.98	14.99

2..54
 3..14
 3..38
 4..20
 4..27
 4..48
 4..58
 5..05
 5..43
 4..21

14.76
 14.98
 14.80
 14.98
 14.98
 14.99
 14.89
 15.07
 15.10

at E.C. Slow 14.95 Daily rate losing 0.21

March 3

+ 28.21

Gr C B.	W C B.	W C B.	W C B.	W C B.	W C B.
103 Tauri.	Capella	D. 1 Limb.	Spot. 1 Mupir	Spot. 2 Mupir	136 Tauri.
4 ..58..02.8	5..05..43.7	5..28..54.4	5..29..18.4	5..29..19.0	5..43..58.7
06.1	49.1	58.6	22.7	23.2	2.9
10.0	53.7	2.5	26.8	27.4	6.6
13.7	58.7	6.5	30.5	31.3	10.5
<u>17.5</u>	<u>4.6</u>	<u>10.6</u>	<u>34.8</u>	<u>35.4</u>	<u>14.5</u>
496	2092	1326	1332	1363	932
9.92	41.84	26.52	26.64	27.26	18.64
41..58..09.92	5..05..53.84	5..29..02.52	5..29..26.64	5..29..27.26	5..43..06.64
-.09	+ .02	-.07			-.08
-.30	-.41	-.32			-.32
<u>-.03</u>	<u>-.03</u>	<u>-.03</u>			<u>-.03</u>
41..58..09.50	5..05..53.42	5..29..02.10			5..43..06.21
<u>24.39</u>	<u>6..08.49</u>				<u>21.31</u>
14.89	15.07				15.10

Rate of S.C. - 0.21 = 0.01 per hour

1857.

March 3^d

Illumination West.

 $a_2 - .24$ $b_2 - .29$ $c_2 - .03$

<i>W. E. B.</i>	<i>H. P. T.</i>	<i>H. P. T.</i>	<i>H. P. T.</i>	<i>H. P. T.</i>	<i>H. P. T.</i>
<i>139 Tauri.</i>	<i>μ Geminorum</i>	<i>γ Geminorum</i>	<i>Sirius</i>	<i>ϵ Can. min.</i>	<i>γ Can. Maj.</i>
5..48..45.9	6..13..57.4	6..29..06.3	6..38..29.7	6..52..38.9	6..56..56.7
50.0	1.4	10.0	33.6	43.0	00.3
53.7	5.0	13.6	37.0	46.8	03.7
57.3	8.7	17.0	40.6	50.5	07.5
1.3	12.5	20.7	44.3	54.7	11.2
2082	850	676	852	2339	794
41.64	1700	13.52	37.04	46.78	15.88
5..48..53.64	6..14..05.00	6..29..13.52	6..38..37.04	6..52..46.78	6..57..03.88
— .08	— .09	— .10	— .21	— .26	— .20
— .33	— .30	— .27	— .11	— .11	— .27
— .03	— .03	— .03	— .03	— .03	— .03
5..48..53.20	6..14..04.58	6..29..13.12	6..38..36.69	6..52..46.38	6..57..03.38
49..08.32	19.55	28.12	57.85	6..53..01.38	6..57..18.39
15.12	14.97	15.00	15.16	15.00	15.01

δ H.P.T.	α^2 H.P.T.	δ H.P.T.	β H.P.T.	Personal Equation	
γ 11 14.1	γ 25 06.9	γ 31 28.5	γ 36 12.5	W.C.B.	H.P.T.
17.9	11.2	32.2	17.0	h^m 2.54 E.C. 14.76	h^m 6.13 - E.C. - 14.97
21.7	15.0	35.7	20.6	3.13 - " - 14.98	6.29 - " - 15.00
25.3	19.1	39.0	24.5	3.38 - " - 14.80	6.39 - " - 15.16
<u>29.2</u>	<u>23.3</u>	<u>42.6</u>	<u>28.5</u>	4.19 - " - 14.98	6.52 - " - 15.00
108.2	75.5	178.0	103.1	4.27 - " - 14.98	6.56 - " - 15.01
21.64	15.10	35.60	20.62	4.48 - " - 14.99	7.11 - " - 14.94
γ 11 21.64	γ 25 15.10	γ 31 35.60	γ 36 20.62	4.58 - " - 14.89	7.25 - " - 15.13
- .09	- .05	- .14	- .07	5.05 - " - 15.07	7.31 - " - 14.92
- .29	- .33	- .23	- .32	5.43 - " - 15.10	7.36 - " - 15.00
<u>- .03</u>	<u>- .02</u>	<u>- .03</u>	<u>- .01</u>	5.48 - " - 15.12	
γ 11 21.23	γ 25 14.70	γ 31 35.20	γ 36 20.22	Individual stars	Individual stars
<u>36.17</u>	<u>29.83</u>	<u>50.12</u>	<u>35.22</u>	W.C.B. diff.	H.P.T. diff.
14.44	15.13	14.92	15.00	from mean	from mean

- .21	- .04
+ .01	+ .01
- .17	+ .15
+ .01	+ .01
+ .01	+ .00
+ .02	- .07
- .08	+ .12
+ .10	+ .05
+ .13	+ .01
+ .15	

March 3rd

E.C. by W.C.B. 10 Stars - Slow - 14.967 - at h^m 4.35

E.C. by H.P.T. 9 Stars - Slow - 14.985 - at h^m 6.59

Daily rate of E.C. losing - 0.210 daily
.009 hourly

Middle time - h^m 5.47 - W.C.B. obs. reduced to mid time - 14.978 E.C. Slow
H.P.T. " " " " " " - 14.984 " " "

1857.

Illumination West.

March 4th

No 13.		+ 28 ^o .31 No 13		No 13		No 13.		No 13		No 13	
p. feminorum		D's 1 Limb.		1 Impier		Spot 2 Impier		Spot 3		Spot 4	
6..13..	56.9	6..33..	01.9	6..33..	26.9	6..33..	27.5	6..34..	17.5	6..34..	41.0
	0.8		6.0		31.0		31.6		21.7		45.3
	4.3		9.9		35.0		35.5		25.7		49.5
	8.0		14.1		38.9		39.5		29.6		53.1
	12.0		18.2		43.1		43.8		33.8		57.2
	<u>820</u>		<u>501</u>		<u>1749</u>		<u>1779</u>		<u>128.3</u>		<u>2461</u>
	1640		10.02		34.98		35.58		25.66		49.22
6..14..	04.40	6..33..	10.02	6..33..	34.98	6..33..	35.58	6..34..	25.66	6..34..	49.22
	-.09		-.07								
	-.31		-.32								
	-.03		-.03								
6..14..	03.97	6..33..	09.60								
	<u>19.54</u>										
	15.57										

h m
 6..14 15.57
 6..38 15.58
 6..52 18.34
 7..11 15.66
 7..25 15.80
 at 6..52 E.C. Flow 15.59 Daily rat losing 0.61

March 4th

a -.24

b -.29

c -.03

H.P.T.	W.C.B.	H.P.T.	H.P.T.	H.P.T.	H.P.T.
Sirius.	δ Geminorum.	ϵ Geminorum.	γ Can. maj.	δ Geminorum	α^2 Geminorum
6.. 38.. 29.3		6.. 52.. 38.5	?	7.. 11.. 13.3	7.. 25.. 06.2
33.0		42.6	?	17.2	10.3
36.7		46.5	6.. 57.. 03.1	20.9	14.4
40.3		50.3	7.0	24.7	18.6
<u>44.0</u>		<u>54.2</u>	<u>10.5</u>	<u>28.4</u>	<u>22.7</u>
1833		2321		104.5	722
36.66		46.42		20.90	14.44
6 .. 38 .. 36.66		6 .. 52 .. 46.42		7 .. 11 .. 20.90	7 .. 25 .. 14.44
-.21		-.26		-.09	-.05
-.16		-.11		-.29	-.33
<u>-.03</u>		<u>-.03</u>		<u>-.03</u>	<u>-.04</u>
6 .. 38 .. 36.26		6 .. 52 .. 46.02		7 .. 11 .. 20.49	7 .. 25 .. 14.02
<u>51.84</u>		<u>53 .. 01 .. 36</u>		<u>36.15</u>	<u>29.82</u>
15.58		15.34		15.66	15.80

1857.
March 4th

Illumination West

a - .24

b - .29

c - .03

March 6th

H.P.T.	H.P.T.	M.C.B.	M.C.B.	P.S.C.	P.S.C.	
Procyon.	β Geminorum	α Persei	γ Tauri	γ Cancri	γ^2 Cancri.	
γ .. 31 .. 28.2	γ .. 36 .. 12.1	3 .. 13 .. 40.8	3 .. 38 .. 35.9	γ .. 53 .. 21.7	8 .. 01 .. 28.1	
31.8	16.2	46.2	39.9	25.6	32.1	
35.0	20.1	57.5	43.7	gm 54) - 29.5	35.9	
38.6	24.0	55.8	47.3	33.3	39.6	
<u>42.6</u>	<u>28.0</u>	<u>2.2</u>	<u>57.1</u>	<u>37.3</u>	<u>43.5</u>	
176.2	100.4	197.5	217.9	147.4	179.2	
35.24	20.08	39.50	43.58	29.48	35.84	
γ .. 31 .. 35.24	γ .. 36 .. 20.08	3 .. 13 .. 51.50	3 .. 38 .. 43.58	γ .. 53 .. 29.48	8 .. 01 .. 35.84	
- .14	- .07	+ .04	- .08	- .07	- .07	
- .23	- .32	- .44	- .30	- .32	- .32	
<u>- .03</u>	<u>- .03</u>	<u>- .05</u>	<u>- .03</u>	<u>- .03</u>	<u>- .03</u>	
γ .. 31 .. 34.84	γ .. 36 .. 19.66	3 .. 13 .. 51.05	3 .. 38 .. 43.17	γ .. 53 .. 29.06	8 .. 01 .. 35.42	
31 .. 50.09	36 .. 35.19	14 .. 07.28	38 .. 59.32	γ .. 54 .. 45.47	8 .. 01 .. 57.76	
15.25	15.53	E.C. slow 16.23	16.15	gm - 16.41	- 16.34	

