

KG

11365

117

C.12.

Chronograph Record
1863 July 23 — 1864 Nov 4th

THOMAS GROOMING
STATIONERS,
(62 State Street)
BOSTON.

KG 11365.117



1864 Nov. 2^d M West. α Aquilae 4.5 β ————— Ec 19 47 0L M m B. Au 2^d 1.2.3.4. γ Aquilae δ Capricorni ϵ ————— ζ 1418 m Au 2^d η Urae majoris θ Capricorni ι Urae majoris m κ Delphini

Ec 70 48.0

EC 22 56 0

Ther + 33°

Done

Ec 0 42 0

Ther 29°

Transit Sheet again

Ec 0 47 0

 ϵ PiciumPotaris 1.2.4.5 Au 2^d δ Ceti

4 pr Cytis nov 1 AR only

Ec 1 33 0

1864 Nov 3^d M West. γ Aquilae

Ec 19 1 0

Ec 19 18 0

 δ Aquilae

Ec 19 20 0

New Sheet

Ec 19 44 0

 ϵ Aquilae β ————— δ M m B 1.2.4.Au 2^d

Give last 264 of weight, & weight

 ρ Aquilae

1000

1864 Nov 3 cont. dWV

x1 Capricorni

x1

gr 14187 2.3.4. Ai 2⁶

x1 Lyrae

o Uraeum 7⁶

p Capricorni

A Uraeum 7⁶

Pi XX. 257

x Delphinii

x Cygnus

$$104386 \ 8.0 \quad * 20 \ 45 \ 37.9 \quad + 1^{\circ} 25' 3''$$

32 Kulpumbe

76 Draconis Ai 1

$$+14407 \ 8.5 \quad 20 \ 53 \ 53.7 \quad + 1^{\circ} 37' 1''$$
o Uraeum 7⁶o1 Cygnus 7⁶

pou

$$+14432 \ 9.2 \ 21 \quad * 38.9 \quad + 1^{\circ} 33' 7''$$

$$+24311 \ 7.0 \ 21 \quad 2 \ 39.8 \quad + 2^{\circ} 21' 2''$$

$$+14445 \ 9.0 \ 21 \quad 5 \ 23.6 \quad + 1^{\circ} 39' 2''$$

$$+14449 \ 8.6 \ 21 \quad 7 \ 18.1 \quad + 1^{\circ} 8' 7''$$

$$+14452 \ 8.5 \ 21 \quad 7 \ 32.1 \quad + 1^{\circ} 3' 8''$$

$$+14461 \ 8.8 \ 21 \quad 12 \ 48.9 \quad + 1^{\circ} 29' 4''$$

$$+14465 \ 8.0 \ 21 \quad 14 \ 26.6 \quad + 1^{\circ} 26' 0''$$

$$* \text{mf. above - rem. it } 9.2^{\text{m}} \\ + 0^{\circ} 27' + 1^{\circ} \text{ est.}$$

$$+14467 \ 9.5 \ 21 \quad 17 \ 56.9 \quad + 1^{\circ} 28' 4'' \text{ prob}$$

1 Draught 2.3.4.5

o Aquarii

Eb 21 27 0

1864 Nov 4 dWV cont

Eb

Pi XX. 257

x Cygnus

Eb 20 47 0

Eb 22 39 0

x Cygnus

o Aquarii

x Piccola antea

$$+20 \ 4595 \quad 22 \ 54 \ 22.7 \quad + 2^{\circ} 45' 9''$$

$$+41 \ 4670 \ 8.5 \ 22 \ 56 \ 22.3 \quad + 1^{\circ} 49' 8''$$

x Cygnus

1 m. Cygnus

1864 Nov 4^m all Mont

+24608	9.5	22	59	31.8	+2 15.8
+24609	8.2 ^m	22	59	40.7	+2 16.6
+14684	9.0	23	0	52.0	+1 12.0
+14686	6.0	23	1	16.9	+1 12.0
+14687	8.0	23	1	59.4	+1 22.0
+14696	8.0	23	6	16.3	+1 24.2

 26 23 8 0

27 9 0

28 9 0

29 9 0

30 9 0

31 9 0

32 9 0

33 9 0

34 9 0

35 9 0

36 9 0

37 9 0

38 9 0

39 9 0

40 9 0

41 9 0

42 9 0

43 9 0

44 9 0

45 9 0

46 9 0

47 9 0

48 9 0

49 9 0

50 9 0

51 9 0

52 9 0

53 9 0

54 9 0

55 9 0

56 9 0

57 9 0

58 9 0

59 9 0

60 9 0

61 9 0

62 9 0

63 9 0

64 9 0

65 9 0

66 9 0

67 9 0

68 9 0

69 9 0

70 9 0

71 9 0

72 9 0

73 9 0

74 9 0

75 9 0

76 9 0

77 9 0

78 9 0

79 9 0

80 9 0

81 9 0

82 9 0

83 9 0

84 9 0

85 9 0

86 9 0

87 9 0

88 9 0

89 9 0

90 9 0

91 9 0

92 9 0

93 9 0

94 9 0

95 9 0

96 9 0

97 9 0

98 9 0

99 9 0

100 9 0

101 9 0

102 9 0

103 9 0

104 9 0

105 9 0

106 9 0

107 9 0

108 9 0

109 9 0

110 9 0

111 9 0

112 9 0

113 9 0

114 9 0

115 9 0

116 9 0

117 9 0

118 9 0

119 9 0

120 9 0

121 9 0

122 9 0

123 9 0

124 9 0

125 9 0

126 9 0

127 9 0

128 9 0

129 9 0

130 9 0

131 9 0

132 9 0

133 9 0

134 9 0

135 9 0

136 9 0

137 9 0

138 9 0

139 9 0

140 9 0

141 9 0

142 9 0

143 9 0

144 9 0

145 9 0

146 9 0

147 9 0

148 9 0

149 9 0

150 9 0

151 9 0

152 9 0

153 9 0

154 9 0

155 9 0

156 9 0

157 9 0

158 9 0

159 9 0

160 9 0

161 9 0

162 9 0

163 9 0

164 9 0

165 9 0

166 9 0

167 9 0

168 9 0

169 9 0

170 9 0

171 9 0

172 9 0

173 9 0

174 9 0

175 9 0

176 9 0

177 9 0

178 9 0

179 9 0

180 9 0

181 9 0

182 9 0

183 9 0

184 9 0

185 9 0

186 9 0

187 9 0

188 9 0

189 9 0

190 9 0

191 9 0

192 9 0

193 9 0

194 9 0

195 9 0

196 9 0

197 9 0

198 9 0

199 9 0

200 9 0

201 9 0

202 9 0

203 9 0

204 9 0

205 9 0

206 9 0

207 9 0

208 9 0

209 9 0

210 9 0

211 9 0

212 9 0

213 9 0

214 9 0

215 9 0

216 9 0

217 9 0

218 9 0

219 9 0

220 9 0

221 9 0

222 9 0

223 9 0

224 9 0

225 9 0

226 9 0

227 9 0

228 9 0

229 9 0

230 9 0

231 9 0

232 9 0

233 9 0

234 9 0

235 9 0

236 9 0

237 9 0

238 9 0

239 9 0

240 9 0

241 9 0

242 9 0

243 9 0

244 9 0

245 9 0

246 9 0

247 9 0

248 9 0

249 9 0

250 9 0

251 9 0

252 9 0

253 9 0

254 9 0

255 9 0

256 9 0

257 9 0

258 9 0

259 9 0

260 9 0

261 9 0

262 9 0

263 9 0

264 9 0

265 9 0

266 9 0

267 9 0

268 9 0

269 9 0

270 9 0

271 9 0

272 9 0

273 9 0

274 9 0

275 9 0

276 9 0

277 9 0

278 9 0

279 9 0

280 9 0

281 9 0

282 9 0

283 9 0

284 9 0

285 9 0

286 9 0

287 9 0

288 9 0

289 9 0

290 9 0

291 9 0

292 9 0

293 9 0

294 9 0

295 9 0

296 9 0

297 9 0

298 9 0

299 9 0

300 9 0

301 9 0

302 9 0

303 9 0

304 9 0

1863 July 23 ME.

Meteor 2.3.4.5 Air No. 1

El 18 21 0

23 Camel 14

51 Cephei 14 Air No. 2.

13 Lyrae

0 Sagittarii

50 Draconis

8 Aquilae

~~0 Sagittarii~~

5 Aquilae

25 Camelopard 14

4 Meteor 13 Air No. 3.

0 Aquilae betw. 4th and 5th wire of Helium 13.

El. 19 29 0 (Cloudy)

Cloudy in South.

1863 July 24

El 17 39 0

(Too cloudy for Comet)

10 optometric pr.

11 Sagittarii

40 Draconis

10 Draconis

0 Sagittarii

0 Draconis minoris

23 Camelopard 14 mean doubtful Clouds.

51 Cephei invisible

13 Lyrae 3.4.5 barely visible

Clear again

R 2011.

13 Lyrae

13 Lyrae

?

vid Dist. book.

El 19 45 0 Clouds up.

1863 July 28th

El 18 14 0

1.2.3.4 clouds

Cloudy till

4 not in B 2.5.

1863 July 29

Cleared up, after a severe rain, this eve.

El 18 21 0

23 Canis Major & Lyrae
51 Cephei 1.2.3.4.5 Air 11

110 Hercules

R 2011.

25 Canis Major 3.4.5

4 not in B 1.2.3.

Lake Survey start etc. see Oct. book

1 Cygni	Gr 2933 3.4.5
Aug 1752	20 Cygni
9 Cygni	L 38094
L 37146	- 38154
<u>XX 263</u>	

El 19 58 0

Lake Survey start

G. 1418 sp.

L.B.

F4 Star. 2.3.4.5
* foll F4 1.2 3.4.5.

El - - -

New sheet

El 20 46 0

1000

1863 July 3 cont.

2 Aquilae

El 20 90 } Clouded up.

1863 Aug 3

El 16 59 0

Elmwin 3.4.5

7 Ophiuchi

2 Stenuli 3.4.5

* Dei +1° 9' +1° 34' 15" 17 11 22.5 +1 9.0

7 Ophiuchi

64 Canis Major 13. 4.

74 ——— 17 4.5

2 Ophiuchi

El 17 40 0

μ Herculii

φ' Draconis pr. principalis 16.

7 Draconis

7 Draconis

+ Dei +1° 55' 15" 1° 35' 78" 17 57 18.4 +1 95.5

70 Ophiuchi pr

μ Sagittarii

5 ———

5 Ursae minoris

23 Canis Major 14 1.2.4.5.

51 Capri 14 2.3.4.5.

R 7011 w. Dei

1 Ursae minor 13 2.3.4.

Aug 17 52

8 Cygni no AR?

Lat 37597

Gr 2933

~~Lat 37753~~ 20 Cygni 2.4.5.

R 7012. 4507

1 Ursae minor 13 2.

R 7013 7985

1 Ursae minor 13 4.5

21 Ophiuchi

2 Capricorni

1863 Aug 3rd - continued

Ec 20 26 0

27 0

Gr. 3220

- 3243 2.3.4-5.

Pr. XX.501 All only;

61 Appm for
foll

El 21 4 0

50

R.H. 5132

Ec 21 11 0

[Breaks down to Sep. 1st 59th after]
Chronograph Stopped.

L 41684

EC.

1st Dec Obs End B 21 20 0 2

Wind wire 20 20.8 ?

2nd Dec Obs End B 20 45.9

L

1st Dec

21

31

52.8

42153

32

12.6 ? Wind wire

Gr

3523

21

35

50.8

for Dec 1st 30th
after transit.

14 47 - 40
2 32 - 17

14 7
2 15

1863 Aug 4: Illumination East

Polaris wire 1

El 13 8 0

Polaris wires 2.3.4.5

El 13 17 0

} Air No 2.

After Several

Illumination West.

El 18 15 0

Star wires Air No 3.

51 Cephei 2.3.4.5.

some trouble with circuit

17 7011

A. Lyrae

K. Cygni 3.4.5.

Cygni

Dim 1752

A. Cygni 3.4.5

XIX 263

G 2933.

L 37753

R. 38094

R 7985

α Capricorni

α Capricorni

G 3220

— 3223 All not very good.

El 20 45 0

New Sheet

El 20 48 0.

R 27 5132

L 41684

Amor 21 28 57 + 45° 10'

L 42153

G 3523

Look out for broken
transits

next page

1863 Aug 4 M.W. cont.

53554

El 21 42 0.

1863 Aug 6.

El 22 44 0

Let on L. 44750 (a Late Survey Star)

Sea for some moments. could not be observed

Clouds up, - cleared shortly.

6 un 13 1.

Measures Dr. Stan obs'd & Legat. 5 un 13 2.3.4.5

Solaris 1.2

Chron. run down reset.

0 7 0

1 15 0 -

El

1863 Aug 10th

Add 32^m to all times on this day. The clock was set 32^m forward then

El 16 21 0
53 0

2 un 13 1

of Ophiuchus some times South with circlet

11 Hercules

4 Ophiuchus

64 Camel 13

2 Ophiuchus

7 Ophiuchus

7 Hercules

21 Draconis pa

4 + — 10th.

2 Draconis

1 un 13 1.5

23 Camelop H.

57 Ceph 14 1.2

Clouds prevented the rest

El about 33^m slow

El 13 8 0

1863 Aug 10th cont.

El. 23 15 0 new sheet.

" 23 15 0

Add 32nd - El. 23 47 "

" 23 50 0

23 57 0

Bonds, most of the stars in De la Rue

✓ Repair
 ✓ Polaris 13
 ✓ 214 Canis 13.

El. 1 12 0 (about 33rd slow)

El. 1 44 0

1863 Aug. 12th

El. 17 20 0

✓ 2 Ophiuchi
 El. 17 30 0
 " Aenialis
 ✓ 1 Wrasconi pr
 ————— foll.
 ✓ 1 Draconis 2.3.4.5
 ✓ Draconis
 ✓ 10 Ophiuchi pr.
 " Sagittarii
 ✓ 1 Wrasconi minoris
 23 Canis Major
 51 Cephei 14th pr

β Lyrae

* foll. β Lyrae

Adjusted wires which were broken.

3 Aquilae

π Sagittarii

/ next page

X 1863 Aug 12th continued

4 Wrs. min B	1 st w.	4 breaks
	3 rd w.	1 —
	4 th w.	2 —
	5 th w.	1 —
L. 37486		No SR?

El 19 39 0

New Sheet

El 19 41 0

156 Camel B

B Aquilae

Rash. 4502

~~Shuttleworth~~ B.

21 Capricorni

2 Capricorni

Pr. 2618.

Gr 3215

~~SR~~ ? 1st w. lost

2 Cygni

32 Vulpeculae

61 Cygni

fall

2 Cephei

1 Draconis 2.3.4.5

8 Cygni

* fall of Cygni (L.S.)

* 21 32 28 + 50° 27' for 1862.0

Gr 3533

R 9430 (79 Cygni)

16 Pegasi

* 21 51 59 + 62 36 for 1862.0

G 3644

El 21 59 0

New Sheet

El 22 3 0

Dec 23902

L 43886

2 Cephei

5 Cephei

found here

1863 Aug 12th cont.

9 Lacertae
 2 44250
 34 Cephei 14
 (M 8037 no obs)
 4 4052 false break bef. M.
 39 Cephei 14
 El 23 30 0

1863 Aug 14th

El 17 50

64 Canis B. Lening N^o 2.
 4.5 very faint
 p^r 1200. m 23.45
 full 3.4.5.

4 Braconis
 1.5 The covering is worn off the
 p^r Sagittarii
 Assisted by Bond in searching 1 touch
 for a nebula.

4 Aquilae

11 Sagittarii
 4 Ursae B 1. no obs.
 El 19 8 0
 New sheet

El 19 10 0

4 Ursae B 2.3.4.5

6 or Vulpemulae

8 Cygni

* full 8 Cygni

11 Sagittarii 3.4.5.

* prior 8 Cygni

8 Cygni

4 Aquilae

156 Canis B

8 Aquilae

+ 19456

* n. m. red.

~~probably~~ 19 30 57.5 + 1 12.4

+ 14199

* 19 51 22.3 + 1 11.7

9 Sagittarii 3.4.5

4 Ursae 1.2.3.4.

* 20 4 57.9 + 1 52.8

1863 Aug 14th Mond.

Sun in 5.

9 *Arcturae*1 *Alaphi*2 *Capri*G 1418. *Sp. Wier* ~~Wier~~ ? *Wier* ~~Wier~~ *Wier*9 *Capri*8 *Cephei*H *Wier*H *Wier*

El. 20 32 0

.. 20 33 0

74 *Arcturae*2 *Capri*7 *Cephei*6 *Ursae* *aug* *Sp.*32 *Vulpeculae*76 *Braconis*02 *Ursae* *majoris*61 *Cygni* *pr*

Fall.

7 *Cygni*

Lamps (2) went out

1 *Wier* 4.5.719 *Cephei* 2.3.4.5

El 20 30 0

1863 Aug 15th

El 7 22 0

Zone stars:

No. 1

+2° 7'

+2° 33' 33"

17 31 50.3 +2 6.8

" 2

+2° 6'

2 33' 36"

32 36.5 2 6.5

β *Optimae*" *Hermin*

Star No. 3

+1° 21'

1 35' 28"

45 19.3 1 21.2

" 4

+2° 7'

2 34' 27"

48 18.6 2 7.4

γ *Braconis*

Star No. 5

+1° 19'

54 24.2 1 18.7

70 *Optimae* *pr* 1.3.5.

Fall. 2.4.

8 *Ursae* *minoris*

Nova

1863 Aug 15 continued

23 Canis Major 14^h 14^m
 Zone - 10^h nob. - + 1° 37' 12" 18 26 12.1 + 2 45.1

51 Cepheus 14^h 14^m

13 Lyrae

0 Sagittarii

1^h 1^m 1^s 1^h 1^m 1^s 1^h 1^m 1^s

0 Serpens fall

50 Draconis

* N. P. 2 Aquilae

E Aquilae

2 Aquilae

11 Sagittarii

The circuit has grown too weak to work with

Scumby

El 19 9 0

1863 Aug 17: Clouds rather suddenly.

El 18 20 0

23 Canis Major 14^h

54 Cepheus 14^h Air N° 3, i.e. very bad.

110 Hercules

13 Lyrae

0 Sagittarii

El 18 49 0 New Sheet

El 18 53 0

2 Aquilae

25 Canis Major 14^h 2.3.5. Cloudy. Air 2.

0 Aquilae very faint

1^h 1^m 1^s

156 Canis Major 13.

13 Aquilae

1 Sagittarii

1^h 1^m 1^s 13 1.2.3.

Air N° 2

8 Aquilae

1^h 1^m 1^s Capricorni (1^h hid by clouds)

El 20 12 0

Aug 18.

1863 Aug 17

El 17 32 0

 ψ Draconis
full ξ Draconis γ 20 Ophiuchi pr 135
full 24 μ Sagittarii
Draconis.

visitation: Mr. Hough of the Dudley Obs.

Betulae
 γ Sagittarii
Cloudy in the N.12 Capri
12 Capri
El 20 11 0

New Sheet

El 20 17 0

 ρ Capricorni δ Capri~~XX~~ 292 α Delphinii α Cygni η Capri

32 Vulpeculae

46 Draconis 23 45

12 Cygni 23 45
full " "

2 Capri

1 Draconis pr.

119 Cygni B 23 45

 β Capri

El 21 29 0

1863 Aug 19

E

1863 Aug 19

Cl 1340
Polaris Air No 3.

Cl 13240

Eb 17579

Almae acin	Dir	Air No 2		
Zonatan 1	+1051	+13689	8.0	1822 36.8 +15.2
2	116	13698	7.9	23 37.5 117.5
3	145	13711	8.5	25 55.3 144.3
4	148	13712	7.6	26 12.1 148.1
5	137	13729	8.7	30 16.7 136.6
6	122	13736	8.6	31 35.6 121.3
51 Cepheus H	2.3.5			

110 Hercules

Zonatan No 7	+247	23693	8.5	43 29 +267.3
8	114	13796	8.6	44 8.4 14.2
9	135	13803	7.8	45 48.2 135.1
10	144	13814	7.7	47 11.6 143.7
11	144	13815	7.7	48 17.4 143.4

A Serpentin H

A Serpentin H 150 Draconis

A Serpentin H

A Serpentin H

Zonatan No 12

6 (a) Vulpeculae

B Lygii

B Lygii folly.

B Lygii aris

B Lygii

A Zonatan x +1° n. 2' of folly. 14075 7819 39 7.3 +14.7

El 19380 7 14077 8.5 28.2 11.7

156 Canis Major B.

B Aquilae

El 19490

New sheet

new sheet

1863 Aug 17 cont.

El 19 55 0

Uranus 3.4.5

Clapnet

El 20 13 0

1863 Aug 22.

64 Camel B 4.5 Air 2.

El 17 21 0

B Draconis

& Ophiuchi

energized battery with CuSO₄

B Ophiuchi

4 Draconis pr. 2.3.4.5 (1? cont)

4 Draconis

20 Ophiuchi pr 1.2.5
full 2.4.

Visitors

5 Aquilae

25 Camelopt 1.4.5, Wires touched.

4 un min B 1. Clouded in N. while waiting for

2 Aquilae 3.4.5

2 wire -

Cloudy. El 19 36 0

1863 Aug 24

El 13 50

Polaris op. Air No 2

B 13 15 0

El 13 40 0

7 wires as major 1st N. wrong

& Boethi

El 14 10 0

/ next page

1863 Aug 24 cont.

El 16 14 0
 12 Ophiuchus

E. Urae minor 2345 Arid 1.

2 Herculis m.

64 Camelopard 13 sp.

31 41

31

2 Ophiuchus

3

12 Herculis

* Dec +1°50' faint

* Dec +1°55' bright 20 Ophiuchus 125

* Dec +1°8' 45th 24

8 Urae minoris 2345 Arid 1.

23 Camelopard 13 sp.

El 18 25 0

new sheet

El 18 29 0

51 Cepheus H. Arid 1.

+ Dec +1°36'

" +1°37'

3 Aquilae

25 Camelopard H. Arid 1.

El 19 3 0

1863 Aug 30th

El 23 19 0

R 11262 [5th only] w. dec

R 25645

4 Andr.

R 11637

R 11581 1 Andr.

4 Pegasi

1

0 9 0

new sheet

0 12 0

1 3.4.1

Polaris 1.4.5

See Dat. Book

The stars obs'd in Dec. on then Thet are

1841 92 R. 399
2nd 620 — 472
1841 120 1841 620
2nd 1633 — 647
1841 382
1841 1849

1841 2 8 0

1843 Aug 31st

18 47 0

1843 Aug 31st

18 47 0

1863 Sept. 2, 1843

18 47 0

[Chambers' variable]
α ophiuchi

β ———
4' Draconis m.
100

α

β

γ 3.4.5

Hepler H. v. p.

β Lyrae

γ

δ

ε

ζ

19 19 8 + 36 10 1841,
2 Lyrae

κ

λ

μ

next page

+ There are certain stars of the Lake Survey

Catalogue sent to Cambridge in 1843 to be determined

El 19 53 0

El [20 0?] 0

Br. 2618 no *AK*
Vlypi 5th W. only

El 20 26 0?

El ———

2 Cygni

El 20 43 0

61 Cygni pr

— toll (uncertain)

Nov 19

El 21 28 0

1863 Sept 5th

1 Draconi

El 17 57 0

+ 4

.. 6

.. 5

gr. 2533

El 18 15 0

El 21 4 0

5 Cygni

1 Draconi

19 Cephei 13 pr

2 h 153

254 7530

gr 55

El 21 36 0

gr 3554

2 Aquarii

5 Cephei 13 pr

2 42886

5th

1863 Sept.

+ a Lake Survey

" b

" c

Gr 2533 = Bte 6203

Sun min 3.4.5 Air N^o 2.33 Camulopt⁺ sp.

Eb 18 28 0

57 Cephus H sp

110 Herminia

p Lyrae

+ folk p Lyrae

o Sagittarii

o Lepus⁺ p50 Draconis reject⁺ M.

* proz Aquilae

2 Aquilae

3

* e

" f

" g

" h (M 2400)

" i

o Lyræ

y Aquilae

* k

l

m

Mermin B 3.4.5 Air 2.

Eb 20 13 0

Eb 20 16 0

* n

" o

74 Draconis

76

o Lyræ

1 Draconis H sp.

119 Aph⁺ B 2.3.4.5

* Lake Survey

* 79 Lyræ

* 80

Eb 21 16 0

1863 Sept 7 M.W.

26 19 2 0

R 7176

- 7219

- 7276

Lat 36568

Br. 2460

R 7552

♂ Cygni

Gr 2946

Gr 2961

Rev. 4554

2 Un. uni 2.3.4.5 Air 1.

* ~~South~~ nem 12 2618

γ Cygni

Rev 4871

♂ Cygni

1 Blunt 3.4.5

119 Lepus

26 21 27 0

26 21 30 0

1863 Sept. 9 M.W.

26 0 14 0

2 613

134 120

π Andromedae

♂ Capripes

26 0 35 0 (ink faint)

26 0 37 0

γ Capripes

2 1623 546

2 Procin

β Andromedae

Polari. 1.2 accented H. up 2. Air No 2

134 382

Polari h. 5

♂ Ceti

214 Camd. B.

next page

1863 Sept. 9 M.W. cont.

2399.

10 Anetm

1346 637

— 647 = 11 Anetm

20 un und B sp. 2, 3, 4, 5 An 2.

in 527

El 2 36 0

El 2 40 0

nebula [Puy Baud]

1863 Sept 10. M.W.

El 13 1 0

Polaris 2 3 4 5 An 2.

El 13 15 0

El 18 12 0

Ursae minoris An N^o 2

23 Camel H sp

51 Cephei H sp An N^o 2

110 Herulis

5 Sagittarii

0 Serpentis m

50 Draconis

E Aquilae

Ink thick-refilled pen

El 18 55 0

" 18 56 0

5 Ursae minoris Aquilae

25 Camelopard An N^o 1

4 un und B. 1, 2, 3, 4 An N^o 2, (faint)

Accidental break some 8^s before 4th wire,
made when getting into that rather hurriedly. The star was
at that time visibly and steadily off the wire

El 20 12 0

comet 1863 II (W.S.),

El 21 9 0

El

1863 Sept. 10. cont.

Received by M East

1863 Sept. 14

El 18 32 0

ST Cephei Hsp. (obscure unmarked) And N^o 2.

4 Unum B 1. 2. 3. 4. 5 And N^o 1

R 7592.

El 19 31 0

El -----

Rod 4871

α Lyrae

α Lyrae

El 20 48 0.

1863 Sept. 15

El 18 26 0

ST Cephei Hsp And 1.

18 41 0

42 0

43 0

1 Lyrae

8 Lepentis m

----- toll

4 Aquilae

4 Arctae and 13 sp And 1.

R 7588 345

Menaceum 13 And 1.

α Capricorni

α Capricorni

Gr. 1418. 2p.

22 Vulpeculae 2345

El

1863 Sept 16.

El 123 0

2 *Tringali*
 10 *Mietin*
 BH 137
 2 *Mietin*

1863 Sept 17

El 74 *Tracoris*
 2 *lynni*
 7 *Cephus*
 1 *Uriae majoris*
 2 *Vulpes* 2.3.4.5 (1.5 lost by clouds)
 Cloudy
 5 *Cygnus*
 1 *Cephus*
 1 *Dracoma* H
 3 *Aquarii*
 * near *Cephus*
 7 *Cephus*
 BH 287 = Sp. 1564
 4 *Cephus*
 2 *Pegasi*
 Cloudy again
 El 28 51 0

New Sheet

El 21-54? 0

2 *Aquarii*
 34 *Cephus* H 2.4.5
 2 *Pegasi* near 1.
 Chronograph ran down

El 22 54 0

2 *Uriae majoris* sp
 2 *Pegasi*
 El 23 18 0

1863 Sept. 19th

El 12 58 0

Polaris 2p

El 13 17 0

Clouds up - Rain - Storm

1863 Sept 20th

El 9 59 0

Lunar

1863 Sept 21

El ~~10 14 0~~

12 59 (21)

Polaris P. circuit weak

El 13 16 0

El 16 14 0

u

51 Cephei Hsp

B. Lyrae

D

El 18 49 0

25 Camelop H

4 hrs min B 1.2 Riv 2.

6 Cygni RR int.

D

P. Cygni

4 hrs min B 4. di 2

P. Cygni

D

* 4th P. Cygni

El 19 29 0

El

P. Cygni

D

15th Camd. B. sp.

P. Aquilae

El 19 50 0

El 19 53 0

4 hrs min B 1.

Clouded in North.

1862 Sept. 22

El 12 50? 0

Polaris Ari 3/

El 13 16 0

1863 Sept 22 cont.

51 Cepheid H Air 2.

El 18 55 0

25 Camelo H sp Air 2. α Lyrae D BTL 6651 D Rum 2588 D α Cygni D

El 19 36 0

El 19 43 0

 α Aquilon 3.4.5. α Cygni D Munich B 1.2.3 Liny N^o 3.

BTL 6930

El 20 8 0

9 0

 α Capricorni α Cygni

BTL Winter W. Edge of the Coast Survey

El 22 15 0

 α Cephei D 9 Lacertae D 34 Cephei H . α Persei austr.B Persei D

El 23 1 0

New Sheet

El 23 4 0

1 Perseum D

Dec +20.

15 Perseum D

Dec. 0.

202 Camelo B sp. 3.4.5 Air 2.

39 Cepheid H . Air 2.1 Perseum D 309 Cepheid B Air N^o 3.

El 9 54 0

Air 236 9 50 0

5
10

1863 Sept 23.

El 12 58 0

Polani Air 3.

El 13 18 0

El 18 30 0

57 Cephei H Sp. 1.2.4.5

B tyrae D

4 Aquilae

11 Sagittarii

4 Mus uni B Air 2. Mus 1.2.4.5.

Slypi D The definition improves

typi 66 B. D

4 Aquilae

20 typi 2 D

Mus uni B 12345

1 typi D

47 20494 D

El 20 24 0

new sheet

El 20 29 0

2 typi D

7 Cephei D

32 Vulpentine D Fine aurora

El 20 55 0

61 typi m. D

5 typi fully D

2 Cephei D

Set as Neptune. Seeing too bad

Found Nemaura at $9^h 40^m = \text{P. XXVI} \text{ } \epsilon_{70} + 4^m 34^s + 5.5$
 this agreeing well with Sieffert's ephem. in Janob.
 31 Cephei H

El 22 51 0

1863 Sept 24

El 12 55 0

Polaris 1p. 13.4. Air 2. Cloudy.

El 13 18 0

El 14 50 0

Moon min B 1.2

Air 2. (2 w. a little doubt, ^{to be determined} Feb.)

El 14 18 0 145

Air 2.

The star is rather too faint with full illumination

8 Cygni

Acquiesce with Equinox.
Some transits of Neptune.

El 22 11 0

El 22 ... of Pol. Equinox

S Aquarii

α Pictis austr.

γ Pictis

D

39 Ceph

2. 3. 4. 5

Air 2.

α Andromedae

D

γ Cephei

D

5 UMi and Bp 2 3 4 5

Neptune

D

12 Lib

D

El 0 31 0

1863 Sept. 28

El 12 50? 0

Polaris Air 3.

El 13 17 0

El 17 35 0

γ Draconis 3 4 5

S Momi Air 1.

51 Cephei Air "

El 18 40 0

1863 Sept 28 continued

El 19 54 0

11 Ursa minor 1.2.3.4.5 *Alt 2.*
 false break before *Sw.*

p Aquilae

2 Capricorni

α Capricorni

9 14 18 *Sp*

p Capricorni

+ pole p Capri 4.5.

α Cephei

D

α Cygni

D

ε —

D

~~22 Vulpeculae~~

El 20 45 0

new sheet

El 20 49 0

32 Vulpeculae

D

61 Cygni *pr*

D

— *pole*

D

7 Cygni

D

α Cephei

D

β Aquarii

Nemausa Equat.

δ Aquarii

34 Cygni H 4.5

α Pictis austrina

D

γ Pictis

D

94 Aquarii

D

202 Camelopard *Dep.* } *Alt 1.*

39 Cygni H

D

α Pictis

D

α Pictis

D

XIII 270

D

weigh 1209

D

} Stars used for
 Nemausa

El 0 9 0

10 0

5 hr min D 234 *Alt W. 2*

Nephthys

D

2 G13

D

11 Andromedae

D

Bradley 74 *Alt 2*

This obs. not very good: observer fatigued

1863 Sept. 28 continued

33 Cephei H.

2 Pegasus

44 Cephei H.

Potamii 1.2.3.4.5 Air N^o. 2

El 16 0

Observer put for home.

1863 Sept 29

El 12 55 0

Potamii Air N^o. 2.

El 13 18 0.

El 21 39 0

16 Pegasi

34 Canis H 1p

2h Cephei H

2 Pegasus anals.

2 Pegasi

besides Dist. Stars

El 23 36 0

El 23 39 0

Stellar B 4p.

El 0 28 0

1863 Sept 30th

El 12 56 0

Potamii op. Air 2

13 17 0

El 17 40 0

1p Hercules

4 Praesepe

1 Canis minor

23 Canis H 7p

51 Cephei H 1p (lost 1 with out)

1863 Sept. 30th Cont

El 20 57 0

62 Uræ maj sp

61 Cygnus pr

Joll.
Angelina begun with Equat.

Pen ran off.

El 22 9 0

Angelina finished (Equat.)

Nemaura "

B Uræ maj sp

α — — sp

γ Picium

α Pegasi

γ Picium D

κ Picium D

202 Canis B sp 345 Air No 2

39 Cephei H.

Air No 1

γ Cephei

Weisse XXIII D

Tcatti XXIII D

Star a for Angelina

— a " Nemaura

γ Pegasi

5 Ursæ B sp.

Neptun

2 Ceti

El 0 33 0

El 0 36 0

B Ceti

Bradley 74

2 Picium

44 Cephei H.

Jollari sp 2

El 1 16 0

W. D } Not very good
 D } 4th faint
 D

D
 D

1863 Oct 1.

El 12 57 0

Polaris was not seen: Haze.

El 16 33 0 [Polaris not visible]

51 Cephei H 1.2

Put in lamp

51 Cephei H 4.5

13 Pyrae

El 18 47 0

El 20 19 0

8 Capricorni

A. Marsa mag

~~12~~ 29

1 Aquarii D

74 Draconis

El 21 1 0

El 21 31 0

Antelina

El 22 24 0

Thick Haze.

7 19.0 - 1.0

9 35.5 - 39.4

11 19.0 - 30.6

13 26.4 - 4.1

15 20.2 - 2.0

11 48.02 - 39.26

37.4 - 49.9

19 50.62 - 10 49.36

10 29.7 - 10 19.2

11 6.0

1863 Oct 9 Obs Comet 11 1863
 Equatorial E.C. 19 10 00
 21 18 00

G.P.B.-

Transit of B. Ceti
 1st record End - 0 38 00

1863 Oct. 15 Equatorial New Planet.
 Watson-
 2nd Beginning E.C. = 1^h 4^m 0
 End - " 1 47 0

1863 Oct. 20th Returned to Observatory - have been absent on
 a short journey since Oct. 3rd (J.H.S.)
 E.C. —

Polaris / false bk. after 2nd W. / Air 2 /

E 1 24 0

~~I do not think this obs. worth mentioning. It is probable~~

1863 Oct 22

El 22 0 0

4 Aquari D

6 Aquari

7 Aquarii D

8.4 14648 22 39 20.8 + 1 11.0 D

8.5 14651 22 41 30.6 1 6.2 D *Fr. W.*

4 Phicis austr.

Luncheon with new circuit

8.0 14696 23 6 16.3 + 1 24.2 D

4 Piscini

D

7.8 14712 23 13 26.3 + 1 40.5 D no AR

11 Piscini

D

39 Cephei H

8.2 14758 23 33 52.9 + 1 39.4 D

8.7 14770 23 39 59.3 + 1 56.3 D

1st lot?