March. 6th

P. L. C.	P. L. C.	P. L. C.	P. L. C.	P. L. C.	$\frac{8}{9}$
40 Caneri	Star following?	Moon 1 st Limb,	Spot, central	8 Caneri,	α Aquilae.
8-31-30.9	8-31-36.2	8-32-57.0	8-34-49.2	8-36-12.0	19-43-24.2
34.9	40.0	1.0	53.1	14.5	27.9
38.4	43.7	33.1 4.9	57.1	19.0	31.2
42.1	47.3	+23.41 8.5	1.0	18.41	34.7
46.0	51.0?	12.5	5.1	26.5	38.3
1923	2182	839	1655	955	1563
38.46	43.64	16.78	3310	19.10	31.26
8-31-38.46	8-31-43.64	8-32-04.78	8-34-57.10	8-36-19.10	19-43-31.26
- .09		- .09		- 7	- .13
- .29		- .30		- 32	- .25
- .03		- .03		- 03	- .03
8-31-38.05		8-32-04.36		8-36-18.68	19-43-30.85
8-31-54.42				8-36-34.94	19-43-48.96
21.34				- 16.26	18.11

α Persei	h m	s
3.13		16.23
γ Tauri	3.38	16.15
γ^2 Caneri	8.01	16.34
8 Caneri	8.36	16.26
at	8.18	16.39

8th Star - 16.39 Daily rate being 0.30

1857.

Illumination Met.

March 10th

WCB	WCB	WCB	WCB	12 th WCB	WCB	
β Orionis.	δ Orionis.	α Leporis.	ϵ Orionis.	δ Orionis	α Leporis	
5.. ϕ .. 16.5	5.. 24.. 18.7	5.. 26.. 1.6	5.. 28.. 34.0	5.. 24.. 18.2	5.. 26.. 01.1	
20.0	22.3	5.3	37.6	21.8	4.8	
23.5	25.6	8.9	41.0	25.2	8.5	
26.8	29.0	12.4	44.4	28.6	12.1	
<u>30.5</u>	<u>32.7</u>	<u>16.2</u>	<u>48.0</u>	<u>32.1</u>	<u>15.9</u>	
1173	1283	444	205.0	1259	424	
23.46	25.66	8.88	41.00	25.18	8.48	
5.. 0 ϕ .. 23.46	5.. 24.. 25.66	5.. 26.. 08.88	5.. 28.. 41.00	5.. 24.. 25.18	5.. 26.. 08.48	
-.32	-.28	-.36	-.28	-.30	-.40	
-.21	-.27	-.19	-.27	-.23	-.32	
<u>-.04</u>	<u>-.04</u>	<u>-.04</u>	<u>-.04</u>	<u>-.04</u>	<u>.04</u>	
5.. 0 ϕ .. 22.89	5.. 24.. 25.07	5.. 26.. 08.29	5.. 28.. 40.41	5.. 24.. 24.61	5.. 26.. 07.72	
7.40.39	24.42.66	26.25.97	58.02	42.64	25.92	
26. slow 17.50	17.59	17.68	17.61	18.03	18.20	

1857. March. 12

a-.43

b-.35

c-.04

12 th MCB	R. F. B.	R. F. B.	R. F. B.	R. F. B.	R. F. B.
2 Orionis	B Corvi.	γ^1 Virginis.	β^8 Virginis.	k Virginis.	θ Virginis.
5..28..33.5	12..26..26.2	12..34..02.1	12..45..29.0	12..57..54.8	13..02..10.3
37.1	33.2	5.4	32.8	58.3	13.6
40.6	36.9	9.0	36.0	1.8	17.0
43.9	40.4	12.4	39.4	5.2	20.4
47.6	44.5	16.0	43.2	8.7	24.0
2027	1842	449	1804	128.8	853
40.54	36.84	08.98	36.08	25.76	17.06
5..28..40.54	12..26..36.84	12..34..08.98	12..45..36.08	12..52..01.76	13..02..17.06
-.30	.42	-.29	-.30	-.30	-.31
-.23	.16	-.27	-.26	-.26	-.25
-.04	.02	-.03	-.03	-.03	.03
5..28..39.97	12..26..36.24	12..34..08.39	12..45..35.49	12..52..01.17	13..02..16.47
57.99	54.36	26.61	53.66	19.41	34.57
18.02	18.12	18.22	18.17	18.24	18.04
					12
					22
					17
					24
					79
					18.16

1857.
March $\frac{12}{13}$

Illumination West.

 $a_2 = .43$
 $b_2 = .35$
 $c_2 = .04$

W.C.B.	16/17 W.C.B.	W.C.B.	W.C.B.	14/15 W.C.B.	W.C.B.
α Aquilae.	α Lyrae.	γ Aquilae.	α Aquilae.	α Persei.	α Tauri.
19..43..23.2	18..31..38.5	19..39..02.0	19..43..22.7	3..13..38.3	4..27..17.9
27.0	43.1	5.7	26.4	43.8	21.7
30.5	47.4	9.2	29.8	49.1	25.3
33.8	51.8	12.7	33.3	54.2	28.7
<u>37.5</u>	<u>56.4</u>	<u>16.2</u>	<u>36.9</u>	<u>59.8</u>	<u>32.4</u>
1520	2372	458	1491	2458	1260
30.40	47.44	9.16	29.82	49.04	25.20
-.24	18..31..47.44	19..39..09.16	19..43..29.82	3..13..49.04	4..27..25.20
-.29	-.04	-.24	-.24	+.08	-.20
-.02	-.45	-.30	-.29	-.54	-.32
19..43..29.45	-.05	-.04	-.04	-.06	-.04
19..43..48.01	18..31..46.90	19..39..08.58	19..43..29.27	3..13..48.52	4..27..24.64
E.C. Slow 18.56	32..05.70	39..27.45	43..48.14	14..07.15	27..43.23
	18.80	18.87	18.87	E.C. Slow 18.63	18.59

March 14th

Illumination West

M.C.B.				M.C.B. { $\frac{22}{23}$ M.C.V.	
β Orionis.	β Tauri	δ Orionis.	α Leporis.	ϵ Orionis.	α Lyrae.
5..07..15.3	5..16..49.8	5..24..17.6	5..26..00.6	5..28..32.9	18..31..36.9
18.9	53.9	21.2	4.3	26.6	41.4
22.5	57.7	24.6	8.0	40.0	45.8
25.9	1.6	28.1	11.6	43.4	50.3
<u>29.5</u>	<u>5.6</u>	<u>31.6</u>	<u>15.2</u>	<u>47.0</u>	<u>54.8</u>
1121	1686	1231	397	1999	2292
22.42	33.72	24.62	7.94	39.98	45.84
5..07..22.42	5..16..57.72	5..24..24.62	5..26..07.94	5..28..39.98	18..31..45.84
..32	..12	..28	..38	..30	..04
..22	..37	..25	..18	..25	..45
<u>..04</u>	<u>..04</u>	<u>..04</u>	<u>..04</u>	<u>..04</u>	<u>..05</u>
5..07..21.84	5..16..57.19	5..24..24.05	5..26..07.34	5..28..39.39	18..31..45.30
7..40.33	<u>15.77</u>	<u>24.42.60</u>	<u>26.25.89</u>	<u>57.96</u>	<u>32.25.90</u>
18.49	18.58	18.55	18.55	18.57	20.60

1857.
March $\frac{24}{25}$

Lamp West

α Lyce.	β Lyce.	β Lauri.	δ Orionis	ϵ Orionis
18.31.36.7	18.44.19.5	5.16.47.1	5.24.15.0	5.28.30.3
41.2	23.7	57.3	18.4	34.0
45.3	27.8	55.0	21.9	37.4
50.0	31.8	58.8	25.3	40.8
<u>54.7</u>	<u>36.1</u>	<u>3.0</u>	<u>28.9</u>	<u>44.4</u>
2279	1389	2152	1095	1869
45.58	2778	4304	<u>2190</u>	<u>3738</u>
18.31.45.58	18.44.27.78	5.16.55.04	5.24.21.90	5.28.37.38
-54	-.50			
18.31.45.04	18.44.27.28			
<u>32.05.97</u>	<u>44.48.18</u>			
E.C. - 20.93	20.90			

1857.

March ~~30~~
31

Lamp West.

W.C.B.		W.C.B.		St 31 -	
B Lyrae.		S Aquilae.		E Can. Maj.	
18.44.19.0	18.58.22.5			6.52.31.7	
23.3	26.3			36.1	
27.5	29.9			39.8	
31.6	33.4			43.7	
<u>35.9</u>	<u>37.0</u>			<u>47.7</u>	
1373	1491			1990	
2746	2982			<u>3980</u>	
18.44.27.46	18.58.29.82			6.52.39.80	

1857.

Lamp West.

March. 31.

 $a_2 - .452$ $b_2 - .350$ $c_2 - .023$

M.L.B.

<i>Capella.</i>	<i>β Orionis.</i>	<i>β Tauri.</i>	<i>δ Orionis.</i>	<i>α Leporis.</i>	<i>ϵ Orionis</i>
5..5..36.8	5..07..12.0	5..16..46.4	5..24..14.2	5..25..57.2	5..28..29.7
42.0	15.7	50.5	17.9	1.0	33.3
46.7	19.1	54.4	21.2	4.7	36.7
57.7	22.5	58.3	24.7	8.1	40.1
56.8	26.0	2.3	28.4	12.0	43.7
2340	953	2119	2064	830	1835
4680	1906	4238	2128	1660	3670
5..05..46.80	5..07..19.06	5..16..54.38	5..24..21.28	5..26..04.60	5..28..36.70
-.04	-.35	-.12	-.31	-.41	-.31
-.50	-.22	-.38	-.25	-.17	-.25
-.03	-.02	-.2	-.02	-.01	-.02
4623	1847	5346	2070	04.01	36.12
5..06..07.84	40.04	5..17..15.42	42.33	25.87	57.68
E.C. - 21.61	E.C. - 21.57	E.C. - 21.56	E.C. - 21.63	E.C. - 21.56	E.C. - 21.56

March 31st

Lamp West.

+ 28.43		W.C.B.			
α Orionis	D: 1 limb	1 Mysier	2 Mysier.	Spot. 3.	Sirius
5..46..38.2	6..12..27.9	6..12..53.7	6..12..54.3	6..13..28.3	6..38..22.8
1.7	32.0	58.0	58.7	32.7	26.6
5.2	36.0	1.9	2.5	36.6	30.0
8.7	40.0	5.9	6.5	40.6	33.8
<u>12.3</u>	<u>44.1</u>	<u>10.2</u>	<u>10.8</u>	<u>44.8</u>	<u>37.4</u>
861	1800	1297	1328	1830	1506
1722	3600	2594	2656	3660	3012
5..47..05.22	6..12..36.00	6..13..01.94	6..13..02.56	6..13..36.60	6..38..30.12
-.26	a ₂ -.12				-.40
-.29	b ₂ -.39				-.19
-.02	c ₂ -.02				-.02
<u>04.65</u>	6..12..35.47				29.51
<u>26.16</u>					<u>51.85</u>
E.C. - 21.51					21.84

	h^m	
	5..05	21.61
	5..07	57
	5..17	56
	5..24	63
	5..26	56
	5..28	56
	<u>5..47</u>	<u>57</u>
at	5..22	E.C. Flow 21..57
		Daily rate losing 5.13

1857.

April 2.

Lamp West.

 $a_2 - 45$ $b_2 - 35$ $c_2 - 02$ $+21.59$

$+16.13$	$+24.49$			$+20.55$		
α Tauri.	Moon's P. Limb	1 Mupier	2 Mupier	γ Cancri.	γ Cancri	
4..27..14.3	8..15..44.1	8..16..10.5	8..16..11.1	8..24..58.8	8..34..32.9	
18.3	48.0	14.4	15.0	2.7	36.8	
22.1	57.8	18.5	19.0	6.2	* 36 40.5	
25.7	55.5	22.3	22.9	9.9	44.3	
29.1	59.6	29.3	27.1	13.7	48.1	
109.5	259.0	95.0	95.1	91.3	202.6	
21.90	51.80	19.00	19.02	182.6	405.2	
4.27..21.90	8..15..51.80	8..16..19.00	8..16..19.02	8..25..6.26	8..34..40.52	
-.21	-12			-18	-17	
-.33	-37			-31	-36	
-.02	-2			-2	-2	
21.34	8..15..51.29			8..24..5.75	8..34..39.97	
43.01				8..24..27.37	8..35..01.75	
66. - 21.67				86 - 21.62	21.78	

$h = 8$
 $8..25$ 21.62
 $8..34$ 21.78
 $8..39$ 21.72
 at $8..33$ 8C slow 21.71 Daily rate losing -0.05

2 ^d MCB E Hydree.	3 ^d MCB γ Cancri.	20.45 Moon. 1.2.	21.59 Mepher 142	+23.36 λ Leonis	+24.26 ε Leonis
8..38..45.0	8..34..32.4	9..10..35.0	9..11..0.8	9..23..05.7	9..37..16.1
48.7	36.2	38.9	4.9	9.7	14.9
52.2	40.6	42.7	8.5	13.4	23.7
55.6	43.7	46.5	12.2	17.0	27.6
59.2	47.4	50.2	16.0	20.9	31.5
26.07	1997	2133	424	667	1188
52.14	39.94	4266	08.48	13.34	23.76
8..38..52.14	8..34..39.94	9..10..42.66	9..11..08.48	9..23..13.34	9..37..23.76
-26	-17	-15		-16	-15
-29	-36	-35		-36	-36
-02	-2	-2		-2	-02
38.51.57	8..34..39.39	9..10..42.11	8.2	9..23..12.80	23.23
8..39..13.29	8..35..01.73		9..11..01.6	9..23..35.05	45.44
E.C. - 21.72	-22.34		5.5	22.25	E.C. - 22.21
			9.0		
			12.7		
			16.6		
			454		
			908		
			9..11..09.08		

$\begin{matrix} h \\ 8..34 \\ 9..23 \\ 9..37 \\ 9..11 \end{matrix}$
 $\begin{matrix} m \\ 22..34 \\ 22..25 \\ 22..21 \\ 22..27 \end{matrix}$
 $\begin{matrix} s \\ 22..21 \\ 22..27 \end{matrix}$
 at E.C. Show Daily rate being 0.54

1857.
April 4th

Lamp West.

a - 45.
b - 35.
c - 02.

X

H.P.X.	+ 8..44	+ 15..44	+ 14..26	+ 20..34
ϵ Leonis.	π Leonis.	Procyon. 1 st Linc.	γ Leonis	δ Leonis
9..37..16.2	9..52..12.2	10..01..05.4	10..08..32.8	10..11..37.7
20.0	15.6	8.8	36.4	41.6
23.8	19.2	12.7	39.8	45.2
27.4	22.4	16.2	43.2	48.6
<u>31.5</u>	<u>26.0</u>	<u>19.7</u>	<u>47.0</u>	<u>52.4</u>
1189	954	628	1992	2255
23.78	1908	12.56	3984	4510
9..37..23.78	9..52..19.08	10..01..12.56	10..08..39.84	10..11..45.10
-.15	-.25	- 21	- 22	-.18
-.36	- 30	- 32	- 31	-.35
<u>-.02</u>	<u>- 2</u>	<u>- 2</u>	<u>- 2</u>	<u>- 2</u>
23.25	9..52..18.51	10..01..12.01	10..08..39.29	10..11..44.55
45.49	52..40.82		10..09..01.77	10..12..06.89
22.224	22.31		- 22.48	22.34

h
9..37 22.24
9..52 22.31
10..08 22.48
10..11 22.34

at 9..57 E.C. Flow. 22.36 Daily rate losing 0.09

1857.
April 6/7

Lamp west

WCB			April 8th WCB		
β Lyrae.	ζ Aquilae.	α Aquilae.	α Can. Maj	α^2 Geminorum	Procyon
18..44..18.6	18..58..22.0	19..45..20.1	6..38..21.5	7..24..58.8	7..31..20.4
23.2	25.9	23.7	25.3	3.0	24.0
26.9	29.3	27.1	28.8	7.0	27.4
31.0	32.8	30.7	32.5	11.0	30.9
35.0	36.5	34.3	36.2	15.2	34.5
1347	1465	1359	1443	95.0	1372
2694	2930	2718	2886	19.00	2744
18..44..26.94	18..58..29.30	19..45..27.18	6..38..28.86	7..24..19.00	7..31..27.44
-0.9	-.22	-.25	-.40	-.09	-.27
-.41	-.32	-.29	-.21	-.41	-.28
-.02	-.02	-.02	-.02	-.02	-.02
2643	2886	2662	2823	18.88	2687
48.55	50.79	48.73	51.28	29.22	49.57
E.L. -22.12	E.L. -21.93	E.L. -22.11	E.L. -22.95	E.L. -10.74	22.70
			E.L. -22.95		

1857.