8.2 14799 23 47 0.8 + 1 40.2 D

Drift ~~1111~~ 1157 for Remanua [faint]

El 0 5 0

new chart

El 0 8 0

Cassini B 1.

5

1.23

6

3.4

Neptune

D

Polaris 12345 in W. 2

El 1 14 0

El 12 59 0

Polaris sp. in W. 2

El 13 14 0

1863 Oct. 23

E 19 37 0

y. Aquilae 2345

196 Camel to sp. Air 2.

Munini 13 1245 — 2

H 20 15 0

Polaris

1863 Oct. 24 MW

E 19 32 0

Munini 13 Air 2

For the third wire give 3rd and 4th bks. each $\frac{1}{2}$ weight,

at Capricorn

at Capricorn

H 1418 sp 4.5 Air 2.

E 20 20 0.

H 22 45 0

M. Lep. 3.4.5 Air 2.

at P. a. 3.4.5

P. a. 3.4.5

x — — — — x

B. P. 3.4.5

at P. 3.4.5

~~223~~ ~~55~~ 0 } ~~223~~ 171. 3.4.5 } The diff. of decl. was measured
 57 0 } ~~223~~ 276 } between these stars
 57 0 } ~~223~~ 276 } same report at 0.0 - too far off.

It will be necessary to select beforehand
 a list of stars for diff. decl.

Spent some time in 4 experiments in this direction

Mun. Lamp went out while sitting on Polaris

Polaris 2.3.4.5. Air 2

at 0.0

" "

246 Camel to sp.

1863 Oct. 28 ^{18.6} continued ^{2.16}

2 Peru

12 Picum 4.52

2 Ceti

1 Ceti

219 Cam 13 ^{18.6} ^{2.16} slow

14 Capricorn

(2 Picum: too confused to observe well) not observed

Volun in 13, 2 3 4 5 Air 2

El 2 7 0

El 13 3 0

Volun in 13, 2 3 4 5 Air 2

El 13 4 0

1863 Oct. 29 21 W.

El 19 50 0

Volun in 13, 2 3 4 5 Air 2 rej 3rd

p Aquila

x Capri

x Capri

Epr 1418 5h

El 20 16 0

El 22 31 0

Aα 2.3.4.5 D } +1st 4686 6th 23 116.9 + 119.0

Aβ 5 D } 4687 8.0 159.9 122.0

x Picum

202 Cam 13 1st

Bα D } 4741 9.0 23 28 21.0 + 116.0

Bβ D } 4744 6.4 28 59.3 17.2

Cα D } 4764 8.5 36 43.3 20.4

Cβ D } 4766 8.5 37 39.6 52.0

Cloudy

x Neptune D

12 Ceti D

El 0 25 0

New Sheet

El 0 29 0

next page

1863 Oct. 29 cont.

Maiden 24
43 April 11

Dx

Dp

Polaris 12345 Air 2

+ Cassiopeia

244 Cassiopeia 13 sp. Air 2

Clouded

El 1 23 0

1863 Oct 31 G.P.B

Beg - 1 20 End 1 34

+ Perseus for dec.

1863 Nov 2 U.W.

El 21 57 0 [Partly cloudy]

2 Aquarii 3.4.5

4 April D

202 Cassio. 13 sp. } Air 2.
39 April 11

0 Perseus

2 Air

El 23 56 0

El 0 2 0

6 hrs in 13 1.

5 — 1.2.3

6 — 2.4.5.

12 Air

3 Cassiopeia 2345

2 —

} Air 2

1863 Nov 2 cont.

Asadley 74

43 Cephei H.

[44 Cephei H. too faint to be dr.]

Polaris 1. 3. Flying clouds.

Clouded up.

El 1 35 0

1863 Nov. 3. MW

El 21 38 0 Series for Errors of Division of. MW.

16 Pegasi D

2 Apicarii

3 Cephei D

4 Aquarii

30 Canis M. sp. Air 1

3 Cephei m. 2. 3. 4. 5 }

3 Cephei full D 2 3 4 5 }

193 Canis M. sp.

7 Pegasi D

4 Cephei D

2 Capricorn D }

4000 Gr. D }

Distinctions good.

202 Canis M. D sp.

39 Cephei H.

7 Cephei

~~7 Cephei~~

7 Androm D. 10 AB. }

XXIII 276 D 2 3 4 5 }

2 Androm D }

6000 Gr. B. 1.

5 — 1. 2. 3 }

6 — 3. 4. 5 }

7 Capricorn m. D }

11 Androm D }

7000 Gr. D }

2 — D }

Polaris Air 2. with 1

El 1 6 0

Polaris w. 1. 3. 4. 5

214 Canis M. sp.

El 2580
new sheetAll bad, ref. col.
The wires of the stars interfered
with each other.

Circles not read off

1863 Nov 3 Andromeda ~~P~~

21 ~~Andromeda~~ D

* nov 2 Ceti

7 Ceti

3 Arietis

2 —

20 nov 2 B m

El 2 6

1863 Nov 4

El. 13 6 0

Polaris 2345 Nov 2.

El 20 7 0

12 Capri

24 —

4 Cephei D

2 Cephei D

2 Cephei D

32 Vulpecul. D

El 20 52 0

New Sheed.

El 20 56 0

61 Cygni } D

61 Cygni } D

5 Cygni D

2 Cephei D

1 Dartt. 2345 ref 2 Nov 2.

El 21 24 0

El 22 41 0

3 Tegete D

202 Camel 13 m } Nov 2

39 Cephei H

4 Cephei 2345

~~411 171~~ D N. N.

4 Androm D

309 Cephei B 245 Nov 2.

~~311 270~~ D

2 Androm D

5 Nov 2 B m.

12 Ceti

1 Capri D

7 — H D

El 22 42 0

back page

1863 Apr 4 cont.

E 0 45 0

μ Andromedae D

79 Pricum

D

D } circles not read off

Polaris 1.2.3.4.5 Air 2.0

Ceti

214 Caput B sp. Air 2.

γ Pricum

10 Andromedae D

Ceti

* mu X Ceti

X Ceti

219 Caput B sp

α Pricum pr 2.4
July 1.3.5

E 1 56 0

1 57 0

α Arietis

20 mu in B sp

0 Ceti

1 Caput B sp

mu 1st. report.

E Ceti

35 Caput B

- Contact between nose and dead. must descend

Hy 527

E 2 32 0

Hy 527

1863 Apr 12

E 13 20

Polaris sp Air 2.

13 19 0

1863 Nov. 19th M.W.

El 20 32 0

24 Draconis Air 1

2 Lyræ 3 4 5

7 Cephei

6 Ursa majoris sp

32 Vulpeculae

26 Draconis Air 2 - 2, 3, 4, 5 (1 before sig. reject)

5 Ursa majoris sp

61 Lyræ pr. and fol. (Revised run El 21 6 0)

2 Lyræ 2 3 4 5

7 Draconis H. Air 2

19 Cephei B Air 2

19 Cephei Cones

19 Cephei.

El 21 30 0

1863 Nov 19th M.W. cond.

El.

Polani 2.5 Air 2

α Virginis

El 13 20 0

1863 Nov. 20th

El 21 (30? 0)

2 Pegasi

Cloudy. Visible

El. . . .

1863 Nov. 22nd

El 13 5 0

Polani 1. Air 23

Polani 2.

Before the 2nd wire the picn was
accidentally moved backward, so
as to precede wire 1

El 13 9 0

Pegasi

wire 3.

El 13 11 0

1863 Nov. 26 cont.

Wm. 4.5.

2 Virgini

El 13 19 0

" 13 21 0

1863 Nov. 27.

El 23 20 0

3 glephus H. Air 3.

Battery weak false bk. long. after 5th us

El. 23 27 0

38 0

Time called 8 Sulphuric

1 Urnae unsp Spr

309 Cephæus B

Wm. Mr. Asher at Lake Survey

Planis Air 2.

244 Cennet B 23 4.5

El 1 24 0

El 2 41 0

β Ursae minoris Spr.

2 Ceti

4 Eridani

2 Persei

0 Tauri

57 un in B. 4. 12. 2. Flying slowly.

8 Persei

* prae η Tauri near in dr.

η Tauri

* prae η Tauri 15' n.

Refilled near El. 3. — 0

4 Persei

4 Ursae minoris Spr.

4 Eridani

Gr 750 123. Air 2

62 un in B Air 3.

El 4 1 0

1863 Nov 24th

Potato 1. give out to 2 last crates

13 x 0
 6 Potatoes 23. Crates
 26.

1863 Nov 25th

1 Biscuits 11 Air 2
 21 21 0

Pleasant proc.

Pleasant

Bk 3287 s.p.

y Capricorn

z Pagan

S Capricorn

2 Uracae sp

16 Pagan D

1 Aquarius D

c Pagan 345

z Capricorn D

26

1863 Nov 26

27 48 0

The obs. marked A. are by Mr. E. P. Austin

P Uracae mag sp A

2 " " A

P Orion A

z Pagan A

y Pagan

b' Aquarius A

x Orion

27 48 0

27 48 0

27 48 0

5 Uracae mag B Air no. 3.

27 48 0

27 48 0

z Capricorn

next page

1863 Nov. 26.

Br. 74.

Eumene major sp.

43 Cephus TT. Air 2

Polaris 1.2.4.5 Air 2

8 Ceti

214 Canis Major sp. Air 2

Eb. - - -

Polaris sp 3.4.5 Air 2

Eb. - - - 0.

1863 Nov. 28. 22. 1 5 0

1863 Nov. 29th

Eb 13 3 0 (Eb had just been set going)

Polaris 2345 in now 1st 50th ca. slow

Eb 13 20 0

1863 Nov 30

Eb 0 3 0

6 Min 13 1.2 Air N. 3

5 — 13 3.4.5 "

6 — 13 4.5 "

1/2 Ceti " Eb slow 1st 57.8

Br. 48

2 Capricornae

Eb 0 43 0

" 44 0

Eumene major sp 2345

43 Cephus TT. Air 2.

44 Cephus A

3 Andromedae

Polaris 1.2.3.4.5. Air 2.

last OK. for 4th wire accidental and to be repeated.

214 Canis Major sp. Air 3.

2 Arctis

20 Min 12 sp Air 3.

Gr 527

Eb 2 31 0

Right blow
of head on cyprin
bef. 5th w. of Polaris

Min sp 2.20.1
2 Virgin 4.5

1863 Dec 1.

~~Wegman~~

Q 20 27 a

✓ by me.

8. *Lyman*

of Cephus

54 20 57 0

~~Hand # 2/2~~

of Ephesus

~~1 Dmott sp~~
4 Cephus
1 Dmott sp. An 2.

В Серми

Plat 32872r

γ Capri'corni

Σ Ρουσσώ

S. capricornis

S. capricornis
Wendy N.

16 Pyram

1863 Dec 2.

6210

O. Aquarii

30 Laminop H

Feb 22 14 0

By direction of Prof Baird, obs. on the catalogue are to be suspended for a few days, except in urgent cases.

This is to give time to reduce the Lake Survey observations

Cloudy when Potain passed.

1863 Dec. 5th

Ec 17 49 0

у Олесицы

U 1816 0 (Clouded)

1863 Dec 6th (Monday Morning)

Q 13 0 0

46 13 0 0
Polari 1.2.3.4 Air 2 for Polari 4.5
" 13 12 0

11 13 17 0

U 14 4 0
A. B. B. B.

23001

1863 Dec 7

26 21 47 0

2 Aquarii

5 Pegasi

5 Cephei

2 Aquarii

30 Camelopardalis Air 2.

22 15 0

26 0 36 0

Moraeus sp

53 Lepus H Air 2.

E Pegasus

53 Lepus H } Polaris 2.3.4.5

1863 Dec 9.

Clear suddenly - has been cloudy all day

26 22 43 0

44 0

34 Lepus H Air 1.

4 Moraeus sp

2 Pegasi sp

2 Pegasi 2 3 4 5

26 22 58 0

26 0 50 0

E Pegasus

54 Cepheus H. Air 2. Windy

Polaris Air 2.

214 Camelopardalis sp.

2 Persei

New Sheet } Pegasus

26 1 50 0

2 Arietis

20 km in 13 sp.

36 Lepus H

50 527

26 2 43 0

1863 Dec. 10 th MW,

B. Aquarii

Ec 22 10 0
11 0

30 Lalande 450 2345 Air 2

34 Cephei 44 2345 Air 2

4. P. in austrini

Ec 23 0 0
New Sheet

Cold and windy

Ec 23 4 0

30 Lalande 450 2345 Air 2 faint

Ec 0 47 0

43 Lepus 2345 Air 3 1/2 P. in

Polaris was very bad and to be rejected.

The seeing does not ^{now} admit of safe observation upon Polaris.

I think the obs. of 43 Lepus is better, Polaris was 4.5 was however observed; and may be retained

Dec 14 a. Aurigae

Ec 4 43

5 7

1863 Dec 15th

C 22 27 0

3 Regni

2 Regni

3 Regni

44 Cepheith Ari 1

Fomalhaut

2 Umacronyoni sp

3 Pinini

2 Regni

C 23 1 9 new Sheet

C 0 51 0

3 Pinini

44 Cepheith

Polaris Ari 2

4 Capri

24 Canis 13 Ari 2 - faint

2 Arctis

Pen out of repair - put in new one after a severe
trial with the old.

C 2 35 0

41 Arctis 2345

XIV 217 2345 Error in marking list.

3 Umacronyoni sp.

2 Ceti

52 Umacronyoni 13 123 sp Ari 2

323 Capri 13 345 Ari 2

6 Canisth

3 stars in the Pleiades: the last 44 day

C 3 42 0

new Sheet

C 3 46 0

3 Umacronyoni sp 345

4 Eridani

65 750 123 Ari 2

6 Umacronyoni 13 Ari 2

Gr 729

0 Eridani n. 5

40 Eridani n. 5
faint some other n. 5

4 Tauri

1863 Dec 15th cont.

3 Tauri

64 Tauri

2 Tauri 345

4 Draconis sp.

2 Tauri 6

Chron. 236 429 10

15

20

Looked for Lencotheca with 3rd Eq.

Bylaunlop B Air 2.

3 Orionis

2 Leporis

2 Orionis

El 5 32 0

1863 Dec 16th

El

2 1 0

2 Lepi rather faint

1 Capripopae 2.3.4.5.

323 Capri 13 2.3.4.5 being W. 3.

El 3 24 0

Look for Lencotheca with 3rd Equal.
Moon too high

1863 Dec 20th

El 34 Cephei H 3.4.5 Air 2

El 22 19 0

202 Cassiopeia Air 2

39 Aphi H "

1 Cephei

El 23 35 0

2 Picus

El 1 57 0

49 Ephi H

Polaris

1. ink faint 16 beats

2. 3. 4. 5

219 Cassiopeia faint

Air 2.

1863 Dec. 27 ^{W.} continued

El 1 27 0 It was found necessary to take off the
1 34 0 point of the trap in and to grind sea,

* pro * Ceti
* Ceti

29 Cancri B.

Hydra down

El 1 23 0

γ And.

γ And. following

α And.

2 Draconis p

2000 m B p 2345 Ari 2 faint
Gr 574

El 2 30 0

New Street

El 2 34 0

41 Andris 1.3.4.5

XIV 217 sp.

β Ursae minoris sp.

2 Ceti

Cancri 223 B

EXPERIMENTAL STAR

— good —

α Persei

57 Ursae B p 1.2.3. Ari 2. faint

223 Cephei B 3.4.5 Ari 2.

γ Cancri B,

δ Persei

η Tauri

5 Ursae minoris p

γ Eridani

Gr 750

Orion B p 3.4.5 Ari 2 faint

Cloudy & thick

down than the W. pole.

α Tauri

Large growing worm, fast.

El 4 31 0

1863 Dec 22^d M. West. Clouds rather red & dry.

El 1 54 0

α Draconis sp
20 hr un 13 hr Air 3

clapiopijae

22/26

35(H) Capriopijae

gr 522

El 2 29 0

New Sheet

1/2 C. V.

El 2 37 0 took up pen

38 0 down again

11. Arctis

XIV 207. 2p

β unal un sp

23 Canul 13 sp 3.4.5

El 3 5 2

8 0

1863 Dec 23^d M. West.

El 21 53 0

5 Regai

4 Regai

34 Cephei H Air 2.

α Picus aur.

β unal un sp

α unal un sp

β Picus

α Regai

γ Picus

δ Aquarii

ε Picus

202 Canul B sp. } Air 2.

39 Cephei H 3.4.5

El 23 34 0

New Sheet

El 0 42 0

32 Canulop H pr 2 3 4

~~5~~ 10th 2 3 4

43 Cephei H

} Air 2

not paper

h m s
12.48.1 + 549.6
- 547.6 216.34.

~~1863 Dec 23 and~~

E. Pisium 3.4.5
44 Cephei H

B. Austrumida
Polaris 1.2.3.4 Air 2. Reject 1st and last
break of wire 4.

E. Ceti
214 Canulop B sp. Air 2.

γ. Piscium

δ. Persei

ε. Ceti

α. mu. X Ceti

χ. Ari

Canulop 49 B 1.2.3 Air 2

β. Arietis just time for this star
δ. Pisium for 1.2.3.4 }
Junc. 2.4.5 }

α. Arietis

α. Draconis sp 3.4.5

20 *Ursae min* B sp 2.3.4.5 Air 2 faint

2 *Cap. ispejae*

ε. Ceti

35 *Cap. ispejae* H

30 527 very faint. Cloudy.

Clouded up

Q 2440

1863 Dec 26th

Instrument reverted to M. EAST.

Q 2300

β. Aquarii

ε. Pisium

202 *Canulop* B sp 2 wire wrong. Wires faint. Air 1

39 *Cephei* H

Air 1.

γ. Aquarii

δ. Sculptoris

γ. Ursae majoris sp.

309 *Cephei* B Air 1.

2 *Ceti*

α. Austrumida

γ. Persei

6 *Ursae min* B 1.

5

2.3.4

1 wire

1863 Dec 26 recd. Mr East

6 Wm. m. B 4.5. Sir 1.
12 Ceti

12 leti

48 Bradley

Slavonique

pleti

Bradley 74.

Utracina sp. *Siv 1.*

43 Cephus H.

Primum

44 Cephus TT

Polynis *auroncedae* *Sin 1.*

Poland

ψ caroliniana

Dec 3 4.5

24. General B m Air 1

у Бз аину

26/250

22 3 18 0

383 *Cephus* 13 Air 2 rather cloudy.

2. *Eridani*

9 Amelopsitt

to Perini

η Ταυρι

& Peru

§ 24. 2. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839

1/2 Embryo

Ex 250 Ad 2

Всего В 345 " "

of Tami

$16^{\circ}33' - 10^{\circ}44'$ Sp 9.5.

50 Спротт

n Eridano

9 Camelops.

1863 Dec. 29th M East

2110

Total 1-2 3.4.5 Au 1.

D. Ch.

Mr. Campbell Sir

7 Ricinus

31250

New Sheet not pag

1863 Dec. 29th M East

El 128 a

Percu

O ~~Aurora~~ ^{Obs} 4th min two loc. ref.

Ceti

* per x Ceti

x Ceti

2^d min two loc. ref.

219 Cassiope B 1.2.3.4.5

B. Auctis

58 Capiopijae

x Pitium m. 1.2.3.4

gou. 2.4

x Auctis

20 Uranus Bsp. Auct. 1.

67 Ceti 3.4.5.

o Ceti rather faint 7.8.9?

x Capiopijae

Comes [Obs. of Comes not very good]

x Ceti

35 Cassiope H. Auct. 1

gr 577

x Ceti

x Ceti

41 Auctis 2.3.4.5

XIV 217 sp

7 Eridani

B. Uranus minor sp.

B. Percu

7 Eridani 3.4.5

x Percu

57 Uranus B 1.2.3.4.5 Auct. 2: very faint from cloud.

323 Capiu B 4.5. Auct. 1.

El 342 a

7 Uranus minor sp

* per y Eridani 5.5. 2.3.4.5

x Eridani

gr 758

62 Uranus B 2.3.4.5 } Auct.

gr 779

O Eridani

El 46 a

New Sheet. next page

1863 Dec 29 continued

2490

Pauli 2345

64 —

и врасвету.

L. Tuerck

53. *Exochus*

1633-1644 2.3.4 7

50 Ceph. H 2.3.4.5 Ant

главнейшии

2. Amiga

Arizonicus

T. Brivati

А. Ташков

24 Camellia 3.4.5 and 7

74 ————— 123.45 —

♂ Minnie

de Leprieux

2. *Oreocera*

Law comparison of Sines but would not measure
it. with $\frac{1}{2}$ Equat.

✓ Orion

40 *Stawin* 2p 2

61 Brown Sp

S. unacinnus sp. n. ♂

23 Camel H

37 Ceph. 1234

Slavin majoris

643 a

1863 Dec 31st

6 23 31 0

у Ерми

у нас на флоте

3119 Ceph. B 3.4.5. No 2

24.

At 3
H Poland wine 5 Cloudy. Obs not very good

44 Canal B ex 8345' Ad 2

24. 123 0

9 Red currant

1863 Dec. 3rd cont.

☾ 128 0

☾ 229 0

☾ Ceti

☾ Ceti

219 Cassiopeia Bp. An 2

50 Capricorn

2 Pleiades pr. 2.4

2 Arctis full 1.2.5

2 Draconis 2p

20 UMi 13 pr 2.3.4.5 - Squid after 2 An 2.

☾ Ceti faint

1 Capricorn

* full 2 Capricorn 2.4 Ceti

35 Capricorn 11.

☾ 527 An 1.

New Sheet.

☾ Ursae minoris

☾ 350 0

☾ 750 0

☾ 750 0

☾ 750 0

294 Ursae majoris

☾ 779

1864 Jan 1.

☾ Polaris min 2. An 3.

☾ 1. - 0

☾ Polaris 3.4.5 An 3

☾ Ceti 3.4.5 Partially cloudy

214 Cassiopeia Bp. An 2

☾ Pleiades

☾ 1 25 0

1864 June 6. 24 East wind.

El. 39.0 (1st gained in changing pen)
 Br. 74. Air 7.

2. *Uracin* sp.
 4. *Andromeda*
 4. *Cephus* sp. *Si.* 2⁶

El 9 54 0
54 0

Eligium
Aurum

Vol. 1, 5, 11, 13. Accidentally interrupted
by a paper

Oct 34.8. not quite true enough
214 Canebrake B. sp.

7 Polium
v Persici

24 149 a

219 Cam B

1864 Jan 8

211520

309. Ера 13 3. 4. 3

2100

y. Corvi

1 Louis
6 Ann in 13 2.3.4 Air 3 Very easy & faint
1 Louis

2 corn

4 Corvi
B448 sp. An 2

4 Virginis μ 135
 24

Br 74 Sp. An 2.

Elinor

43 Cape St. 2345. Air 3.

Александръ Зининъ

Dr. Vossman Polzin A.

a Virgin
Mentent

Temple
Street

Conc
before 8

и Исае

1890

Library, Harvard-Smithsonian

Library, Harvard-Smithsonian

Salute after 3rd perhaps a plot

Attempted a search for Tempus &
Solus; but it grew cloudy & the
before I could get the 4th Equatorial in position
of Unasung.

Must have

1864 Jan 8 cont.

49 Laurel B 1. 2. 3. 5 Air & star faint
4 Bootis rej 2d wire

26 13 54 0

or lap up sp too faint to obs.

1864 Jan 9th M. East

26 23 2 0

4 Picium 4.5 rather faint
good K Picium looked for nothing

W Picium

2 Ceti

2 Andromeda

4 Pegasi

6 Ursa B Air 2.

2 Ceti

Mr 48

2 Capriopisne (1st w. rej.)

2 Ceti

5 Picium

Bradley 74 3. 4. 5

2 Ursa majoris sp

43 Cephei 2. 3. 4. 5 Air 2.

2 Picium

44 Cephei 11

2 Andromeda

2 Ursa Air 2.

4 Capriopisne

4 Ceti 3. 4. 5

214 Cass B sp Air 2.

7 Picium

2 Ceti

26 1 36 0

New Sheet

2 Andris

2 Draconis

20 Ursa B sp

26 2 7 0

47 Ceti

0 Ceti faint 8.5 estimated

with peg

1864 Jan 9th West continued

1 Capripia

22 Ceti

9 527

1 Ceti

7 Ceti

41 Arietis

214.217 sp

7 Eridani

140000 in sp

2 Ceti

10 Persei

5 Arietis

12 Eridani

7 Eridani

6 Tauri

57000 in 13 sp 1.2

323 Cephei 13 2345

EC 346 0

1864 Jan 10 West (Sunday)

100000

200 57 0

Andromedae

Polaris

4 Capripia

1 Ceti

214 Cephei 13 sp

EC 123 0

1864 Jan 11th West

EC 046 0

110000 majoris

10 Andromedae

53 Cephei H. 2. 3. 4. 5. An 2.

100000

44 Cephei H

10 Andromedae

Polaris 1. 2. 3. 4. 5. An 2.

4 Capripia

4 Ceti 2. 3. 4. 5. An 2.

214 Cephei 13 sp

EC 123 0

1863 Jan 11 contth

E 2 32 0

Ceti

4 Ceti

41. Arietis

4 Eridani

5 Arietis

2 Ceti

10 Persei

5 Arietis

12 Eridani

5 —

4 Persei

5 Tauri

5 Eridani

1 Persei

8 Eridani

4 Tauri

5 Persei

5 1/2 Draconis sp.

4 Eridani

Sp 750 Ari 2

6 Draconis sp " 2

Sp 779

10 Eridani

4 Tauri

5 —

6 1/2 4 170

New Sheet

E 4 20 0

4 Draconis sp.

4 Tauri

5 Eridani

XVI 182 sp 234.5

50 Cepheus

9 Canis

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

4 Draconis sp.

⁴
1863 Jan 11th M East cond.

44 Draconis 2.3.4.5 Air 2.
 8 Uraeumia sp. Air 2.
 1 Geminorum
 23 Camelopard ~~sp~~
 51 Cepheus 1.2.3.4 Air 2
 Nov⁺ in Aglaia 1.2.3.4 Air only
 (with [1] VI. 1185.)

E 6420
 new sheet

El 7 Dec. of Aglaia

El 8 10 0

1864 Jan 17th

43 Cepheus 3.4.5 Air 2

Bradley 95 3.4.5 "

El 58 0

Polaris in 1 pale bk followed by signal of 1st a.
 4 Capricorn 2.3.4.5 Air 1 a little hemulose
 8 Ch

244 Camelopard 2345

E 1230

5 Uraeumia sp

4 Eridani

Gr 750 3.4.5

El 359 0

Gr 779 3.4.5

01 Eridani 2345

Spent some time in fruitfully gazing at
 Sirius. Goldschmidt's star not to be
 seen, at least in d. which is 2^d. Sirius
 but more south. See Monthly Notices R.A.S.
 for March 1863.

1864 Jan 14 ^{to} East
partly cloudy

α Andromedae
γ Pegasi

El 890

ξ Capricornae

~~ξ~~ 3.4.5 plots not to be seen

43 Cephei 2.3.4.5 Air 1

ε Draconis

β Andromedae

Polaris 1.2.3.4.5 ^{not}

1st change in zero between 3rd and 4th wires.

4 Capricornae

α Ceti

24 Camelopardalis

γ Perseus 2.3.4.5

α Ceti

α Arctis

El 200

clouded shortly.

El 5590 [slightly clear]

γ Orionis ^{not} ^{Drum}

4041 Draconis invisible

δ Wraenimoris 3.4.5 rather faint Air 2.

23 Camelopardalis faint

El 6270

New Sheet

El 6290

γ Geminorum

57 Cephei # 23.4 Air 2

α Canis majoris

50 Draconis sp 2345 faint

ξ Geminorum

25 Camelopardalis Air 1.

δ Geminorum very faint 2.3.4.5 (wrong object)

vii 67

η Canis majoris

Procyon 2.3.4.5. invis. at 1st w.

Polaris 1.2.3.4

156 Camelopardalis 1. object. but. No other wires could be got.

El 7970

1864 Jan 6th ~~East~~ West

E 0 6 0

Lapinsian

1 Ceti

2 Piscum

Br. 74 3.4.5 Air 2.

Elonae mag 74

4 Auroneda

43 Cepht 2 3 4 5 Air 2.

2 Piscum

E 0 5 0
New Sheet

E 1 1 0
Aurioneda

Polaris Air 2.

4 Capripes

1 Ceti

214 Camel Bp Air 2

1000 1000 1000
Examined Sirius again

New Sheet

44 Dracon 1.5

41 Dracon 3.5

E 6 13 0

8 Ursa minor 2 3 4 5 Air 2.

23 Camelopt

4 Gemini

57 Cepht 1.2.3.4

2 Canis majoris

E 6 55 0

1864 Jan 20th W.W.

E 0 65 0

42 Cepht H. Air 2. quite horizontal for air 4.5

2 Piscum

44 Cepht H

Aurioneda

Polaris Air 2.

4 Caprip

1 Ceti

214 Camel Bp Air 2 faint

1864 Jan 25 Ill. West.

7 Picum Leached to Madge's & too much twilight

1 Ceti

219 Camel B sp. Air 2

54 Capripige

2 Picum post 1. 3. 5

2 Anetis pr. 2. 4.

2 Bracanth

EB 2 11 0

EB 2 11 0

2 Persei

6 Tauri

323 Cephei B Air 2.

2 Eridani

EB 3 18 0

New Sheet.

EB 3 32 0

2 Persei

2 Mrae minor sp.

4 Eridani

6 Urs. min B sp Air 2 Now rather faint

gr 779

2 Eridani

EB 4 9 0

New Sheet

EB 4 16 0

Orion Zone. Prof Bond and J.H.

EB 6 53 0

1864 Jan. 25th Ill. West

EB 2 45 0

XIV. 217 sp

4 Eridani

2 Urs. min sp.

2 Persei

2 Anetis

2 Eridani

2 Persei

57 Urs. min B. sp Air 2.

2 Eridani

2 Camel B

EB 3 33 0

1864 Jan 25th cont.

New Sheet

El 3 40 0

Observations on Orion by Prof Bond

El 5 45 0

Replaced Transit Sheet

El 5 50 0

4 Draconis sp.

1 Gemini

1 Orion

4 Gemini

40 Draconis

41 Draconis

Sagittarius 2.3.4.5.6.7.

1 Gemini

23 Camelopardalis

El 6 26 0

" 6 27 0

1 Gemini

51 Cepheid 11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63.64.65.66.67.68.69.70.71.72.73.74.75.76.77.78.79.80.81.82.83.84.85.86.87.88.89.90.91.92.93.94.95.96.97.98.99.100.

Alani majoris not very good.

El 6 41 0

1864 Jan 26 : unwell.

Jan 27th

2 Andromedae

El 0 4 0

4 Pegasi

4 Capricornae

4 Capricornae

Filled pen

El 0 36 0

3 Ceti

Sagittarius 2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63.64.65.66.67.68.69.70.71.72.73.74.75.76.77.78.79.80.81.82.83.84.85.86.87.88.89.90.91.92.93.94.95.96.97.98.99.100.

4 Andromedae

43 Cepheid 11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63.64.65.66.67.68.69.70.71.72.73.74.75.76.77.78.79.80.81.82.83.84.85.86.87.88.89.90.91.92.93.94.95.96.97.98.99.100.

3 Andromedae

Polaris 11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63.64.65.66.67.68.69.70.71.72.73.74.75.76.77.78.79.80.81.82.83.84.85.86.87.88.89.90.91.92.93.94.95.96.97.98.99.100.

4 Capricornae

3 Ceti 2.3.4.5.

11 Picorum

Met & paper

4
1863 Jan 27th III Week cont.

v Persei
v Perseus
Elev
Et 1410

Et 1430 Fly washer stopped 2nd

x Ceti
219 Canuck B Air 2 N. 1. 2. 3

30 Perseus
50 Capriopisae

x Perseus pr. 1.3.5 }
pr. 2.4 }

Et 1580

New Sheet

2744 air B sp 3.4.5 Air 2,

Et 3270

2 Elisani 3.4.5

0 Capulop H

0 Perseus

0 Elisani

* pr. of Tauri

x Tauri

x Perseus

Glennae air sp

x Elisani

Filled pen

Et 3550

Glennae air B Air 2

Et 779

0 Elisani

x Tauri

Et 4140

Revised for Prof Bond till 6th Jan

Et 6130

Glennae air sp Air 1

x Gemmimum

23 Capulop H

57 Cepheus H Air 1

0 Perseus 2.3.4.5

x Capriopisae

next page

The order in which the wires of y Tauri and prae. 1st wire observed in 1.2nd w. of prae. 1st y. 4th prae 2nd y 6th prae (3rd missed) by 5th

4 h

1863 Jan 27 continued W. West

50 Draconis sp.
 2 Canis majoris 4.5
 * following 2 Canis
 3 Geminorum 3^h w. too soon
 4 Canis majoris
 25 Canis majoris Ant 1.
 4 Geminorum
 2
 * per 4 Canis majoris 1.2.3
 4 Canis majoris
~~Ant 1~~ per 1.3.5 - (4 Geminorum)
 foll 2.4

Procyon
 Pollux

El 7 39 0

1863 Feb. 4th W. West

There has been some disturbance of the minute hand
 Prop. Bond set it some 2^m ahead.

El 3 0

Polaris 2.3.4.5 Ant 2.

The clock is still much too slow, [3^m 39^s by of Perseus]

2 Perseus

4 Arctici 3.4.5 quite cloudy 4.5 bad and to be repeated.

1863 Feb. 5 first of Mag. Gen. Perseide.

El 20 53 0

4 Andromedae

El 0 4 0

filled pen

El 0 23 0

4 Capricornae

quite hazy, so that but few stars can be observed.

4 Capricornae

13 Andromedae

Polaris Ant 2.

4 Perseus

El 1 32 0

New Sheet

El 1 39 0

fresh paper

4
1863 Feb. 5th, continued

El 139 0
 3 Mictis
 1. Aulomundae
 2. Mictis
 3. Ceti
 36 Cepheid H.
 37 527 An 2

El 227 0

El 315 0 sp
 57 M. in B 2, 3, 4, 5 An 2 star faint
 8 Eridani
 6 Cepheid H.
 1 Persei
 5 Eridani
 7 Tauri
 5 Persei
 37 766 Extra star An 2.
 4 Orionis Gr.

Round Chron. and set it about right

Hunted up Res. p. 101 Comet 1863 vi at
 Orionis

El 550
 new sheet

El 525 0 E Orionis
 some transits for Comet
 57 Cepheid H. An 2
 2 Lani majoris
 El 654 0.

Feb 7 am El set forward 3^{am}

1863 Feb. 8th

El 0 55 0

Polaris Air 2.

El 2 10 0

1 Capricorn

2 Air

36 Capricorn

for 547 Air 2 faint

Clouded up.

Right fall of snow

El 5 58 0 (cloudy again for awhile)

Antares Air 2.

Sirius 1st w. two breaks reject
claiming way.

El 6 56 0 (too unwell to go on)

1863 Feb. 10th SW West.

El. 0 52 0

Polaris Air 2.