April 11thLamp West.
April 18tha. - 44
b. - 35 } 18th
c. - 02

^{WCB} Venus 1 st Limb	^{WCB} ε Orionis	^{WCB} Sirius	^{WCB} δ Geminorum	^{WCB} α ² Geminorum	^{WCB} Procyon
3.. 31.. 48.0	5.. 28.. 27.4	6.. 38.. 21.2	7.. 11.. 5.6	7.. 24.. 58.3	7.. 31.. 20.2
52.0	31.0	25.0	9.3	2.5	23.8
55.8	34.4	28.4	13.1	6.6	27.2
59.7	37.8	31.9	16.8	10.7	30.5
<u>3.7</u>	<u>41.5</u>	<u>35.8</u>	<u>20.6</u>	<u>14.9</u>	<u>34.2</u>
2192	1721	1423	654	930	1359
4384	3442	2846	1308	1860	2718
3.. 31.. 55.85	5.. 28.. 34.42	6.. 38.. 28.46	7.. 11.. 13.08	7.. 25.. 06.60	7.. 31.. 27.18
	- .31	- .40	- .17	- .69	- .27
	- .26	- .21	- .35	- .41	- .28
	- .02	- .02	- .04	- .02	- .02
	33.83	27.83	12.52	06.08	26.61
	57.52	51.04	35.45	29.04	49.42
E.L. - 23.69	E.L. - 23.21	E.L. - 22.93		22.96	22.81

1857

April 28/24

WCB

Lamp West

a - .35

b - .46

c - .02

22/23

Sirius	δ	α Lygni	Polaris. 3 mid.	Fomalhaut	α Pegani
		20..36..01.8	omitted	22..49..14.5	22..57..09.1
		6.9	1..03..27.2	18.7	12.8
		11.7	5..50.7	22.8	16.4
		16.4	8..4.6	26.9	19.8
		<u>21.3</u>	<u>omitted</u>	<u>30.9</u>	<u>23.4</u>
		581	71 225	1138	815
		1162	25	2276	1630
		20..36..11.62	1..05..47.50	22..49..22.76	22..57..16.30
		-.03	.38	-.38	-.17
		-.65		-.12	-.42
		-.03		-.02	-.02
		<u>10.91</u>		<u>22.24</u>	<u>15.69</u>
		<u>33.27</u>		<u>44.56</u>	<u>38.04</u>
		EC -22,36		EC. -22,32	EC. -22,35

Illumination West.

a. - 35

b. - 46

c. - 02

April 26th.

M.C.B.

27/28th28th

mus 1 st limb	Capella.	α Cygni.	Dr. 1. Limb.	δ Geminorum	α^2 Geminorum
3.. 31.. 08.1	5.. 04.. 34.8	20.. 36.. 01.7	6.. 57.. 55.0	7.. 11.. 05.3	7.. 24.. 58.0
11.8	40.3	6.6	59.2	9.2	2.4
15.8	45.0	11.4	3.1	12.9	6.4
19.5	50.0	16.2	7.2	16.6	10.5
<u>23.4</u>	<u>55.2</u>	<u>21.2</u>	<u>11.4</u>	<u>20.6</u>	<u>14.7</u>
786	2253	571	1359	646	920
1572	4506	1142	2718	1292	1840
3.. 31.. 15.72	5.. 04.. 45.06	20.. 36.. 11.42	6.. 52.. 03.18	7.. 11.. 12.92	7.. 25.. 06.40
	- .03	- .02		- .13	- .07
	- .65	- .65		- .46	- .34
	- .03	- .03		- .02	- .02
	<u>44.35</u>	<u>10.72</u>		<u>12.31</u>	<u>05.77</u>
	7.53	33.68		<u>35.24</u>	<u>28.87</u>
E.C. -23.18	E.C. -22.96			E.C. -22.93	E.C. -23.16

28

<i>Procyon.</i>	<i>β Geminorum</i>				
$\gamma..31..20.0$	$\gamma..36..04.0$				
23.6	8.1				
27.1	12.0				
30.5	15.9				
34.0	19.9				
1352	599				
2704	1198				
$\gamma..31..27.04$	$\gamma..36..11.98$				
-21	-09				
-37	-51				
-62	-02				
26.44	11.36				
49.28	34.31				
$\epsilon\epsilon..-22.84$	$\epsilon\epsilon..-22.95$				

1857 April 29th.

Lamp West.

a. - , 95

b. - , 46

c. - , 02

Genus 1 st limb.	α Tauri.	γ Geminorum	α^2 Geminorum	β Geminorum
3 .. 26 .. 46.0	4 .. 27 .. 13.2	6 .. 28 .. 57.3	7 .. 24 .. 58.2	7 .. 36 .. 03.7
49.9	16.9	1.0	2.4	7.8
53.7	20.3	4.7	6.2	11.4
57.4	~ ~	8.4	10.3	15.7
1.2	~ ~	11.9	14.2	19.7
208.2		83.3	91.3	58.3
21.64		16.66	18.26	11.66
3 .. 26 .. 53.64		6 .. 28 .. 4.66	7 .. 24 .. 6.26	7 .. 36 .. 11.66
			- . 07	- . 12
			- . 54	- . 13
			- . 02	- . 02
			7 .. 25 .. 05.63	7 .. 36 .. 11.39
			7 .. 25 .. 28.87	34.31
			E.C. - 23.24	E.C. - 23.08

1857.
April 30.th.

Lamp West.

β Comae 1 dimb	α Pauri.	δ Geminorum.	β Geminorum	D 1 Limb
3..25..02.1	4..27..12.7	7..11..04.9	7..36..03.5	8..32..39.0
5.9	16.5	8.7	7.5	<u> </u>
9.7	19.8	12.5	11.4	46.7
13.4	23.5	16.1	15.3	50.3
<u>17.5</u>	<u>27.6</u>	<u>19.8</u>	<u>19.3</u>	<u>54.2</u>
48.6	100.1	62.0	64.0	
9.72	20.02	12.40	10.80	
3..25..9.72	4..27..20.02	7..11..12.40	7..36..10.80	
	-.16	-.19	34.28	
	-.43	-.40	23.48	
	<u>-.02</u>	<u>-.02</u>	-.09	
	4..27..19.41	7..11..11.85	-.51	
	<u>42.79</u>	<u>34.28</u>	<u>-.02</u>	
E.C. -23.38	E.C. -23.43	E.C. -22.86		

Lamp West.

1857

May 1st $\alpha, +.13$ $\beta, -.34$ $\gamma, -.12$ 5th6th

β Cen 1 st limb.	ϵ Leonis.	α Leonis.	α Tauri.	α^2 Geminorum	β Geminorum.
3..23..10.8	9..37..13.3	10..00..15.3	4..27..11.2	7..24..56.2	7..36..02.0
14.7	17.2	19.0	14.9	0.5	6.0
18.6	21.0	22.5	18.4	4.4	9.9
22.4	24.8	26.0	22.0	8.4	13.8
<u>26.0</u>	<u>28.7</u>	<u>29.7</u>	<u>25.8</u>	<u>12.7</u>	<u>17.9</u>
925	1050	1125	923	822	496
1850	2100	2250	1846	1644	992
3..23..18.50	9..37..21.00	10..00..22.50	4..27..18.46	7..24..04.44	7..36..09.92
	+04	+07	+06	+03	+03
	-35	-31	-32	-39	-37
	-13	-12	-12	-14	-14
	9..37..20.36	22.14	18.18	7..25..03.94	09.44
	<u>43.14</u>	<u>46.59</u>	<u>42.84</u>	<u>28.79</u>	<u>34.23</u>
ϵ Cen. -24.58	ϵ Cen. -24.45	ϵ Cen. -24.66	ϵ Cen. -24.85	ϵ Cen. -24.79	ϵ Cen. -24.79

1857.
May. 7/8

Lamp Test

a. +, 13

b. -, 34

c. -, 12

α Cassiopea	δ th Venus / dimb	α Tauri.	γ Geminorum	δ th α Andromeda	Polaris.
0..31..46.5	3..07..51.1	4..27..10.7	6..28..55.0	0..00..27.3	1..01..11.0
53.2	55.1	14.7	59.0	31.3	3..35.6
58.8	58.9	18.2	2.5	35.2	5..44.8
4.8	02.4	21.9	6.2	39.1	8..02.9
<u>11.6</u>	<u>06.1</u>	<u>25.8</u>	<u>10.0</u>	<u>43.4</u>	<u>10..25.7</u>
1749	1736	913	1327	1763	29..00.0
2498	3472	1826	2654	3526	58..04.0
0..31..58.98	54.72	4..27..18.26	6..29..02.54	0..00..35.26	1..05..48.0
+ .04	~~+ .06~~	+ .06		+ .04	
- .37	~~- .32~~	- .32		- .37	
- .14	~~- .12~~	- .12		- .14	
58.51	34	1788		34.79	
0..32..23.37		42.79		59.79	
E.C. -24.39		E.C. -24.91		E.C. -23.00	

1857.