El 1 14 0

New Sheet

El 1 19 0

Antares (2 wires torn reject)

Antares

7 Eridani

Ursaeum up Air 2. (exceptionally good for 6 nights)

(The southern stars indicate especially)

Antares

Antares

Antares

12 Eridani

Antares & Eridani

Antares

Antares

Antares

Antares

Antares

Antares

Antares

Antares

Antares

Antares

Antares

Antares

The atmosphere was much disturbed. I could not
assure myself of the accuracy of the single wires of stars

1864 Feb 11th

Clear during part of the day

Polaris 2 3 4 5 Alt 3,

A 1 14 0

Clouded up

1864 Feb 12th Ill West

Alt 1 1 0

Polaris Alt N. 2

A 1 13 0

Look up pen

y Andromedae

A 1 56 0

x Arctis

z Ceti

41 Arctis

d Leo

d Perse

d Arctis

12 Viridi

y —

d Tauri

y 47 min Sp

Alt 3 2 0

Alt 1 1 0

d Tauri

d Viridi

xvi 162 m 2345

50 Septent 2345

A 4 36 0

Arrived Ref Bent on nebula of Orion.

1864 Feb 13th West

El 1 1 0

Polari. Air 2

El 1 14 0

Feb 13th Instrument Reversed to East

El 3 33 0

α Persei

δ Tauri 3.45' faint from clouds

323 Lepus 4.5' Air not by clouds

β Camelopardalis

Cloudy

El 3 45 0

1864 Feb 18th East

El 3 35 0

* Pleiades

γ Eridani

γ 750 1.4.5 Air 3 1st wire to be rejected; bad.

62 Wraseni Bp 2345 " "

δ Eridani

ε Tauri

η Draconis sp 3 45'

* δ. + 0° 41'

424 56.2 + 0° 39' 9"

α Tauri

* δ. + 0° 46'

429 45.9 + 0° 42.6"

53 Eridani

κ 182 sp 3 45'

50 Lepus Bp 2345

* δ. 1° 32'

El 4 55 0 (End of minutes changed)

2 Ursae minoris Air 3

α Aurigae

β Orionis

γ Orionis

Found Comet Respected Watson

El 5 32 0

El 5 45 0

α Orionis

γ Draconis Bp

El 5 52 0

1864 Feb. 18th Ill. East

Obs^d Comet with Chronometer.

1864 Feb 19th Ill. East

Pohm S Az 2°

EL 1 14 0.

EL 1 48 0

γ Andromedae

γ Ceti

EL 3 0 0

EL 4 52 0

ϵ Tauri

β Uris D

η Uris D

δ Uris D

* μ Comet W V. 721 2345 D

* μ Comet P. V. 175 D

α Uris

EL 5 56 0

Let on Comet: before I could take any measure,
Comet disappeared through moonlight and
proven to be star.

measured Goldschmidt's star D from horizon
 D also disappeared

EL 6 59 0
at Camel H Az $N. 3^{\circ}$!

EL 7 50.

1864 Feb. 23 Ill. East

EL Polaris Az 2°

EL 1 21 0

EL 1 50 0

ϵ Aurigae

ϵ Ceti

EL 5 52 0

next page

Feb 23
1864 the East Cont.

1 *Geminorum*

1 *Orionis*

40 *Dracoin* 2 3 4 5

61 *Dracoin* *in* 2a

8 *Ursae minoris* There are false breaks after
23 *Canell* *Wm* some of the wires, and the 4th is
51 *Ephel* *Wm* 1st too late, and must be rejected.
new sheet occupied some time in washing pen etc.
new ink.

Feb 24 0

Carton in 135 3
Feb 24

Procyon

See following *Procyon*

Polaris

Figures 3.4.5 not very good.

1 *Geminorum*

3 *Argus*

Feb 8 9 0

Feb. 24

Feb. 7 9 0

Carton toll 135 3
in 24 1

Procyon

Polaris

1864 no. 25

Windy when *Polaris* traced

Feb 6 50 0

1 *Geminorum*

1 *Ursae minoris*

25 *Canell* 1.2 3 *in* 2b
with paying

* The ink was troublesome to-night, and I was obliged to get up and fix it while sleeping.

1864 Feb 25 M East

1 Gemini

2 Gemini

Vii 67

Procyon

Pollux

156 Camel 13 Air 2^a.

X Gemini

Clouded.

1864 Feb 26 M East

Windy when Potaris rises

El 6 14 0

40 Dracon 5 not good } Over of wires

41 Dracon 4.5 Air 2^a } 41 4^a w }

5 Ursae minoris sp 23 45 Air 2^a } 41 5^a - }

1 Gemini 23 45 ref 3^a

23 Camel 11

1 Gemini

Arg. + 1^a 1431

" + 1^a 1443

57 Cephei 11 Air 2^a

Sirius 23 45

430 7.3 + 199.5

31 7.2 144.2

El 6 40 0

New Sheet

El 6 43 0

8 Canis majoris

50 Dracon

8 Canis majoris

5 Gemini

4 Canis majoris

Arg. + 2^a 1550.

8 Canis majoris

Arg. + 0^a 1854

" + 1^a 1743

" + 1^a 1749

1 Gemini

7 7 28.7 + 152.2

8 0.8 12.5

1 Gemini with page

* The Maximatic regulator worked badly, so that
observed not in situ.

1864 Feb. 26 continued La E.

+ proc δ Geminorum

δ Geminorum

yii 67

Star proc η Canis maj 234

η Canis majoris

Ay +20 1835

+10 1833

Castor pr. 5. w.

Ay +20

" +20 1703

" +20 1708

Ay +20 1720

Procyon

Ay +10 1959

~~Geminorum~~

δ Urae mi 13.1

δ Geminorum

δ Argus

Uindemi 13 4.5 An 2.1

β Cancri

gr 1418 An 2.1

δ Urae majoris

δ Urae majoris

η Cancri

δ Cephei 77

XX 267 op

δ Cancri

Argel. + 20 2057

δ Hydrae

η Cephei

δ Urae majoris

δ Draconis

El 8 56 0

Recorded pr Prof Bond.

El 9 37 0

Some wings of an Ay. star: quite waxy, rather very faint

El 9 47 0

new sheet

El 9 57 0

η Canis

damp bent out

El 10 50

FINIS

1864 Feb. 29. (Feb 27th recorded for Prof. Bond ^{hours} 3-~~4~~⁵
 El 4530

1 Tauri
 & Unacannaris 1, 2, 5, ^{Ant} El for & Leporis between,
 two late⁺

Capella

Rigel

El 590

Recorded for Prof Bond till ^{was} 8:36 End Time

El 9190

Saturn's satellites 3

El 11000

1864 March 2

Another Prof Bond (the first part of the evening)

El 9200

Saturn's satellites

El 11200

1864 March 3

El 0570

Column Ar 2^o.

B. Arctis

& Arctis

& Arctis 2, 3, 4, 5.

El 320

It is probable that the 1st, 4th, 5th w. of 2 Nova minor
 could be got together with & Leporis

1863 March 7th

Partially clear after a rain storm

EC 7 35 0

Pollux

15h Camelp B Air 2^aAug + 1^o 1969

8.7 7 53 23.0 + 1 0.8

X Lepanionum 2245

+ 7th X Gemini a sample cell

Aug + 1^o 1983

8.0 7 56 58.1 + 1 21.7

+ 1 1991

8.5 7 58 17.4 + 1 14.6

EC 8 4 0

New Sheet

EC 8 6 0

Aug + 1^o 2040

7.8 8 7 8.2 + 1 39.9

B Cauri

Aug + 2^o 1932

8.3 8 11 28.8 + 2 58.2

Sp 1418 Air 2^a

o Urae majoris

A ——— 34.5 not very good

y Cauri

A Lepus

XX 257.4p 2345

Aug + 1^o 215074 Draconis 1st by cloudy Air 2^a

2 Hydrae

EC 8 44 0 }
44 0 }

y Cephei 34.5 very faint Cloudy

6 Urae majoris

76 Draconis sp.

o Urae majoris

X Cauri

Aug + 2^o 2164 1.2.4.5 rather faint 6.8 8 6 27.0 + 2 50.9

2 Hydrae

1 Draconis H

2 Hydrae

B Cephei

o Iovis

Aug + 2^o 2241

8.0 9 35 13.5 + 2 27.3

+ 1^o 2352

8.3 9 36 11.8 + 1 9.5

EC 9 46 0

15 51.3 27.2 24.84 55.10
 55.4 41.1 1.97 12.18
 18.5 45.2 42.9
 16 2.9 48.2
 12.7

1864 March 8
 E. 1 03 0
 Polaris Air 2^h
 Q 1 15 0

E 1 46 a
 β Arietis 4.5 rather faint

E 2 1 0

E. 2 49 a Cloud up
 1864 March 9

E 2 54 a
 β Ursae minoris

Flying cloud interrupted with stars

E 6 23 0

γ Geminorum
 α Cephei 11 Air 2^a

Sirius

α Canis majoris

β Draconis sp.

ε Canis majoris

* Poll & Canis

+ Poll & Geminorum

γ Geminorum

δ Canis majoris

E 7 5 0

E 7 8 0

4 Ursae minoris B. Air 2^a

Castor in 135

— Poll 24

* Poll Procyon

Procyon

+ Poll Procyon (connecting lost by circuit)

* Poll Procyon

Collect

E 8 36 0 { Victor A. Ash R.N.

E 10 30 a

new stars 11 31 a

E 11 34 a

} Saturn's satellites, Jupiter's

1864 March 12th

Ursae minoris sp. Sun fairly up. Air & Star rather faint
Capella

Right 4.5 Orion

β Tauri

β Leporis

γ Orionis

α Leporis

ε Orionis

El 5.30 0 minute doubtful,

El 6.17 0

Ursae minoris 4.5 Air & Star

El 6.22 0

Recorded for Prof Bond

El 8.20 0

Ursae majoris 5th lost by failure of ink

El 8.34 0

γ Draconis 1.3.4 Air 2nd Cloudy

ε Hydrae

γ Leporis 1st very doubtful. Cloudy

Ursae majoris

γ Draconis 2.3.4.5 1st lost by clouds Air 2nd

Ursae majoris

α Canis

α Argus

El 9.50 0

El 9.7 0

83 *Canis*

α Leporis sp

1 *Orionis* H Air & Star

ε Hydrae

119 *Leporis* B sp Air & Star

β Leporis sp El 3.4.5

Sp 1564 Wm 5 Error in setting

El 11.36 0

El 11480

Jupiter con: with Saturn

9 Virgini

$$\begin{array}{r} 9 \text{ Virgini } \text{hr } 135 \\ \text{alt } 24 \end{array}$$

El 12320

1864 March 18th

El 5 0

~~Orion~~
 x Lepori
 El Orion

JMS

El 8.27.0

 14th May
 5
 4 Hydre
 63 Cancer
 0 Leonis

W. A. R.

1864 March 19th

El 437.0

x Orion

8. August

Sunae and Ep. Ari 2^a

1 Gemini

23 Caput H.

1 Gemini

P₁ vi 203 4.557 Cepheus 2.4 Ari 2^a

+0° 1546 6.5 6 33 38.4 +0° 37'0

P₂ vi. 221

54 Ari 2.3 4.5

+2° 1329 7.8 6 38 15.4 +2 39.0

18 Monocerotis

1 Gemini

7 Cassi. noj

2 Gemini

1 Gemini

x Gemini

x Gemini

20. 8. 6. 0

14th May 3rd whole

W. A. R.

2nd table

New table

18th March 24

El 1 30

Polari 23.4.5 Air 3. Sliff buete

El 1 15 0

El 6 14 0

Sunacutp 2345 Air 20.

r Geminorum

r Geminorum but +0°...

vi. 203. Worthy but by failure of ink

? 3.4. set for 61.321: possibly an optical delusion

r Canimajoris

r ———

50 Draconis p

r Canis majoris

r Geminorum

r Canis majoris

vii 67

Ay +10 1796 ration f. 7 17 22.0 + 154.2

r Canis major ref 2000

Ay +00 1953 8.5 7 20 46.1 + 0 44.2

+0 1961 8.5 7 22 19.7 + 0 56.2

+0 1977 8.2 7 24 25.2 + 0 49.8

Cassiopeia 135 3

Rorym

El 7 33 0 up

340 Journ

Raffert vii 189 (Ay +0 4954 6.5 7 25 39.7 + 0 32.3)

Raffert

Ay +20 1808 = 137 Canis major 5.7 7 44 12.4 + 2 7.8

+1 1933 8.3 7 45 22.2 + 1 11.4

+0 2133 8.5 7 48 56.5 + 0 58.2

+1 1955 2.3.4.5 8.5 7 49 34.3 + 1 53.2

r Geminorum

+ p r r Gm nearly on parallel

r Navis

El 8 25 0

New that

El 8 28 0

29 0

fast paper

Th

1864 March 24 cont.

74 Drawing
& Hydne

7 Cephei 2.3.4.5

Ursae majoris

Ursae majoris W.A.R. begins

Ursae majoris W.A.R. — last winter too

A. Aquari " " "

A. Hydne " " "

83 Capri " " "

~~84 Capri " " "~~

1 Draco " " " & Hydne

A. Ursae majoris " " "

B. Cephei " " "

Gr. 1564? " " "

Thi. begins T.H.

C 10 15 0

Thi. J.H.S.

El 11 0 0

New Sheet

C 11 19 0

Thi. - Gr. 3 - R only

B. Leonis

B. Virginis

209 Cephei B 2.3.4.5 A. & a

V. Carvi

Ursae majoris B A. & a

El 12 24 0

1864 Apr 6th

El 1 10

Orion 3.4.5 A. & B. Cloudy at 1 & 2nd

El 1 14 0

1864 Apr 7 Obs. by W.H. Rogers

El 650

Polaris Air 3

El 769

X Cygni 1st Int

2 Canis

0 Canis 2nd Int

1 Canis

2 Canis

3 Canis

4 Canis

5 Canis

6 Canis

Glenn's mag

1

2

3

4

5

6

7

8

β Ephi

1564

5 hours

2

3

4

5

6

7

1864 Apr 8 J.H.S.

El 7 ... 0

Glenn's mag 5 Cloud. report.

Gr 1518 Air 26.

Glenn's mag 5

A. 23.4.5

2 Canis

El 8 30 0

Recorded in Prof Bond's

El 9 50 0

2 Canis

Reptiles

El 10 8 0

Cloudy

[1864 Apr 9. Iron ore obs. by Rogers]
I do not find the original minutes
7175

1864 Apr 14th

El 1 0 0

Polaris 1st Int Air 24

El 1 4 0

The clock-hand have stopped

1. That it is now 10th hour.

1864 Apr 15th Prof Bond at clock about 8th hour?

El 8 16 0

2 Hydrae 1st Int Air 24

2 Hydrae

3 Canis mag 5

4 Canis

5 Canis 2.3.4.5

1 Draconis 1st Int Air 20

2 Hydrae

3 Canis

4 Canis 1st Int Air 24

5 Canis

6 Canis

1864 Apr 15 ^{Wed} cont

Gr 1564 2.3.4.5

2 Leonis

14 171

14 172 3.4.5

2 Ursa maj. 2.3.4.5 reg' 2.3.

2 Leonis

El 10 15 0

1864 April 6th with Robin

~~El~~

1864 April 17th

El

Polaris 2.3.5 - ^{2^a} -

El 1 14 0

1864 Apr 21

El 7 20 0

Caster m 135

m 24

Bryar n 5

Polaris

El 7 37 0

El 8 34 0

2 Hydraz

Cloudy

2 Leonis 3.4.5

8.43 + 12433

945 25.5 + 149.5

2 Leonis 2.3.4.5

8.47.2278

955 2.0 + 230.9

2 Leonis

2 Hydraz

El. 10. -- 0 Cloudy

El 11 23 0

39 Lepus H 2.3.4.5

2 Cephei

2 Ursa maj

2 Virgo

620 R 202

2 Ursa maj 3.4.5

Rafan

1864 Apr 24.

309 Cephei B sp

γ Corvi

β Urae min B.

γ Corvi

β Corvi

ε Capricorni sp. w. A R ead

Z. H. S. begins

γ Virginis 13.5 m.

24.5 foll.

Bl. 74 sp. Au 2^a. 2345

43 Cephei H sp " 26

ε Virginis

44 Cephei H sp

δ Virginis

Polaris sp. Au 2^a

ε Virginis

214 Canul B Au 2^a. 2.3.4.5.

Wisp 13,440. Z. A R only.

13,520 Z. A R only.

El. 13. 46. 2.

Found Urania

El 14 17 8

δ Bootis

ε Capricorni H sp

β Bootis 4 34.5

Gr. 577 sp.

μ Virginis

α Librae 1.2.3.4.5

α Librae 2.3.4.5

β Vir. 217

β Urae minoris

γ Scorpii

ψ Bootis

β Librae

μ Bootis

β Urae min B 2.3.4.5.

Looked at Urania; too faint from haze

" Saturnus; Jupiter not observable

ε Urae minoris

750 Gr. 7 Au 2^a

β Urae min B. " 2.3.4.5

Gr. 779 sp.

El 15 50.

1864 Apr 21 cont

E 0 [50] 0

Polaris 23.4.5 Air 2^d

E 137 0 on edge of sheet

1864 Apr 24

E 970

1 Cepheus sp

1 Draught, Air 2^d

2 Hydras

119 Cepheus B sp Air 2^d

E 946 0

E 951 0

Zoon.

MSS forgot to put the circuit on

11 10 21.2 + 1° 34' 8" Air + 1° 25' 46" 8th 5

1 Crateris

4 Crateris

1 Leonis

39 Cepheus H sp 1234 Air 2^d

2 Leonis

4 Cepheus sp. 4.5.

1 Ursa major

1 Leonis

1 Virgo

Red Crow sp

4 Ursa major 4.5

1 Corvi

1 Ursa minor B,

E 1219 0

New sheet

E 1222 0

1 Corvi 3.4.5

4 Corvi

13 —

13.48 sp

1 Capricornus sp

4 Virgo full 1.2
m. 2.4.5.

MSS

1864 Apr 26 continued

Be. 74 2.3.4.5. Air 2^a

4 Caprip 1m.

12 Lepth H sp 2345 Air 2^b

2 Virgins

44 Cep H sp

8 Virgins

Potam. sp. Air 2^b

2 Virgins

E 13 10 0.