May-9th

Lamp West.

a. +.13

b. -.34

c. - 12

Venus 1 dimb	α Tauri.	ϵ Leonis	γ Leonis
3 .. 07 .. 30.2	4 .. 27 .. 10.7	9 .. 37 .. 12.6	10 .. 11 .. 34.4
34.0	14.6	16.7	38.1
37.8	18.2	20.3	41.8
41.4	21.4	23.9	45.2
<u>45.1</u>	<u>25.1</u>	<u>28.0</u>	<u>49.1</u>
1885	903	1015	2086
3770	1806	2030	4172
3 .. 07 .. 37.70	4 .. 27 .. 18.06	9 .. 37 .. 20.30	10 .. 11 .. 41.72
	+ .06	+ .04	
	-.32	-.35	
	<u>-.12</u>	<u>-.13</u>	
	17.68	19.86	
	<u>42.80</u>	<u>44.97</u>	
66. - 25.12	66. - 25.11		

1857.
May. 11th

a, +, 13

b, -, 34

c, -, 12

Venus 1. dimb	β Geminorum	ϵ Leonis.	γ^1 Leonis.
3 .. 0 .. 55.3	γ .. 36 .. 01.6	θ .. 37 .. 12.6	10 .. 11 .. 34.3
58.9	5.6	16.6	38.1
02.9	9.4	20.4	41.9
6.5	13.2	24.0	45.7
<u>10.1</u>	<u>17.6</u>	<u>27.8</u>	<u>49.3</u>
1337	474	1014	2093
26.74	948	2028	4186
3 .. 0 .. 02.74	γ .. 36 .. 09.48	θ .. 37 .. 20.28	10 .. 11 .. 41.86
	+ .03	+ .04	
	- .37	- .33	
	<u>- .14</u>	<u>- .13</u>	
	08.99	19.84	
	<u>34.18</u>	<u>44.94</u>	
	$\epsilon. \epsilon - 25.19$	$\epsilon. \epsilon - 25.10$	

1857.

May-12th

a. + 13

b. - 34

c. - 12

β Geminorum	ϵ Leonis.	δ Leonis.		
γ 36.. 01.2	η 37.. 12.5	10.. 11.. 34.0		
5.3	16.4	37.8		
9.1	20.0	41.5		
13.0	23.8	45.2		
<u>17.2</u>	<u>27.6</u>	<u>49.1</u>		
45.8	100.3	207.6		
916	2006	4152		
γ 36.. 09.16	η 37.. 20.06	10.. 11.. 41.52		
+ .03	+ .04			
- .38	~~33~~			
- .14	- .14			
.. 08.17	9.61			
<u>34.15</u>	<u>44.93</u>			
E.L. - 25.98	E.L. - 25.32			

1857-
May. 13th

Camp West

a. +.13

b. -.34

c. -.12

γ 1 st Limb.	Sirius.	α^2 Geminorum	β Geminorum	ϵ Leonis	δ Leonis.
2.. 56.. 25.9	6.. 38.. 18.3	γ .. 24.. 55.4	γ .. 36.. 01.3	ϵ .. 37.. 12.4	10.. 11.. 34.1
29.2	22.1	59.8	5.3	16.4	37.9
32.7	25.7	03.8	9.4	20.2	41.6
36.5	29.2	7.8	13.1	23.9	45.0
<u>40.4</u>	<u>32.8</u>	<u>11.9</u>	<u>17.4</u>	<u>27.9</u>	<u>49.0</u>
	128.1	138.7	46.5	100.8	207.6
	25.62	277.4	9.30	20.16	41.52
6.. 38: 25.62	γ .. 25.. 03.74	γ .. 36.. 09.30	ϵ .. 37.. 20.16	10.. 11.. 41.52	
+ .12	+ .03	+ .03	+ .04		
-.19	-.39	-.37	-.35		
<u>-.12</u>	<u>-.14</u>	<u>-.14</u>	<u>-.18</u>		
25.43	..03.24	08.86	19.71		
50.73	28.69	34.13	44.92		
<u>6.8 - 25.30</u>	<u>6.8 - 25.45</u>	<u>6.8 - 25.33</u>	<u>6.8 - 25.21</u>		

1857

May 18th

R. F. B.

R. F. B.

22 MCB

a. + 13

b. - 34

c. - 12

α Virginis.	β Virginis.
13.. 17.. 09.9	13.. 26.. 55.0
13.5	58.4
16.8	2.0
20.3	5.2
<u>24.2</u>	<u>8.9</u>
84.7	129.5
16.94	259.0
+10	13.27.. 19.0
- 2.0	
- 1.3	
.. 16.72	
4, 1.78	
E.C. - 25.06	

α Leonis
10.. 00.. 14.0
17.7
21.2
24.7
<u>28.3</u>
105.9
21.18
10: 00.. 21.18
46.29
~~25.11~~
+ 0.7
- 3.1
- 1.2
E.C. - 24.75
10, 00.. 20.82
E.C. - 25.47

1857.
May, 23.
W.C.B.

Lamp West.

24^h

ϵ Leonis.	α Leonis.	γ Leonis.	ζ 2 ^o Limb.	α Leonis	γ Leonis.
9..37..12.1	10..00..14.0	10..11..33.7	2..38..56.3	10..00..14.0	10..11..33.4
15.8	17.7	37.4	59.9	17.6	37.3
19.6	21.1	41.2	3.6	21.0	41.0
23.4	24.6	44.9	7.1	24.5	44.7
<u>27.2</u>	<u>28.3</u>	<u>48.7</u>	<u>10.7</u>	<u>28.2</u>	<u>48.4</u>
98.1	105.7			105.3	
196.2	211.4			210.6	
9..37..19.42	10..00..21.14			+ .07	
+ .04	+ .07			- .31	
- .35	- .31			- .12	
<u>- .13</u>	<u>- .12</u>			20.70	
19.18	20.78			<u>46.26</u>	
<u>44.80</u>	<u>46.28</u>			E.L. -25.56	
E.L. -25.52	E.L. -25.50				

1857.

May 25th

V m c r s

Lamp West.

♀ 2 limb	α Leonis	γ' Leonis			
2. 38. 9.8	10. 00. 14. 0	10. 11. 33.5			
13.5	17.7	37.5			
17.0	21.0	41.2			
20.7	24.5	44.8			
<u>24.2</u>	<u>28.3</u>	<u>48.6</u>			
85.2	105.5	205.6			
1709	2110	4112			
	+04				
	-22				
	-13				
	20.80				
	-46.24				
el.	-25.44				

1857.
May. 26th

Lamp West.

a +.07
b -.25
c -.13

Am.	P.M.		N. C. D.	28 th	
α Pegasi.	γ^2 Limb.	α Leonis.	γ^1 Leonis.	α Leonis.	
22..57..06.7	2..37..32.5	10..00..13.7	10..11..33.6	10..00..13.9	
10.6	36.2	17.6	37.3	17.7	
14.0	39.7	20.9	41.0	21.0	
17.5	43.2	24.3	44.6	24.5	
<u>21.3</u>	<u>46.9</u>	<u>28.0</u>	<u>48.6</u>	<u>28.1</u>	
70.1	198.7	104.5	205.1	105.2	
14.02	39.74	20.90	41.02	21.04	
+ .03		+ .04		+ .04	
-.15		-.22		-.22	
-.13		-.13		-.13	
13.77		20.59		20.73	
<u>39.13</u>		<u>46.23</u>		<u>46.21</u>	
66. -25.36		66. -25.64		25.48	

Camp West.

 $\alpha + .07$ $b - .25$ $c - .13$

M 6 B

May. 29/30

30th31stJune 2nd

Polaris.	Venus. 2 nd Limb.	β Leonis	α Pegasi.	α Hydrae.	α Leonis.
1 .. 01 .. 23.7	2 .. 36 .. 32.9	11 .. 41 .. 15.5	23 .. 57 .. 07.4	9 .. 20 .. 02.8	10 .. 00 .. 14.8
3 .. 43.2	36.7	19.2	10.9	6.6	18.3
5 .. 58.2	40.2	22.9	14.8	10.0	21.9
8 .. 14.2	43.6	26.3	18.2	13.1	25.8
10 .. 32.9	47.4	30.0	21.8	16.9	~~lost~~
25 .. 172.2	260.8	113.9	73.1	49.4	
3 .. 58.45	40.16	22.78	14.62	9.88	
5 .. 58.45	+ .3	+ 0.3	+ 0.3	9 .. 20 .. 09.88	10 .. 00 .. 22.08
1 .. 5 .. 58.45	- .23	- .23	- .15	+ 4	+ 4
	- .13	- .13	- .13	- 20	- 22
	22.45	14.37	- 13	- 13	- 13
	47.39	39.31	9 .. 20 .. 09.59	10 .. 00 .. 21.77	
	E.C. -24.94	E.C. -24.94	9 .. 20 .. 34.09	10 .. 00 .. 46.16	
			E.C. slow 24.50	- 24.39	

June 2^a

Lamp West.

β Leonis.	α Virginis	γ Virginis.	D-1 st Simb.	α Virginis	B.A.C. 4531.
10..11..34.6	12..34..04.5	12..46..25.7	13..14..32.0	13..17..10.4	13..26..35.1
38.3	8.1	29.3	35.6	14.0	38.9
42.0	11.8	32.8	39.0	17.5	42.2
45.7	14.9	36.2	42.6	21.0	45.9
<u>49.4</u>	<u>18.5</u>	<u>39.9</u>	<u>46.2</u>	<u>24.6</u>	<u>49.5</u>
2100	578	1639	1954	875	2116
42.00	1156	3278	39.08	1750	4232
10..11..42.00	12..34..11.56	12..46..32.78	13..14..39.08	13..17..17.50	13..26..42.32
+ 3	+ .6	+ .6	+ .6	+ .06	+ 6
-20	-15	-15	-15	-15	-15
<u>-13</u>	<u>-13</u>	<u>-13</u>	<u>-13</u>	<u>-13</u>	<u>-13</u>
10..11..41.70	12..34..11.34	12..46..32.56	13..14..38.86	13..17..17.28	13..26..42.10
10..12..06.22	12..34..35.99	12..46..56.99		13..17..41.72	13..26..07.10
-24.52	-24.65	-24.43		-24.44	25.00

h m	s
9..20	24.50
10..00	24.39
10..11	24.52
12..34	24.65
12..46	24.43
13..17	24.44
13..26	25.00
at 11..39	E.C. Flow - 24.56
Daily rate gaining 0.22	
E.C. Flow - 24.50	
24.39	
24.52	
24.65	
24.43	
<u>24.44</u>	
29.3	
24.49	

7) 81-341
 27
240
 1274

June 14/1857.

a + .07

b - .25

c - .13

Woolhaupt.	α Pegasi
22 " 49 " 17.3	22 " 57 " 11.6
21.5	15.4
25.4	18.7
29.1	22.3
33.5	25.9
126.8	93.9
25.36	18.78
22 " 49 " 25.36	22 " 57 " 18.78
+ .08	+ .03
- .08	- .08
- .15	- .15
22 " 49 " 25.21	22 " 57 " 18.58
49.46.45	57.39.73
21.24	21.15

1857,
June 22/
23.

$a_2 - .10$
 $b_2 - .06$
 $c + .03$

α Andromedae	γ Pegasi
0. 1. 9. 0	0. 6. 2. 2
13. 1	6. 0
17. 2	9. 3
20. 9	13. 0
25. 0	16. 7
85. 2	47. 2
0. 1. 17. 04	0. 6. 9. 44
+ .02	+ .03
-. 28	-. 23
-. 15	-. 13
0. 1. 16. 63	0. 6. 9. 11
-. 03	-. 05
-. 07	-. 08
+ .03	+ .03
16. 56	9. 03

0	1	17.04	0	6	9.44
		-. 03			-. 05
		-. 07			-. 05
		+ .03			+ .03
0	1	16.97	0	6	9.37
0	ϕ	1.28	0	5	53.80
EC		+ 15.69			15.57

1857

June 24/25

Polaris.	α Ceti.
1 .. 02 .. 05.2	2 .. 54 .. 42.3
2 nd wire omitted	45.8
1 .. 06 .. 43.4	49.2
4 th wire omitted	52.8
1 .. <u>11 .. 18.1</u>	<u>56.4</u>
	246.5
1 .. 06 .. 42.23	49.30
a - 2.04	2 .. 54 .. 49.30
b - 6.29	+ .04
c - 5.00	- .20
1 .. 06 .. <u>28.90</u>	<u>.. 13</u>
NA 1 .. 06 .. 40.67	2 .. 54 .. 49.01
EC - 12.77	2 .. 54 .. <u>44.00</u>

1857.
June. 7/8

Scamp West.

	$\frac{8}{9}$	$\frac{8}{9}$
α Pegasi	Polaris.	α Arietes
22 " 57 " 9.8	0 " 0 " 31.4	1 " 58 " 40.9
13.3	2 " 53.2	37.1
16.8	5 " 6.4	44.7
20.5	7 " 21.3	48.5
24.1	9 " 41.9	52.3
84.5	13 " 154.2	223.5
1690	5 " 6.84	44.70
22 " 57 " 16.90	0 " 5 " 6.84	1 " 58 " 44.70

1837.

June 9thVenus 2nd

2. 43. 51.0

51.7

58.3

1.7

5.3

171.0

2. 43. 58.20

1857
July 1/2.

Polaris,	July 4 th Spica.	July 4 th Polaris,	α Arietis	α Ceti
1.2 .. 10.3	13.. 17.. 39.6	1.. 2 .. 21.3	1.. 59.. 6.6	2.. 55.. 22.3
4 .. 31.9	43.3	4 .. 42.9	10.6	25.8
6 .. 47.8	46.8	6 .. 54.7	14.3	29.4
9 .. 2.9	50.2	9 .. 10.2	18.0	32.7
11 .. 24.3	53.8	11 .. 31.6	21.9	36.3
32 .. 117.2	233.7	32.. 160.7	71.4	146.5
6 .. 47.44	46.74		14.28	29.30
1 .. 6 .. 47.44	13.. 17.. 46.74	1.. 6 .. 56.12	1 .. 59.. 14.28	2.. 55.. 29.30.

1857. July - 9/7

Illumination West.

1857phae

Polaris			α Arietis			α Ceti.			^{7th} Polaris L.P.	^{7/8} α Capriorece	Polaris						
1..	2..	23.3	1..	59..	6.6	2..	54..	48.3	13..	02..	24.5	0..	32..	20.3	1..	02..	26.2
	4..	44.9			10.5			57.9		4..	44.4			26.2		4..	46.8
	6..	56.7			14.3			55.3		6..	58.6			32.3		7..	01.6
	9..	12.2			18.0			58.8		9..	12.2			38.3		9..	13.3
	<u>11..</u>	<u>33.6</u>			<u>21.9</u>			<u>2.3</u>		<u>11..</u>	<u>33.4</u>			<u>44.7</u>		<u>11..</u>	<u>35.8</u>
	34..	50.7			71.3			2166		34..	53.1			161.8		35..	03.1
1..	06..	58.2	1..	59..	14.26	2..	54..	58.32	13..	06..	58.6	0..	32..	32.36	1..	7..	00.6

1857. July. 16th.

Camp West.

Lamp West.

1857

July, 13.th

<i>B. Leonis.</i>	<i>γ Urs. Maj.</i>
11.46.46.5	11.46.13.7
50.3	19.8
53.7	25.8
57.3	31.6
1.0	37.8
208.8	128.7
41.76	25.74
1.2	
11.46.53.76	11.46.25.74
	11.46.25.74

1857.

July, 14.

Lamp West.

<i>a Tauri.</i>	<i>Capella.</i>				
4, 27, 43.1	5-5-28.1				
47.0	33.1				
50.5	37.7				
54.0	42.9				
57.6	48.2				
<u>252.2</u>	<u>190.0</u>				
50.44	38.				
4-27-50.44	5-5-38.				

1857.

July, 16th.

Lamp West.

<i>Polaris, S.P.</i>	<i>Spica.</i>
13- 2- 34.2	13- 17- 46.7
4- 55.4	44.4
6- 10.3	47.8
8- 23.0	51.3
11- 45.3	54.9
31- 168.2	239.1
	47.8
13- 6- 45.64	13- 17- 47.82

1857.

Lamp West.

July, 18th

Polaris S. P.	Spica			
13.. 2.. 34.3	13.. 17.. 40.8			
4.. 55.4	~~74~~ .. 44.4			
7.. 12.2	47.9			
9.. 23.0	51.4			
11.. 45.7	55.0			
5/33.. 170.6	239.5			
13.. 6.. 70.12	47.9 0			
13.. 7.. 10.12	13.. 17.. 47.9			

1857.

July. 27.th

<i>Polaris S. P.</i>	<i>Spica.</i>
13.. 2 .. 41.5	13.. 17.. 42.1
4 .. 1.6	45.9
7 .. 16.7	49.3
9 .. 29.4	52.8
11 .. 52.1	56.4
5/33 .. 141.3	246.5
13.. 8 .. 4.26	13.. 17.. 49.30

1857.

July, 28th

+27.41

-16.29

-15.26

a + .07

b + .10

c + .05

η Bootis	Moon's 1 st Limb	α^2 Libra		
13. 47. 53.1	14. 9. 26.3	14. 42. 1.4		
59.0	30.2	5.1		
2.5	33.8	8.6		
6.1	37.5	12.2		
9.9	41.3	16.0		
132.6	169.1	43.3		
26.52	14. 9. 33.82	14. 42. 8.66		
~~13. 47. 2.52~~	+ 08	+ 08		
13. 48. 2.52	+ 05	+ 05		
+ 02	+ 05	+ 05		
+ 12	14. 9. 34.00	14. 42. 08.84		
+ 06		00.41		
13. 48. 02.72		8.43		
47.54.27				
EC + 8.45				

$\begin{matrix} h & m \\ 13. 48 \\ 14. 22 \\ \hline 14. 15 \end{matrix}$
 $\begin{matrix} s \\ 8.45 \\ 8.43 \\ \hline 8.44 \end{matrix}$
 at EC. fast Daily rate gaining + 0.37

1857.

Aug. 1st P. M.

a + .07

b + .10

c + .05

η Urs. Maj.	η Bootis.	a Bootis.	
13.. 41 .. 54.6	13.. 47.. 56.5	14.. 9 .. 12.5	
0.2	0.5	16.4	
5.5	3.9	19.8	
10.9	7.6	23.6	
16.3	11.3	27.4	
87.5	79.8	99.7	
175.0	159.6	199.4	
13.. 42 5.50	13.. 48.. 3.96	14.. 9 .. 19.94	
	+ .02		
	+ .12		
	+ .06		
	13 .. 48 .. 04.16		
	47 .. 54.22		
EC fast	9.94		

1837.

Aug. 3rd A. M.

<i>a Tauri.</i>	<i>Capella.</i>	<i>B Urs. Min.</i>		
4 " 30 " 26.7	5 " 16 " 9.8	14 " 49 " 55.8		
30.4	14.7	9.4		
34.0	19.6	22.4		
37.5	24.7	35.1		
41.2	29.9	49.0		
169.8	98.7	171.7		
4 " 30 " 33.96	5 " 16 " 19.74	34.34		
		14 " 50 " 22.34		

1857.
Aug. 4th

Lamp West.