1864 Apr. 27

E 8 45 0

1 Urtae majoris

8 Hydrac

2 Cep H sp

1 Wacum H

2 Hydrac

3 Cep H sp

Gr 15 14

8 Leonis

8 Leonis

9 34 54.5 + 2 27.1

2 Urtae majoris

E 9 44 0

Stopped work to begin Lanes

Clouded up.

1864 Apr 28. N. H. R. obs

St 10 34 0

2 Leonis

34 Cep H 5th min

3 Urtae maj 1. 4. 5

2 ——— 1. 2. 5

A 11 0 0

1864 Apr 29th W.W.

Q 11 53 0 (Heard up after much cloudy weather to day*)

+0°2911

* Dec. = 0° 9' 2.3.4.1 (12 628.4 + 0 8.9) m

4 Corvi

5 Uranium B. Air 2^a

7 Comae

5.5 + 2.21 29.2 + 156.8 * (Dec. 10 50' uncertain) + 1°27.0

5 Corvi 2.3.4.1

7 Corvi

Blorvi

Br. 48 Air 2^a

+2 2560

1230 58.8 + 2 39.6 13.3.5 bad 2. off wire

4 Virginis pr. 1.3.5

fol. 2.4.

Br. 74 Air 2^a

4 Capripisciae 2.3.4.5 Air 2^b

12 Canumven pr

fol

43 Aphel. 3.4.5 Air 2^a

+2 2614 8⁴⁰ 12 54 2.0 + 2 17.8

4 Virginis

+12786 7⁴⁷ 12 57 21.9 + 1 4.3

44 Aphel. sp

4 Virginis

Polaris 1.2.3.4.5 Air 2^a

Give the 4th and 5th breaks of 1st. w. s
half w. earth. The progress of the
star are ^{ready} tranquil; the 1st break
is the 1st w. l. s. 2.3. are bidirectional; 4.5 are
both east contacts

4 Capripisciae sp Air 2^b

4 Virginis

214 Canumven B. Air 2^a

Refilled pen

Elc 13 26 0

4 Virginis

with paper

+ Polaris for example, disappeared a few brief spans before
rising the 1st w. this forenoon

1864 Apr 29th M. West, Ant.

13 31 9.1 + 1 59.9	+1° 2834	8.2	
4 urinae uniois			
219 Camulop ¹³ Ant ^{2a}			
50 Capri ¹³ sp			30
2 Virginia			
13 37 58.9 + 0 4.5	+0° 3128	8.5	
Alcutawci			
2 Draconis			
20 un ¹³ Ant ^{2a}			
2 Bootis			
Virginia			
14 12 18.8 + 1 2.9	+1 2913	6.3	
14 15 56.1 + 1 57.6	+1 2920	6.5	
Capri ¹³ sp			40
El 14 40 0			
New Sheet			
El 14 22 0			
14 22 29.2 + 1 28.0	+1 2941	6.1	
36 Capri ¹³ sp			
30 527 sp			
14 30 9.8 + 2 54.5	+2° 2844	6.9	
14 32 2.7 + 0 23.7 rather faint	+0° 3216	8.5	
14 34 2.6 + 0 44.2	+0° 3223	7.5	
M. Virginia			
E. Bootis foll. comp. d. twenty seen			
Librae 1.4.2.4			
Librae 2.2.4.5			50
14 43 46.4 + 8.1	+1 2988	8.4	
14 46 21.0 + 0 9.5	+0° 3264	8.6	
B. XIV 217 2.7.4.5			
14 51 31.6 + 0 14.7 3.4.5	+0° 3286	8.5	
14 53 6.8 + 1 29.9	+1 3013	8.5	
14 53 51.4 + 2 25.7	+2 2900	8.5	
Scorpiu			
4 Bootis			
5 Bootis			
15 6 57.2 + 0 54.1	End of book 0° 3322	8.160	
15 8 26.1 + 0 55.0	New book 0° 3327	5.9	
Librae			
15 11 0.3 + 0 5.6	0° 3337	6.2	
15 11 57.2 + 2 18.7	2 2944	5.0	
15 13 39.6 + 1 14.4	13087	6.1	
next page			

1864 Apr 29th M Wed cont.

223 Cephei 13 sp.
37 hbrs 2.3.4.5.
x Loricar

El 15 32 0

El 0 30 (9?) ink didn't mark at the 0 point

x Lapiropia
Kolaris Au 3.
El 1 15 0

1864 Apr 30th M Wed. mostly cloudy

El 9 53 0

x Loricar

El 10 19 0

193 Camel 13

1 Loricar

34 Cephei 14

3 Loricar 14

x Loricar

x Loricar

x Loricar

3 Virgin

6701 Rott.

x Loricar

x Loricar

x Loricar

5 Loricar and 13

x Loricar

x Loricar

x Loricar

x Loricar

x Loricar

x Loricar

x Loricar

El. 12 36 0

x Loricar

x Loricar

+ given according to W. R. R. description 2.1.1

El. 12 41 0

Ulae maj
2.3 (1.2 lat)

Polareum
2.3

Polareum 1.2. 1st time

Clouds up
1864 May 1.

El. 21 0

Clouds! Clouds!

1864 May 2

El. 7 25 0

Castor fall 1.3.5
in 2.4

Polareum

El. 7 41 0

Clouds up.

1864 May 3. Partially Clear - West wind.

El. 7 36 0

Polareum

El. 7 38 0

El. 8 37 0

Ulae maj

El. 8 51 0

Ulae maj

El. 9 58 0

Ulae maj

7 Cepheid 2.3.4.5

Ulae maj 2.3. Flying clouds interfered with the other stars

7 Procyon

30 Lacerta 2.3.4.5 in 2.

Ulae maj

10 22 17.5 + 2 14.6

23 2.2 2 54.2

Procyon

W. H. P. A.

1863 May 3 24 W. cont.

10 28 42.0 + 1 26.9
 193 Canul B 3.4.1 Air 2a
 10 32 31.5 + 2 2.4
 10 34 55.4 + 1 37.0
 10 35 28.7 + 2 57.1
 10 37 19.3 + 2 36.2
 10 38 2.7 + 1 42.7
 El 10 41 0

May 3 Lome 10 49 00

Pen taken n/s 11 52 00

El 11 57 0

Let m Saturn: too windy to observe satellite

12 30 58.8 + 2 39.6

20

4 Capisopijans

4 Virginis pr 1.3.5
 foll. 2.4.

12 43 54.8 + 1 52.7 faint

4 Capisopijans sp

12 Canum ven pr

foll

13 Sept 4 5.5 Air 2a

12 54 7.0 + 2 17.8

El 13 57 0

12 57 21.9 + 1 4.3

30

44 Caplud H pr 4.5 Air 2a

4 Virginis

Poland pr

Air 2a

13 14 19.9 + 2 57.1

4 Capisopijans pr

4 Virginis

114 Canul B

Air 2a

13 26 53.7 + 0 26.2

4 Virginis

13 31 9.1 + 1 54.9

40

46 randoms end of sheet

New sheet

El 13 35 0

13 34 58.5 + 1 43.1 2.3 4.5 (2.3 2' off wire)

~~12 41/0 ^{1st}
 2 Ursae maj
 2 Virgini (1.2 hant)
 12 Canum
 2 Virgini
 Polaris 1.2. 1 hant
 Clouds~~

1864 May 3 and

4 Ursae maj

219 Canum 3.4.5 An 2a

50 Capricornae sp

2 Virgini

13 55 9.7 + 0 43.8 2.3.4.1 not very good

13 55 50.3 + 0 34.6 not in working line later f.

Centauri

2 Draconis

20 Canum 3.4.5

2 Bootis

2 Virgini

14 12 12.1 + 2 18.3

14 15 54.1 + 1 55.6

1 Capricornae sp

2 Bootis

14 22 29.2 + 1 28.0

36 Cap. sp 4 sp

Gr 527 3.4.5 An 2a

14 30 9.8 + 2 54.5

14 34 24.1 + 1 1.5

2 Capricornae

14 38 9.7 + 1 18.7 Bad: light going out

2 Draconis 1.2.3.4

2 Draconis 2.3.4.5

14 21 25.3 + 0 10.9

21 21 21 4.5

14 50 8.9 + 0 24.9

2 Draconis 4.5

14 54 24.6 + 0 26.2

2 Scorpiae

2 Bootis

2 Bootis 3.4.5

next page

50

60

70

1864 May 3 conts

15 6 57.2 + 0° 54.1
8 26.1 0 55.0

plutone
15 11 0.3 + 0 5.6

15 11 57.2 + 2 18.7

15 12 39.6 + 1 14.4

After this obs. struck eye piece rather violently. 79

Collimation memorably altered

El 15 18 0

1864 May 4 ^{tw} M. W. L. Same sheet as May 3 u^o 3.

El 9 38 0

Examined marks

x Komet

x Hydraz

x Mercur majoris 1. 2. 4. 5

y Leonis pr

El 10 14 0

Very sharp definition

El 10 19 0

El 11. Thr. 57° 3

Zone

El 12 16 0

El 12. Tw 47° 5

New Sheet of Transits

El 12 21 0

Glaci

Be 48 Au 2a

Leap up 1a

y Virgin full 13.5

pe 24

Be 74 2. 3. 4. 1 Au 2a

y Virgin pr

12 Canum full 2 34.5

pe 34.5

43 Ceph Hg 3. 4. 1 Au 2a

44 Ceph Hg Au 2a

net pen

* Cloudy at 2nd: that is an accidental mark 1a 2 after
this time still have been obs. 7145.

1864 May 5th MW.

Let in Saturn and got some transits of Jupiter,
with Saturn II and III.

I fear most of them were lost through coming in
of the wires.

Seeing grew very bad for observations, so bad
that I could not make a satisfactory observation.

14 7 38.2 + 2 34.9 4.5

Aug 1 1895

1 Bootis

1 Capricorn 4.5

0 Bootis

Gr. 527

11 Virgo

1 Bootis

11 Libra 1.2.3.4

2.3.4.5

EC 14 51 0

EC 0 55 0

Polaris Air 2

EC 1 15 0

1864 May 6 MW.

EC 9 53 0

1 Libra

1 Hydrae

11 Librae

11 Librae

30 Canis Air 3

11 Hydrae

10 22 53.7 + 0 6.1 30 Septentis + 0 26.3

11 Librae

193 Canis Air 2

11 Librae

10 44 47.0 + 1 47.2

34 Cephei Air 2

11 Librae 2.3.4.5

11 Librae 2.4.5

11 Crateris

11 Crateris

202 Canis Air 2

39 Cephei Air 2

11 Cephei Sp

11 Ursa majoris 2.3.4.5 Cloudy at 1.

10

20

1864 May 6th M.W. cont

Virginia
602 Rott 1.2.3.4 faint. Air 2^a

y Unae majoris 4.5.

π Virginis

El 11 56 0
New Street

El 11 59 0

644 mi B 1245 Air 2^a Cloudy at 2nd W.

y Comae Ber Give 1. wt to last 2. breiter of w. 5?

Rt. 48 sp. 2.4.5

x Laporte sp.

y Virginis pr 135² 2
foll 24

Rt. 74 Air 2^a Star faint. Clouds

El Unae majoris

El Unae pr
foll

43 Lepidus sp Air 2^a 3.4.5.

El Virginis

El Virginis
Polaris sp Air 2^a

x Virginis

El 13 22 0

1864 May 9. (W. A. Rogers)

El 11 35 0

Virginia 3 lost by failure of ink.

y Unae majoris

El 11 54 0

309 Lepidus 13 sp

El Comae

y Unae majoris 13

El Comae

y —

Rt. 48

x Lepidus sp

y Virginis foll.

Rt. 74

El Unae majoris

El Virginis

44 Lepidus 11

next page

[Blown on

10

1864 May 9 cont.

♂ Virginis 2.3.4.5 (20k. for 3 wire)
 Polaris 2.3.4.5

♂ Virginis

♂

♂ Ursa majoris

Camel 219 1P

♂ Bootis 4.5. not very good

20

♂ Capricorn

♂ Virginis

♂ Centauri

♂ Draconis 2.3.4.5

20 1st 2nd 3rd 4th 5th

C 14 7 0

E 1 2 0 1.4.5

♂ Ursa majoris

25

E 1 15 0

~~1864~~

1864 May 10

Students to night
with the Observatory.

E 10 46 0

34 Cephei 2.3.4.5. 2nd 3.

E 1 2 0

Br. 74 2p 2.3.4.5

E 1 2 0

43 Cephei 2p 3.4.5. 2nd 2b

Polaris 2p

4 2b

E 14 12 0

E 14 24 0

Gr 52 1p

♂ Bootis 7p. Comp. well seen.

♂ Librae 1.2.3.4

♂ Librae 2.3.4.5

Br 41 217

♂ Ursa minor

♂ Ursa

♂ Bootis

♂ Bootis

10

and page

1864 May 11th (cont)

15 8 21.1 + 0 55.0

Ptilinae

4 Lepidoptera

15 11 0.3 + 0 5.6

15 11 57.2 + 2 18.7

μ Bootis

323 Cephei B. An 2^a

Slovouae

E 15 31 0

1864 May 18th

E 11 19 0

39 Cephei 2.3.4.5 W. A. R.

4 Cephei "

3 Corvi "

6000 B. V. "

4 An. maj "

309 Cephei B. sp. "

8 Corvi "

4 Corvi "

Glennauin B 3.4.5 "

8 Corvi "

4 — "

3 — "

Br. 48 sp "

2 Capri sp. "

4 Virgini "

Br. 74 sp. "

8 Virgini "

1 Glennauin 2.3.4.5 "

44 Cephei, sp. W. A. R.

2 Virgini "

Polani spectu 2^a "

4 Capri sp "

2 Virgini "

244 Glennauin B 2.3.4.5 "

8 Virgini 2.3.4.5 W. A. R.

219 Glennauin B "

4 Bootis 50 Capri sp "

new sheet

E 13 57 0

next page

1864 May 19th cont.

Virginia
Uraea major
 29 *Camel* sp. Air 2^a
 29 *Bootis* 2.3.4.5 [2 off win reject] 25
 50 *Capripina* sp.
Alcutawii 2.3.4.5 faint but good
Draconis
 29 *Bootis* 30
Virginia
 1 *Capripina*
 29 *Bootis*
 36 *Capripina* H 1.2.3.4
 1 *Bootis*
 50 527 sp. Air 2^a
 26 14 33 0

New Sheet
 E 14 35 0
Virginia
 29 *Bootis* falls
 29 *Libra* 1.2.4 } Cloudy
 29 *Libra* 4 } not buy wood
 29 *Bootis* 40
 29 *Libra*
 29 *Bootis*
 323 *Capripina* 13 sp. Air 2^a
 37 *Libra* 3.4.5 (✓ doubtful; reject) 45
 29 *Coronae*
 29 *Capripina* H sp.
 29 *Serpentis*
 29 _____
 29 _____
 29 _____ 50
 29 *Uraea minor*
 29 *Scorpii*
 50 250 sp. Air 2^a
 62 *Libra* 2.3.4.5 faint 55

26 16 (2.1) 0

20th

H *Virginia*

13th 5^a

pen taken off

1864 May 21st M. 2. Sunday eve.

EB 11 48 0

39 Caml. B ep. 2. 3. 4. 5
E Corvi

4 Corvi
4 Virginis

5 6 Uranus B 3. 4. 5
4 ~~Corvi~~ 2. 3. 4. 5

8 Corvi

4 Corvi

13 Corvi

10 Re. 48 40

* Caprip 40

4 Virginis (on alternate wires) 1. 3. 5 m

Re. 74 2. 4 fall

12 Uranus

43 Cephei 3. 4. 5 (3rd break of last wire too late)

4 Virginis

Iron stars

Star obs'd on R. vertical E. 60° ± alt, bright star

Polaris 4. 5.

"

" E

57° ±

"

" W.

57° ±

EB 13 58 0

Cor

2 Bootis

4 Virginis

1 Caprip 40

8 Bootis

36 Cass. H ~~on wire~~ 2nd bar?

EB 14 38 0

* Librae

* —

} all wires - prob. off xth Libine last.
1st w. of xth Librae off centre wire

3 Uranus minor

4 Scorpii

4 Bootis 2nd bar.

3 Librae & Prim vert. west + 20°

4 Bootis

4 Uranus

323 Cephei B. 3. 4. 5

57 an. B. 5th bar off wire

4 Coronae

1864 May 22, continued

γ Lepentis

~~Scorpius~~

Gr. 750 2.3.4.5

β Scorpius m

fall.

Gr. 779 sp.

δ Ophiuchi

ϵ Scorpius

η Draconis

ζ Herculis

ξ Ophiuchi

ζ Herculis

δ Cygni Prime Vert

η Scorpius

ζ Scorpius

κ Ophiuchi

ϵ Herculis

w. N. ends for today

El 180 Polaris circ. in 2nd S.H.S.

El 180

Polaris 2.4.5

El 190

1864 May 23rd M.C. W.S.

El 9 13 0

El 10 0 0

Shen. (Hazy: γ Leonis not seen)

10 14 0

El 11 35 0

χ Urae majoris

ϕ Leonis

δ Virginis

El 11 50 0

π Virginis

ϵ Corvi

γ Corvi

η Virginis

ι Corvi

η —

1864 May 23 cont

β Corvi
 Br. 48 sp. Air 2^a
 γ Virginis foll 1.3.5
 m 2.4

Br. 24 sp. Air 2^a
 32 Camel 11 1.2
 foll 1.2

 δ Virginis

22 Cammion. m. } perhaps Quin lost
 foll }

43 Cephei Hsp. 3.4.5. Air 2^a

 ϵ Virginis

44 Cephei Hsp.
 not failed

Polaris 4.5

Cloud

1864 May 24th

JWS

EB 11 42 0

 β Virginis γ Ursae majoris π Virginis

500 Mayen

10 Virginis

 δ Ursae m. Air 2^a γ Comae α Corvi 4.5 η —

β —
 Br 48th 2.3.4.5. Vir stars

Polaris 12.3.4.5

ϵ Virginis
 γ Cassiopeiae

Ly ran dawn

214 Camel 13 3.4.5

EB 13 35 0

 γ Ursae majoris

~~4 Boot~~ 219 Camel 13

 γ Bootis

50 Capricorn ep.

 ϵ Virginis

EB 13 39 38.9 + 20 39 12 Air + 20 27 19

 δ Draconis 4.1 ϵ Draconis

Perhaps coll. disturbed
 before 50 Capricorn
 20.