Polaris. 1 st wire S.P.	Spica.	γ ~~Ursae~~ Major.	η Bootis.
13.. 2 .. 56.6	13.. 17.. 45.2	13.. 47.. 57.7	15.. 8 .. 25.2
4 .. 18.5	48.7	1.5	28.8
6 .. 32.8	52.4	5.3	32.2
9 .. 42.5	55.9	8.7	35.6
11 .. 6.9	59.4	12.6	39.3
32 .. 157.3	261.6	85.8	161.1
13.. 6 .. 55.46	13.. 17.. 52.32	17.16	15.. 8 .. 32.22
		13.. 47.. 5.16	

1857.

Aug. 7th

Lamp West

Polaris. S. P.	Spica.			
13 " 2 " 58.2	13 " 17 " 46.5			
5 " 19.0	50.3			
7 " 32.6	53.7			
9 " 46.1	57.3			
12 " 8.5	0.8			
35 " 164.4	208.6			
13 " 7 " 32.88	13 " 17 " 41.72			

1857.
Aug. 8th

Lamp West.

Polaris. S. P.	Spica,
13..2..57.6	13..17..47.0
4..22.1	50.6
7..34.6	54.0
9..45.9	57.6
11..12.7	1.1
33..172.9	210.3
13..7..10.58	42.06
	13..17..54.06

1857.

Aug. 10/11.

Lamp West.

Capella Tauri	δ Orionis.	Capella.	β Orionis
5.. 17.. 23.0	5.. 24.. 50.5	5.. 6.. 13.9	5.. 7.. 48.4
27..3	54.3	19.0	52.0
31.2	57.7	23.8	55.5
34.6	1.0	28.7	58.9
39.0	4.7	34.0	2.5
155.1	168.2	119.4	219.3
5.. 17.. 31.22	33.64	23.88	48.46
	5.. 24.. 57.64	5.. 6.. 23.88	5.. 7.. 55.46

1857.

Lamp. West.

Aug. 12.

H. I.	W. L. B.	H. I.	W. L. B.	H. I.
~~Alutaga.~~	B. Orionis.	B. Tauri.	S. Orionis.	ε Orionis
5.. 6.. 14.5	5.. 7.. 49.0	5.. 17. 23.8	5.. 24.. 51.2	5.. 29.. 6.5
19.6	52.7	27.8	54.8	10.2
24.4	56.0	31.7	58.3	13.8
29.5	59.6	35.6	1.6	17.0
34.6	3.1	39.5	5.2	20.5
122.6	220.4	158.4	171.1	68.0
24.52	44.08	31.68	34.22	13.60
5.. 6.. 24.52	5.. 7.. 56.08	5.. 17.. 31.68	5.. 24.. 58.22	5.. 29.. 13.6
Lapella.				

1857.

Aug. 15th

3 Wrs. Min.	B. Libra.
14.. 56.. 27.0	15.. 14.. 57.3
41.0	0.9
53.5	4.3
7.0	7.8
20.4	11.4
148.9	81.7
29.78	163.4
14.. 56.. 53.78	15.. 15.. 4.34

1857,
Aug. ¹⁸/₁₉.

Lamp West.

α Tauri	α Auriga	β Orionis	ϵ Orionis	β Tauri
4.. 27.. 55.8	5.. 6.. 17.7	5.. 7.. 53.5	5.. 29.. 10.0	5.. 17.. 27.1
59.5	22.9	56.0	13.5	31.2
3.0	27.8	59.3	17.0	35.0
6.6	32.6	3.0	20.4	38.9
10.2	37.8	6.5	23.8	43.0
135.1	138.8	178.3	84.7	175.2
27.02	27.76	35.66	16.94	35.04
4.. 28.. 3.02	5.. 6.. 27.76	5.. 7.. 59.66	5.. 29.. 16.94	5.. 17.. 35.04

Aug. 20th 1857.

Samp West.

<i>Polaris S. P.</i>	<i>Spica.</i>
13 .. 3 .. 14.4	13 .. 17 .. 52.2
5 .. 38.7	" 55.8
7 .. 50.8	59.2
10 .. 4.8	2.8
12 .. 25.2	6.4
5/3 7 .. 133.9	176.4
	35.28
7 .. 50.78	
13 .. 7 .. 50.78	13 .. 17 .. 35.28
	24
	13 .. 17 .. 59.28

1857.23
Aug/24th

Lamp. West.

a Tauri			
4.27..57.4			
01.1			
4.7			
8.2			
<u>12.0</u>			
83.4			
16.68			
4.28..4.68			

1857. ²⁴/_{Aug.} 125.

Capella.

5.. 6 .. 20.0	B. Orionis
25.2	5.. 7.. 34.6
29.8	58.3
34.9	1.6
40.0	5.3
149.9	8.9
29.98	128.7
5.. 6 .. 29.98	25.74
	5.. 8.. 1.74

1857

Aug. 26th

Lamp Weet.

1857.

Lamp West.

Aug. 26th

B. Scapin

J. H. C.

W. C. B.

S. Opinchi

15.57.. 22.8

16.7.. 6.5

26.5

10.2

30.0

13.6

33.7

17.0

37.620.6

150.6

67.9

30.12

13.58

15.57.. 30.12

16.7.. 13.58

1857

Camp West.

Aug. 26th

L.H.C.

27

J.H.C.

J.H.C.

Aug. 27th α Geminorum

Procyon

 β Geminorum α Serpentes

7. 25. 42.0

7. 32. 3.6

7. 36. 47.4

15. 37. 28.9

46.0

7.2

51.7

32.4

50.0

10.5

55.5

33.9

54.2

13.9

59.4

39.3

58.3

17.6

35

43.0

250.5

52.8

217.5

179.5

50.10

10.56

43.50

35.90

7. 25. 50.10

7. 32. 10.56

7. 36. 55.50

15. 37. 35.90

1857.

Aug. 27.

W.C.B.

A. Hall.

W.C.B.

B. Scorpio.	S. Ophiuchi	Morris 1 st Limit	Messier 1	Messier 2
15. 57. 23.2	16. 7. 7.2	16. 20. 30.7	1 st wire last	1 st wire last.
27.0	10.7	34.8	16. 20. 50.4	16. 20. 51.2
30.7	14.2	38.7	54.5	55.0
34.3	18.0	42.7	58.4	59.0
38.0	21.4	46.8	2.5	3.4
15. 3. 2	71.5	19. 37		
15. 57. 80.64	16. 7. 14.30	16. 20. 38.74		

1857.
Sept 2nd

Lamp West.

I. H. C.	I. H. C.	I. H. C.	I. H. C.
16. Pegasi	p. Aquarii	D. Limb	+ Aquarii
21.. 46.. 31.0	21.. 58.. 45.4	22.. 02.. 07.5	22.. 09.. 02.2
55.0	48.9	11.3	6.0
58.9	52.5	15.0	9.5
2.7	55.8	18.6	12.9
6.8	59.2	22.4	16.7
174.4	261.8	74.8	47.3
34.88	52.36	14.96	9.46
21.. 46.. 58.88	21.. 58.. 52.36	22.. 02.. 14.96	22.. 09.. 09.46

1857.

Sept 3/4.

A.H.

4th A.H.

a. -.10

b +.03

c -.02

α Cen. Maj.	α Cen. Min.	α Lyrae	δ Aquilae.	δ Aquilae.
6 .. 39 .. 07.8	7 .. 32 .. 06.5	18 .. 32 .. 21.8	18 .. 59 .. 10.5	19 .. 18 .. 36.5
11.4	10.0	26.5	14.7	39.5
14.8	13.5	30.7	18.8	43.2
18.45	16.8	35.0	22.9	46.6
22.05	20.3	39.7	26.9	50.0
74.5	67.1	153.7	93.8	2158
14.90	13.42	30.74	18.76	43.16
6 .. 39 .. 14.90	7 .. 32 .. 13.42	18 .. 32 .. 30.74	18 .. 59 .. 18.76	~~5.32~~
-.09	-.06	-.01	-.05	19 .. 18 .. 43.16
+.02	+.02	+.04	+.03	-.06
-.02	-.02	-.03	-.02	+.03
14.81	13.36	30.74	18.72	-.02
6 .. 38 .. 52.11	7 .. 31 .. 50.21	7.86	52.76	43.09
E.L. + 22.70	E.L. + 23.15	E.L. + 22.88	25.86	20.11
				E.L. + 22.98

1857

Sept. 4th

A.H.

H. P. J.

 α Aquilae. β Aquilae

19 .. 42 .. 07.0

19 .. 46 .. 36.6

10.8

40.0

14.0

43.6

17.5

47.0

21.450.5

70.7

217.7

14.14

43.54

19 .. 42 .. 14.14

19 .. 46 .. 43.54

-.06

-.06

+.02

+.02

-.02-.02

14.08

43.48

51.2120.21

C.C. + 22.87

C.C. + 23.27

1857

Sept. 6/7

μ Geminorum	γ Geminorum	α Can. Maj.	δ Geminorum
6..14.. 37.0	6..29.. 45.55	6..39.. 8.7	7..25.. 45.. 45
41.0	49.45	12.5	50.00
44.2	52.80	16.0	53.80
lost	56.20	14.4	57.95
51.8	0.20	23.3	6.20
	207.20	74.9	207.40
	4084	15.98	41.480
	6..29.. 52.84	6..39.. 15.98	7..25.. 53.48.