1864 May 27 continued

20 Ursa B 2.3.4.5

23

2 Bootis

1 Virginis

659 Virginis B.

671

1 Capricornus

El 14 40 0

El 14 23 0

26 Cap W m

Gr 527 sp

14 32 2.7 + 0 28.3 faint Aug + 0° 3216

14 34 21.1 1 1.5

" + 1 2964

1 Virginis

108 Virginis

2 Bootis 2.3.4.5

21 Librae 1.2.3.4

2 — 2.3.4.5

R XIV 205 1.2.3.2

207 3.4.5

+ 0 3264

3265

R XIV. 212

1 Serpenti

14 51 31.6 + 0 14.7

14 53 8.8 + 1 29.4

Aug + 0° 3286

+ 1 3073

2 Serpenti

4 Scorpii

21 Librae

6 Serpenti

21 Bootis 4.5

323 Cephei B sp Air 2^a

37 Librae

2 Coronae

contact of head
and eye - and gentle light

50

6 Canis m

15 33 0.8 + 1 56.2

Aug + 1° 3110

1 Serpenti

R XV. 159

+ 2 2987

2 Serpenti

15 38 17.0 + 1 19.0

+ 1 3125

2 Serpenti

Star α.

15 40 50.7 + 2 2.0 ? Let you perceive but if that way

2 Serpenti

15 42 58.8 + 2 50.0 628 + 2 7047

2 — 2.3.4.5

2 Ursa minor

2 Scorpii

63

70

1864 May 27 cont.

50 750 4.5 2^a
 2 Lurpiu nr.
 600 in B 4.5 Air 2^a
 50 779 sp.
 2 Ophiuchus
 1 Hercules
 El 16 19 0

El 1 0 Polaris Air 3.
 El 1 15 0

Under the supposition that no sensible disturbance
 of collimation took place last night the alt. of Polaris
 is very nearly the same as usual. It will remain
 to test this by the other polar stars, of which the last
 night's obs. were I think good.

1864 May 28 W. H. Rogers

El 12 26 0
 2 Capricornus
 1 Virginis (pr?) 1.3.5
 (fol?) 2.4
 12.74 sp.
 1 Capricornus
 12 Laurus 3.4.5
 1 Virginis
 44 Alpha H.
 1 Virginis 2 bad
 Polaris
 1 Capricornus
 1 Virginis
 2 Virginis
 1 Ursa major 1.2.3.5
 50 Capricornus
 2 Draconis
 10 Ursa major 2.3.4.5
 2 Bootis
 1 Virginis
 1 Capricornus
 1 Bootis
 36 Capricornus
 1 Bootis 4.5
 50 527 sp.
 1 Virginis

next page

* This is to be decided by trial, which is the pr. and which the fol.

1864 May 28th ^{Twent} ~~ME~~ ~~WAR~~

28 Boötis
21 Librae

24 — 3.4.5

} lost by failure of pen,

25

New Sheet

E 14 55 0
4 Bootis Reg. 1.

5 Librae

30

7 Ursina

223 Cephei 3.4.5

32

Clouds.

1864 May 29th ^m ~~WAR~~

CB 11 41 0

4 Ursae majoris

11 Virginis

Elcori.

9 Corvi

9 Virginis

6 Ursae m. 3.4.5

4 Comae (1.2.4.5)

1 Corvi

4 —

Ar 48. (1.2.4.5)

10

1 Capriornis

1 Virginis m. 1.3.5 }
all 2.4. }

m. 74

2 Ursae majoris

10 Virginis

12 Comae

X 42 Cephei 3.4.5

44 — 1.2.4.5

1 Ursina

1 Comae 4.5

20

X Polaris 2.3.4

1 Centauri

1 Polaris

4 Capriornis

all 1.2.4.5

1864 May 29th W. A. R.

- 214 Camel B 3, 4, 5.
 El 13 29 0
 7 Urae maj
 219 Camel B
 4 Bootis.
 50 Cassio
 2 Virgini
 8 Centauri.
 (2 Draconi ?)
 x 20 Urae min B
 2 Bootis
 1 Virgini
 1 Capricornae (5 latate)
 8 Bootis.
 36 Cassio. H 2, 3, 4, 5
 p Bootis 5.
 1 Virgini
 8 Bootis (3 doubtful)
 2 Librae (4 doubtful)
 2 Librae 3, 4, 5
 14. 217 5.
 2 Urae min
 1 Scorpii?
 4 Bootis
 1 ———
 El . 15 8 0
 2 Librae
 p Bootis
 1 Urae min
 x 323 Cephei B ep. 3, 4, 5.
 37 Librae 5.
 1 Corvina
 2 Luputis

Cloud

 1 U. Jovian 1.4.
 El 1 15 0
1864 May 31st

- El 12 43 0
 32 Cam 14 p. h. v
 full 1.2
 1 Virgini
 12 Camm pr
 full
 43 Cephei 14 ep 3, 4, 5 Au 24
 1 Virgini

1864 May 31 M. Mont. ~~and~~Polaris 1. 2. 3. 4. Air 2^a
faint bars after 1st wine1st Centauri 2. 3. 4. 54 Capricornae 2^a2^a Virginis214 Camelopardalis Air 2^a

5 Virginis

Attempted Saturn with Gt. Eq.

Battery, Troublon

+12889 8.1
+03136 8.52^a Centauri 2. 3. 4. 5.13 59 32.2 + 137.6 } faint
14 0 49.9 + 053.2 }20 Ursini 13 2. 3. 4. 5 Air 2^a

12920 6.5

2^a Virginis

671 13 14 15 51.1 + 155.6

22813 8.5

14 17 1.1 + 2° 36' 4

2^a Bootis

12941 6.1

Ri XW. 96

14 22 29.2 + 28.0

366 14 22 29.2

22844 6.9

Gr 527 2^a Virginis

Ri XW. 132

14 30 9.8 + 2 54.5

2^a Virginis

Prime Vert. Transit by A.W.

2^a Bootis2^a Librae 1. 2. 3. 42^a — 2. 3. 4. 5.

-03264 8.6

Ri XW. 205

14 46 28.0 + 0 9.5

213 3. 4. 5.

2^a Serpentes

110 Virginis

E6 14 59 0
new sheet

E6 15 1.0

2^a Bootis P.V. Tr. by A.W.2^a Librae

4 I. hmt 1. 2. 3

II " 3. 4. 5

Satellite

Satellite

2^a Bootis323 Cepheus 13 1. 2. 3. 4 Air 2^aWisp. 15: 44 4 for 2^a Bootis. (Arm Prim. Vert)2^a Librae2^a Corvinae6 Camelopardalis 2^a

1864 May 31 M E cont

weiss 15.673 faint (for Tuetis)
 R. xv. 159 +2^d 2987 45 36 28.5 +2^d 53'4 4.1
 +2 2487 36 45.0 +2 54.1

~~Scorpius~~
 Weiss 15.741 (for Tuetis)
 15.812 very faint a wire lost 50

E Scorpius

5 Ursae minoris

5 Scorpii

15 52 39.1 +1 2.1 +1^d 3154^h ^{July}

Gr 750 sp 2.3.4.5 Air 26.

62 Ursae m. B. Air 26

Gr 479 sp no signal pr.

6 Cygnus

4 Hercules

2 Scorpii

4 Draconis

3 Hercules

1 Scorpii

15 Cygnus

R. xvi. 182

50 Cephei H. sp 2.3.4.5 and E. mixed with P. V. A. m.

E Scorpii

E 16 48 0

1864 June 2.

E 9 18 0

Glenn 4.5 Flying Clouds 1145.

E 12 4 0

Bloss

B. 68 sp 2.3.4.5

4 Virgin m. 1.3.5 fall. 2.4.

12 Cassio pr. and fall.

43 Cephei H. sp 3.4.5

E Virgin 3.4.5

44 Cephei H. sp

4 Virgin 1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63.64.65.66.67.68.69.70.71.72.73.74.75.76.77.78.79.80.81.82.83.84.85.86.87.88.89.90.91.92.93.94.95.96.97.98.99.100.101.102.103.104.105.106.107.108.109.110.111.112.113.114.115.116.117.118.119.120.121.122.123.124.125.126.127.128.129.130.131.132.133.134.135.136.137.138.139.140.141.142.143.144.145.146.147.148.149.150.151.152.153.154.155.156.157.158.159.160.161.162.163.164.165.166.167.168.169.170.171.172.173.174.175.176.177.178.179.180.181.182.183.184.185.186.187.188.189.190.191.192.193.194.195.196.197.198.199.200.201.202.203.204.205.206.207.208.209.210.211.212.213.214.215.216.217.218.219.220.221.222.223.224.225.226.227.228.229.230.231.232.233.234.235.236.237.238.239.240.241.242.243.244.245.246.247.248.249.250.251.252.253.254.255.256.257.258.259.260.261.262.263.264.265.266.267.268.269.270.271.272.273.274.275.276.277.278.279.280.281.282.283.284.285.286.287.288.289.290.291.292.293.294.295.296.297.298.299.300.301.302.303.304.305.306.307.308.309.310.311.312.313.314.315.316.317.318.319.320.321.322.323.324.325.326.327.328.329.330.331.332.333.334.335.336.337.338.339.340.341.342.343.344.345.346.347.348.349.350.351.352.353.354.355.356.357.358.359.360.361.362.363.364.365.366.367.368.369.370.371.372.373.374.375.376.377.378.379.380.381.382.383.384.385.386.387.388.389.390.391.392.393.394.395.396.397.398.399.400.401.402.403.404.405.406.407.408.409.410.411.412.413.414.415.416.417.418.419.420.421.422.423.424.425.426.427.428.429.430.431.432.433.434.435.436.437.438.439.440.441.442.443.444.445.446.447.448.449.450.451.452.453.454.455.456.457.458.459.460.461.462.463.464.465.466.467.468.469.470.471.472.473.474.475.476.477.478.479.480.481.482.483.484.485.486.487.488.489.490.491.492.493.494.495.496.497.498.499.500.501.502.503.504.505.506.507.508.509.510.511.512.513.514.515.516.517.518.519.520.521.522.523.524.525.526.527.528.529.530.531.532.533.534.535.536.537.538.539.540.541.542.543.544.545.546.547.548.549.550.551.552.553.554.555.556.557.558.559.560.561.562.563.564.565.566.567.568.569.570.571.572.573.574.575.576.577.578.579.580.581.582.583.584.585.586.587.588.589.590.591.592.593.594.595.596.597.598.599.600.601.602.603.604.605.606.607.608.609.610.611.612.613.614.615.616.617.618.619.620.621.622.623.624.625.626.627.628.629.630.631.632.633.634.635.636.637.638.639.640.641.642.643.644.645.646.647.648.649.650.651.652.653.654.655.656.657.658.659.660.661.662.663.664.665.666.667.668.669.670.671.672.673.674.675.676.677.678.679.680.681.682.683.684.685.686.687.688.689.690.691.692.693.694.695.696.697.698.699.700.701.702.703.704.705.706.707.708.709.710.711.712.713.714.715.716.717.718.719.720.721.722.723.724.725.726.727.728.729.730.731.732.733.734.735.736.737.738.739.740.741.742.743.744.745.746.747.748.749.750.751.752.753.754.755.756.757.758.759.760.761.762.763.764.765.766.767.768.769.770.771.772.773.774.775.776.777.778.779.780.781.782.783.784.785.786.787.788.789.790.791.792.793.794.795.796.797.798.799.800.801.802.803.804.805.806.807.808.809.810.811.812.813.814.815.816.817.818.819.820.821.822.823.824.825.826.827.828.829.830.831.832.833.834.835.836.837.838.839.840.841.842.843.844.845.846.847.848.849.850.851.852.853.854.855.856.857.858.859.860.861.862.863.864.865.866.867.868.869.870.871.872.873.874.875.876.877.878.879.880.881.882.883.884.885.886.887.888.889.890.891.892.893.894.895.896.897.898.899.900.901.902.903.904.905.906.907.908.909.910.911.912.913.914.915.916.917.918.919.920.921.922.923.924.925.926.927.928.929.930.931.932.933.934.935.936.937.938.939.940.941.942.943.944.945.946.947.948.949.950.951.952.953.954.955.956.957.958.959.960.961.962.963.964.965.966.967.968.969.970.971.972.973.974.975.976.977.978.979.980.981.982.983.984.985.986.987.988.989.990.991.992.993.994.995.996.997.998.999.1000.1001.1002.1003.1004.1005.1006.1007.1008.1009.1010.1011.1012.1013.1014.1015.1016.1017.1018.1019.1020.1021.1022.1023.1024.1025.1026.1027.1028.1029.1030.1031.1032.1033.1034.1035.1036.1037.1038.1039.1040.1041.1042.1043.1044.1045.1046.1047.1048.1049.1050.1051.1052.1053.1054.1055.1056.1057.1058.1059.1060.1061.1062.1063.1064.1065.1066.1067.1068.1069.1070.1071.1072.1073.1074.1075.1076.1077.1078.1079.1080.1081.1082.1083.1084.1085.1086.1087.1088.1089.1090.1091.1092.1093.1094.1095.1096.1097.1098.1099.1100.1101.1102.1103.1104.1105.1106.1107.1108.1109.1110.1111.1112.1113.1114.1115.1116.1117.1118.1119.1120.1121.1122.1123.1124.1125.1126.1127.1128.1129.1130.1131.1132.1133.1134.1135.1136.1137.1138.1139.1140.1141.1142.1143.1144.1145.1146.1147.1148.1149.1150.1151.1152.1153.1154.1155.1156.1157.1158.1159.1160.1161.1162.1163.1164.1165.1166.1167.1168.1169.1170.1171.1172.1173.1174.1175.1176.1177.1178.1179.1180.1181.1182.1183.1184.1185.1186.1187.1188.1189.1190.1191.1192.1193.1194.1195.1196.1197.1198.1199.1200.1201.1202.1203.1204.1205.1206.1207.1208.1209.1210.1211.1212.1213.1214.1215.1216.1217.1218.1219.1220.1221.1222.1223.1224.1225.1226.1227.1228.1229.1230.1231.1232.1233.1234.1235.1236.1237.1238.1239.1240.1241.1242.1243.1244.1245.1246.1247.1248.1249.1250.1251.1252.1253.1254.1255.1256.1257.1258.1259.1260.1261.1262.1263.1264.1265.1266.1267.1268.1269.1270.1271.1272.1273.1274.1275.1276.1277.1278.1279.1280.1281.1282.1283.1284.1285.1286.1287.1288.1289.1290.1291.1292.1293.1294.1295.1296.1297.1298.1299.1300.1301.1302.1303.1304.1305.1306.1307.1308.1309.1310.1311.1312.1313.1314.1315.1316.1317.1318.1319.1320.1321.1322.1323.1324.1325.1326.1327.1328.1329.1330.1331.1332.1333.1334.1335.1336.1337.1338.1339.1340.1341.1342.1343.1344.1345.1346.1347.1348.1349.1350.1351.1352.1353.1354.1355.1356.1357.1358.1359.1360.1361.1362.1363.1364.1365.1366.1367.1368.1369.1370.1371.1372.1373.1374.1375.1376.1377.1378.1379.1380.1381.1382.1383.1384.1385.1386.1387.1388.1389.1390.1391.1392.1393.1394.1395.1396.1397.1398.1399.1400.1401.1402.1403.1404.1405.1406.1407.1408.1409.1410.1411.1412.1413.1414.1415.1416.1417.1418.1419.1420.1421.1422.1423.1424.1425.1426.1427.1428.1429.1430.1431.1432.1433.1434.1435.1436.1437.1438.1439.1440.1441.1442.1443.1444.1445.1446.1447.1448.1449.1450.1451.1452.1453.1454.1455.1456.1457.1458.1459.1460.1461.1462.1463.1464.1465.1466.1467.1468.1469.1470.1471.1472.1473.1474.1475.1476.1477.1478.1479.1480.1481.1482.1483.1484.1485.1486.1487.1488.1489.1490.1491.1492.1493.1494.1495.1496.1497.1498.1499.1500.1501.1502.1503.1504.1505.1506.1507.1508.1509.1510.1511.1512.1513.1514.1515.1516.1517.1518.1519.1520.1521.1522.1523.1524.1525.1526.1527.1528.1529.1530.1531.1532.1533.1534.1535.1536.1537.1538.1539.1540.1541.1542.1543.1544.1545.1546.1547.1548.1549.1550.1551.1552.1553.1554.1555.1556.1557.1558.1559.1560.1561.1562.1563.1564.1565.1566.1567.1568.1569.1570.1571.1572.1573.1574.1575.1576.1577.1578.1579.1580.1581.1582.1583.1584.1585.1586.1587.1588.1589.1590.1591.1592.1593.1594.1595.1596.1597.1598.1599.1600.1601.1602.1603.1604.1605.1606.1607.1608.1609.1610.1611.1612.1613.1614.1615.1616.1617.1618.1619.1620.1621.1622.1623.1624.1625.1626.1627.1628.1629.1630.1631.1632.1633.1634.1635.1636.1637.1638.1639.1640.1641.1642.1643.1644.1645.1646.1647.1648.1649.1650.1651.1652.1653.1654.1655.1656.1657.1658.1659.1660.1661.1662.1663.1664.1665.1666.1667.1668.1669.1670.1671.1672.1673.1674.1675.1676.1677.1678.1679.1680.1681.1682.1683.1684.1685.1686.1687.1688.1689.1690.1691.1692.1693.1694.1695.1696.1697.1698.1699.1700.1701.1702.1703.1704.1705.1706.1707.1708.1709.1710.1711.1712.1713.1714.1715.1716.1717.1718.1719.1720.1721.1722.1723.1724.1725.1726.1727.1728.1729.1730.1731.1732.1733.1734.1735.1736.1737.1738.1739.1740.1741.1742.1743.1744.1745.1746.1747.1748.1749.1750.1751.1752.1753.1754.1755.1756.1757.1758.1759.1760.1761.1762.1763.1764.1765.1766.1767.1768.1769.1770.1771.1772.1773.1774.1775.1776.1777.1778.1779.1780.1781.1782.1783.1784.1785.1786.1787.1788.1789.1790.1791.1792.1793.1794.1795.1796.1797.1798.1799.1800.1801.1802.1803.1804.1805.1806.1807.1808.1809.1810.1811.1812.1813.1814.1815.1816.1817.1818.1819.1820.1821.1822.1823.1824.1825.1826.1827.1828.1829.1830.1831.1832.1833.1834.1835.1836.1837.1838.1839.1840.1841.1842.1843.1844.1845.1846.1847.1848.1849.1850.1851.1852.1853.1854.1855.1856.1857.1858.1859.1860.1861.1862.1863.1864.1865.1866.1867.1868.1869.1870.1871.1872.1873.1874.1875.1876.1877.1878.1879.1880.1881.1882.1883.1884.1885.1886.1887.1888.1889.1890.1891.1892.1893.1894.1895.1896.1897.1898.1899.1900.1901.1902.1903.1904.1905.1906.1907.1908.1909.1910.1911.1912.1913.1914.1915.1916.1917.1918.1919.1920.1921.1922.1923.1924.1925.1926.1927.1928.1929.1930.1931.1932.1933.1934.1935.1936.1937.1938.1939.1940.1941.1942.1943.1944.1945.1946.1947.1948.1949.1950.1951.1952.1953.1954.1955.1956.1957.1958.1959.1960.1961.1962.1963.1964.1965.1966.1967.1968.1969.1970.1971.1972.1973.1974.1975.1976.1977.1978.1979.1980.1981.1982.1983.1984.1985.1986.1987.1988.1989.1990.1991.1992.1993.1994.1995.1996.1997.1998.1999.2000.2001.2002.2003.2004.2005.2006.2007.2008.2009.2010.2011.2012.2013.2014.2015.2016.2017.2018.2019.2020.2021.2022.2023.2024.2025.2026.2027.2028.2029.2030.2031.2032.2033.2034.2035.2036.2037.2038.2039.2040.2041.2042.2043.2044.2045.2046.2047.2048.2049.2050.2051.2052.2053.2054.2055.2056.2057.2058.2059.2060.2061.2062.2063.2064.2065.2066.2067.2068.2069.2070.2071.2072.2073.2074.2075.2076.2077.2078.2079.2080.2081.2082.2083.2084.2085.2086.2087.2088.2089.2090.2091.2092.2093.2094.2095.2096.2097.2098.2099.2100.2101.2102.2103.2104.2105.2106.2107.2108.2109.2110.2111.2112.2113.2114.2115.2116.2117.2118.2119.2120.2121.2122.2123.2124.2125.2126.2127.2128.2129.2130.2131.2132.2133.2134.2135.2136.2137.2138.2139.2140.2141.2142.2143.2144.2145.2146.2147.2148.2149.2150.2151.2152.2153.2154.2155.2156.2157.2158.2159.2160.2161.2162.2163.2164.2165.2166.2167.2168.2169.2170.2171.2172.2173.2174.2175.2176.2177.2178.2179.2180.2181.2182.2183.2184.2185.2186.2187.2188.2189.2190.2191.2192.2193.2194.2195.2196.2197.2198.2199.2200.2201.2202.2203.2204.2205.2206.2207.2208.2209.2210.2211.2212.2213.2214.2215.2216.2217.2218.2219.2220.2221.2222.2223.2224.2225.2226.2227.2228.2229.2230.2231.2232.2233.2234.2235.2236.2237.2238.2239.2240.2241.2242.2243.2244.2245.2246.2247.2248.2249.2250.2251.2252.2253.2254.2255.2256.2257.2258.2259.2260.2261.2262.2263.2264.2265.2266.2267.2268.2269.2270.2271.2272.2273.2274.2275.2276.2277.2278.2279.2280.2281.2282.2283.2284.2285.2286.2287.2288.2289.2290.2291.2292.2293.2294.2295.2296.2297.2298.2299.2300.2301.2302.2303.2304.2305.2306.2307.2308.2309.2310.2311.2312.2313.2314.2315.2316.2317.2318.2319.2320.2321.2322.2323.2324.2325.2326.2327.2328.2329.2330.2331.2332.2333.2334.2335.2336.2337.2338.2339.2340.2341.2342.2343.2344.2345.2346.2347.2348.2349.2350.2351.2352.2353.2354.2355.2356.2357.2358.2359.2360.2361.2362.2363.2364.236