1857.

Sept. 9

Procyon.	β Geminorum
7.. 32.. 07.0	7.. 36.. 51.45
11. 0	53.40
14. 3	59.10
17. 0	3.25
21. 4	7.40
76. 7	176.30
141. 4	35.26
7.. 32.. 14.14	7.. 36.. 59.26

1857,

Sept. 7th

A.H.

A.H.

a. - .10

b. + .03

c. - .02

β Librae	α Cor. Bor.	α Serpentis.	δ Ophiuchi.
15.9.37.3	15.28.55.6	15.37.32.0	16.7.9.9
40.9	59.4	35.7	13.7
44.5	3.2	39.0	17.2
48.0	7.0	lost	20.55
51.6	11.0	45.6	24.00
222.3	136.2		85.35
44.46	27.24		17.070
15.9.37.46	15.29.3.24		- .07
- .08	- .03		+ .02
+ .02	+ .03		- .02
- .02	- .02		17.00
44.38	3.22		53.18
20.56	39.50		
86 + 23.82	86 + 23.72		86. + 23.82

1857.

Sept 8th

A.H.

A.H.

α Cor. Bor.	α Serpentes.		
15.28 " 55.00	15 " 37 " 31.50		
59.15	35.45		
3.00	38.80		
6.65	42.30		
10.85	45.85		
134.65	193.90		
26.930	38.780		
15 " 29 " 02.93	15 " 37 " 38.78		
- .03	- .06		
+ .03	+ .03		
- .02	- .02		
02.91	38.73		
39.47	15.25		
E.L. + 23.44	E.L. <i>fact.</i> 23.48		

1857.

Sept. 8/9.

A.H.

A.H.

A.H.

a, -.10

b +.03

c -.02

α^2 Geminorum.	α Can. Min.	B. Geminorum.	
7 " 25 " 45.00	7 " 32 " 7.00	7 " 36 " 51.00	
49.45	10.75	54.85	
53.50	13.95	58.85	
57.40	17.30	2.50	
1.85	20.80	6.90	
207.20	69.80	174.10	
41.440	139.60	348.20	
7 " 25 " 53.44	7 " 32 " 13.96	7 " 36 " 58.82	
-.02	-.06	-.03	
+.03	+.02	+.03	
-.02	-.03	-.02	
53.43	13.89	58.80	
30.22	50.28	35.44	
E.L. fast. 23.21	E.L. fast. 23.61	E.L. fast. 23.36	

1857.

Sept 9/10

W.C.B.

A.H.

α Orionis.	δ Geminorum.
5. 47. 44.4	7. 25. 45.35
48.0	49.70
51.5	53.45
54.9	57.80
58.5	2.00
257.3	208.30
51.46	41.66
5. 47. 51.46	7. 25. 53.66
- .06	- .02
+ .02	+ .03
- .02	- .02
51.40	53.67
27.91	30.24
E.C. fast. 23.49	E.C. fast. 23.43

1837.

Sept. 10th

A.H.

A.H.

Lamp West.
Sept 10th

W.C.B.

W.C.B.

a. - .10

b. + .03

c. - .02

W.C.B.

<i>Lyrae.</i>	<i>♂ Aquilae</i>	<i>♂ Aurigae</i>	<i>♂ Tauri</i>	<i>♂ Orionis.</i>
18 " 32 " 22.1	18 " 59 " 08.9	♂ " 06 " 34.2	♂ " 17 " 33.4	♂ " 25 " 01.0
26.8	12.8	39.4	37.5	4.5
30.9	16.3	44.3	41.3	7.9
34.6	19.5	49.2	45.3	11.2
40.1	23.4	54.2	49.3	14.9
134.5	80.9	221.3	206.8	39.5
30.90	16.18	44.26	41.36	7.90
-.01	-.05	-.01	-.03	-.07
+ .36	+ .03	+ .04	+ .03	+ .02
-.34	-.02	-.03	-.02	-.02
30.91	16.14	44.26	41.34	7.83
7.67	52.68		17.88	44.24
E.C. fast. 23.24	E.C. fast. 23.46		E.C. fast. 23.46	E.C. fast. 23.59

1857.

Lamp West.

Sept 10/11

W.C. B.	W.C. B.	W.C. B.	W.C. B.	W.C. B.
ϵ Orionis	Spot D.	Spot D.	Moan's 2 nd Limit.	α Orionis
5. 29. 16.1	5. 39. 28.0	5. 39. 29.3	5. 40. 02.5	5. 47. 44.5
19.8	32.1	33.5	06.9	48.1
23.2	36.1	37.6	10.8	51.7
26.8	40.1	41.8	14.8	54.9
30.1	44.2	45.8	19.0	58.7
1160	1805	188.0	54.0	257.9
23.20	36.10	37.60	10.80	51.58
-.07				-.06
+.02				+.02
-.02				-.02
23.13				51.52
<u>27.27</u>				<u>27.94</u>
~~5.96~~				E.C. per. 23.58
23.13				
59.54				
E.C. per 23.59				

1857.

Lamp West.

 $a = -.10$ $b = +.03$ $c = -.02$

Sept. 10/11

A.H.	A.H.	A.H.	A.H.	Sept 11/12, A.H.
α Can.	β Geminorum	α Can. Min.	β Geminorum	α Can. Min.
6.. 39.. 08.4	7.. 25.. 45.5	7.. 32.. 07.1	7.. 36.. 51.2	6.. 39.. 8.65
12.1	49.7	10.7	55.2	12.45
15.7	53.8	14.1	59.0	16.05
19.3	57.8	17.7	03.0	19.55
23.1	01.9	21.1	06.9	23.25
78.6	208.7	70.7	175.3	79.95
15.72	41.74	14.14	35.06	15.990
-.09	53.74	-.06	59.06	6.. 39.. 15.99
+.02	-.02	+.02	-.03	-.09
-.02	+.03	-.02	+.03	+.02
15.63	-.02	14.08	-.02	7.02
52.03	53.73	50.22	59.04	15.90
E.L. fast 23.60	30.27	E.L. fast 23.86	35.59	52.03
	E.L. fast 23.46		E.L. fast 23.55	E.L. fast. 23.87

1857.

Sept 14/15

A H. 2 Geminorum	A H. d can Min.	A H. B Geminorum
7.. 25.. 46.5	7.. 32.. 8.3	7.. 36.. 52.1
50.8	11.85	56.5
54.5	15.2	0.1
59.0	18.7	4.2
<u>3.1</u>	<u>22.1</u>	<u>8.1</u>
213.9	76.15	121.0
42.78	15.230	24.20
53.78	- .06	7.. 37.. 00.20
- .02	+ .02	- .03
+ .03	- .02	+ .03
- .02	15.17	- .02
54.81	50.43	00.18
<u>30.40</u>	E.L. post 24.74	<u>33.61</u>
E.L. post 24.41		E.L. post 24.57

1857.

Sept 15/16.

a. - .10

b. +.03

c. -.02

A.H.

A.H.

A.H.

α Geminorum.	δ Can. Min.	β Geminorum	
7 .. 25 .. 46.9	7 .. 32 .. 08.7	7 .. 36 .. 52.9	
51.3	12.2	56.9	
55.6	15.6	0.7	
59.4	19.3	4.5	
<u>83.7</u>	<u>22.8</u>	<u>8.6</u>	
216.9	78.6	123.6	
433.8	157.2	247.2	
7 .. 25 .. 55.38	7 .. 32 .. 15.72	7 .. 37 .. 00.72	
-.02	-.06	-.03	
+ .03	+ .02	+ .03	
-.02	-.02	-.02	
55.37	15.68	00.70	
<u>30.46</u>	<u>50.48</u>	<u>35.68</u>	
E.C. fast. 24.91	E.C. fast. 25.20	E.C. fast. 25.02	

24.91

25.20

25.02

75.13

25.04

1857. Sept 21 st A.H.	A.H.	A.H.	Sept 22. G. P. Bond.	G. P. B.
α Cor Bor.	α Serpens.	δ Spicchi.	β Arietis.	α Arietis.
15 .. 28 .. 56.6	15 .. 36 .. 33.5	16 .. 27 .. 11.4	1 .. 47 .. 05.4	1 .. 59 .. 28.
0.8	36.8	15.1	09.45	4 wires lost
4.5	40.5	18.4	13.00	by clouds.
8.4	44.0	22.0	16.90	
12.4	47.4	25.5	20.70	
82.7	202.2	92.4	65.45	
165.4	404.4	184.8	130.90	
15 .. 29 .. 04.54	15 .. 36 .. 40.44	16 .. 07 .. 18.48	1 .. 47 .. 13.09	
- .03	- .06	- .07		
+ .03	+ .03	+ .02		
- .02	- .02	- .02		
15 .. 29 .. 04.52	40.39	18.41		
15 .. 28 39.27	15.07	52.97		
E.C. fast +25.25	E.C. fast 25.32	E.C. fast 25.44		