1864 June 2 M^t cont.

with R

214 Canad B 4.5

11m on R. Vert & Hercules?

& Ursae majoris

Ehoni on R. Vert.

83 Canad 2.3.5 R. Vert.

Virginis

u Hercules R. Vert.

A Booris

A Virginis

214 begins here with M. line

A Booris

P —

50 527 sp. An 2a

u Virginis

A Booris

Cloudy in the South.

B. NW. 214 2.3.4.5

A Booris

[Cloudy]

β Librae

u Booris

323 Cephei B. An 2a

11m (W. 13.444) in T. Vert. [Prime Vertical Star: W. A. R.]

β Librae

u Booris

A Serpentis

A Serpentis

El 15 42 0

El 15 44 0

A Serpentis

11m on R. Vert. W. A. R.

A Ursae minoris

50 750 sp. An 2a

B. Vert. in B. An 2a 2.3.4.5

Prime Vertical on W. A. R.

51 779 sp. 1.3.4.5 ref 5.

El 16 12 0 clouded up.

1864 June 3

El 11 38 0

S. Corv

y Virginis pr.

El 12 37 0

} A.M.

El 1 0 0

Palam M.S.

3

El 1 17 0

El 1 (55) 0

x Aneli M.S.

4

El 2 2 0

1864 June 4, M.C.

El 12 30 0

y Virginis pr 1.3.5
fall. 2.4.

1

Be. 74 sp.

S. Virginis

M. laurus pr

fall

5

43 Aphelion pr 3.4.5. An 2^a.

S. Virginis

Palam pr An 2^a 1.2.3.5Francis pr. Lim of Viris
Declination of Jupiter

El 14 10 0

New Sheet.

El 14 13 0

Right - Ascension of Jupiter.

S. Bootis pr

S. Librae 1.2.3.4

10

S. — 2.3.4.5

pr XIV. 212

S. Bootis

S. Bootis

S. Librae

S. Bootis

15

57 Uranus 13 2.3.4.5 An 2^a.

S. Librae 4.5.

S. Bootis

S. —

pr

18

1864 June 4 *W* cont*L* *Serpentis**u* *Serpentis**E* *Serpentis**Y* *Serpentis**Gr* 750 *p* 1. 2. 3. 4 *h* 2^h*Orion* 13 " 2^h

26

1864 June 5 a.m. *E* *C* set back 2^m1864 June 6th*C* 14 20 (partly clear)*B* *Bootis*36 *Cephei* *Hep**Gr* 527 *sp.* *sin* 2^h- *B* *Bootis* *bulg**Pi* XIV. 217*B* *Ursae* *minoris**Cloudy in h.*110 *Vignis*- *B* *Bootis**c* *Bootis*- *B* *Ursae*5 *Serpentis**u* *Bootis*323 *Cephei* *Hep* *sin* 2^h+ *pro.* 37 *Ursae* 3' 5"37 *Ursae**G* *Camel* *Hep* 3. 4. 5.1 *Serpentis**Pi* XV. 179*φ* *Serpentis*- *α* *Serpentis* 3. 4. 515 *H* 17.0 + 1 19.0*h* *Serpentis* !*u* *Serpentis**E* —*B* *Draconis*- *σ* *Opicachi**C* 16 80

25

27

1864 June 7th Illumination West (Reversed to day)

Shoni

26 11 9 0

46 11 31 0

Shoni

26 11 51 0

Shoni

12 1/2 sp 3, 4, 5 - Air 2⁶ thin faint

5 Virginia

12 Canum ven m
full

13 Capri H sp 3 (4, 5?) penfalter Air 2⁶.

8 Virginia

Polaris sp Air 2⁶.

8 Virginia

26 13 16 0

26 13 28 0 W. A. A. begins

7 1/2 m up 4.5

Canopus 219 B.

50 Capriopis

2 Virginia

8 Centauri

2 Draconis

20 h m 13 sec. bk after star

8 Virginia

1 Capriopis

8 Bootis rej. 1

Gr. 527 5 only

8 Virginia

8 Libra

8 Libra 3.4.5.

P. 11. 217

8 h m

20 Libra rej 5

8 Bootis

C —

W. A. A. begins

8 1/2 m up 4.5 Air 2⁶.

8 1/2 m up 4.5

8 Corona

8 Canaltan

8 Supra

8 —

10 m

1864 June 7th M. W. Mont.

Gr 750 ft 3.4.5 Air 2⁶
 620 ft 13 2.3.4.5 " "

El 16 1 0

new sheet.

El 16 4 0

S. Ophiuchii

E. Ophiuchii

S. Scorp

11 Draconis

El 16 39 0.

El 73 5 0

Polaris 3 4 5 W 4 R

1864 June 8th

El 12 53 0

E. Virginis

O. Virginis

Polaris wire 1. Air 2⁶

B. Comae Berenices

Polaris 2.3.4.5.

C. Capripesae sp.

E. Virginis

111 Camel 2.3.4.5 Air 2⁶ Star faint

η Ursa majoris 4.5.

119 Camel 13 1.2.3.

γ Bootis

50 C. Capripesae sp.

E. Virginis

C. Capripesae

α Bootis

δ Bootis

μ Virginis 4.5.

E. Bootis fall. *B. Verh.* mixed up with it.

κ Librae 1.2.3.4

κ — 2.3.4.5

π XIV. 207.

14 46 25 2 40 10 9

W. A. R. Virginis here

γ Scorp

φ Bootis

α Bootis

Chor Comae

B. Librae

μ Bootis

1864 June 8th T.W. w. A.R.

323 Cephei 13 2.3.4.5

57 un in 13

Alcorinae

Glauco H.

1 Serpenti

2 Serpenti

A ———

μ ———

E ———

5 un in

y Serpenti 2.3.4.5

δ Scorp

β ———

20 779 sp

δ Ophiuchi

E ———

2 Scorp

4 Draconis

β Herculis

2 Scorp 2.3.4.5 faint. Cloudy

2 Ophiuchi

R. XVI. 182 1.2.4.5

58 Cephei H. sp

3 Herculis

4 Herculis

9 Camel H. sp 3.4.5

C. 16 ——— 0

C. 1864 June 9th T.W.

C. 12. ——— 0 Thick Stars

δ Virginis
 12 Camm fall 3.4.5 Cloudy at 1.2 comp. not
 seen at all
 Polaris Air 2^a but 2^a in through cloud.

C. 14 10 0 Desperately cloudy

C. 1864 June 10th T.W.

Glauco

R. 12 27 0

R. 12 40 0

12 Camm fall 1.2 Air 2^a has faint

1864 June 10th M. W.

5 Virginis

12 Canum pr

43 Lepth ^{poll} Ari 2^b 3.4.5

4 Virginis

Polaris wies 1 Ari 2^a

B Comae

Polaris wies 2.3.4

1 Centauri

Polaris wies 5

4 Capricornae pr

4 Virginis

14 Camel^l B Ari 2^b

3 Virginis 3.4.5.

El 13 29 a

New Sheet

El 13 ---

2 Bootis

2^a Librae 1.2.3.4 2

4^a Librae 2.3.4.5 }

5 to

Saturn G. G. Ari 2^b

3 Ursa min 2.3.4.5

6 Scorpii

Gr 750 sp 2.3.4 Ari 2^b

6 Ursa min B Ari 2^b

Gr 779 sp. Ari 2^b

El 16 ...

El 16 9 a

Sp. by me here

2 Scorpii 1.2.3

4 Draconis 7.11.1

Polaris Am

2 Scorpii Am

3 Ophiuchi Am

Ri XVI. 182

50 Cygni 1.2.3.4.5

3 Hercules 3.4.5 1.2.3 4.5.6

9 Camel^l 1.2.3.4.5

2 Scorpii 1.2.3.4.5

1 --- Am

2 --- Am

3 --- Am

1864 June 10th M.W. cont.

64 Ophiuchi AM
 2 Hercules Air
 2 Ursa minor J.H.S
 17 Ophiuchi Air
~~2 Hercules J.H.S~~
 2 Hercules Air
 11 " " M. bad: Or. not good.
 2 Ophiuchi J.H.S
 64 Camelopard. J.H.S

cf 1723 a.

cf 1... "

Polaris 2.3.4.5 Air 2^o

cf 1 21 0

Orbits not visible

1864 June 10th J.H.S

cf 1 8 0

Polaris 3.4.5 Air 2^a

cf 1 14 0

1864 June 13th J.H.S

cf 11 1 0

S Leonis

S Leonis

cf 11 44 0

cf 12 44 0

S Virginis

Alaudina full
 m. 4.5

S Virginis

S Virginis

Polaris Air 2^a M.W. 1

Alonae

Polaris Air 2.3.4

Centauri

Polaris Air 5

4 Capricorn 24.

214 Camelopard 3.4.5 Air 2^a too faint

S Virginis

Saturn at Equinox

cf 14 17 0

10

1864 June 13th M. W. cont W.S.
New Sheet

E 14 22 0
C Bootis 2.3.4.5.
Majus
E Bootis
Pi XIV. 180 22865 77th Alt 40 G.3 +239.8
2nd Librae 1.2.3.4

2nd Librae 2.3.4.5

Pi XIV. 212
Buna amiri

C Bootis

B Librae

5th Librae B Ania

3rd Librae

2nd Librae

Clamell H m

W.A. R. Aquas

1st Lepantis

h —

m —

E —

y — rej 2 (double bk.)

8th Scorpii

gr 750 m

D Scorpii m

— 10th

8th Draconis

gr 779 m

8th Ophiuchi

E —

4th Sterculis

2nd H. S. begins again

8th Scorpii

7th Draconis 3.4.5

8th Sterculis

8th Scorpii

8th Ophiuchi

Pi XVI. 182

5th Lepantis 2.3.4.5

E 1636 a

20

30

40

49

5

1864 June 14th

E 11 30 JHS

E 11 30

E 11 38 0

Polaris y Ursa major

2nd Virginis rej. 1. effuse

12 laurus toll pr 2.3.4.5

33 Eleph. H. sp 3.4.5. Air 26

E Virginis

E Virginis

Polaris m. 1. Air 26

E laurus

Polaris m. 2.3.4

E Centauri

Polaris m. 5.

4 Capricornae

E Virginis

~~W. A. 12. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.~~

Saturn - Titan

Studenty

1. Saturn begins with Transit

E Virginis

E Bootis

E Librae rej 4

E ——— 3.4.5

R. XIV. 217

Polaris m.

E 14 52 0

New Sheet

E 14 56 0

E Bootis

E ———

E Librae

E H. S. again

E H. S. 2.3.4.5. Air 26

E Librae

E Corvinae

E Scorpiae

E ———

/ over

2.3

4

5

6

7

8

9

10

11

20

28

1864 June 14th Lk. W. cont.

1 *Serpentis*
 1 *Serpentis* 3.4.5 (1st time not before equal reject) 30

1 *Scorpii*

30 750 sp

1 *Scorpii* fr.

1 *Draconis*

30 779 sp

1 *Ophiuchi*

1 *Ophiuchi*

1 *Herulis*

30 5493

1 *Scorpii*

1 *Draconis*

1 *Herulis*

1 *Scorpii*

1 *Ophiuchi*

30 182

30 *Cephei* 182 sp. 1st time not before equal reject

1 *Herulis*

1 *Camelopardalis*

1 *Scorpii*

1 —

1 —

1 *Ophiuchi*

1 *Herulis*

1 *Ursae minoris*

1 *Ophiuchi*

17 529.5 + 0 32.3 - + 0° 36.54 7th 0

1 *Herulis*

1 —

17 15 39.7 + 0 59.1 - + 0° 36.78 8th 3

1 *Camelopardalis*

El 17 20 0

New Sheet

El 17 24 0

1 *Draconis*

1 *Ophiuchi*

1 —

1 *Herulis*

1 *Draconis* m

1 — toll

1 *Draconis*

1 —

1 —

40

50

60

65

1864 June 14th LM cont

70 Ophiuchi pr
or Sagittarii

70

40 Draconis 3rd wire ~~2.3.4.5~~
41 — alternately of 40 and 41.

5 Urae minoris An 2^a

23 Canuti 4th 2^a

W. A. R. is sitting up for Echo and gets trants to
keep himself awake

51 Aphi 4th 2^a

110 Hercules Ret 1.

8 Lyrae

8 Sagittarii

8 Serpentis pr
folly

50 Draconis 2.3.4.5

8 Aquilae

8 Sagittarii

3 Aquilae

8 Sagittarii

~~un 4.12.1~~
1864 June 16th

El 13 70 (Cloudy)

Polaris 3.4.5 An 2^a

W. 4 a little uncertain from cloud
but to be retained

3 Virginis

2

4 Urae minor

3

49 Canuti An 2^a

4

4 Bootis

5

50 Capricornae 4th

20 Urae min 13 2.3.4.5 An 2^a

8 Bootis

8 Virginis

8 Bootis

10

8 —

Transits of Titan and Saturn

2^a Librae

2^a — 3.4.5

Saturn Declination,

3rd Urae min 13 2.3.4.5 An 2^a

3rd Librae

4th Capricornae

6 Canuti

15

El 15 34 0. (33 0?)

New Street

El 15 35 0

serpentis

1 —

u —

E —

γ Scorpii

gr 750 sp 3.4.5 Ari 2^h

β Scorpii pr

δ Draconis

gr 779 sp Ari 2^a

δ Ophiuchi

E —

γ Herculis

δ Scorpii

γ Draconis nej 1.

β Herculis

ε Scorpii

δ Ophiuchi

R. xvi. 182

δ Cephei 1. 2. 3. 4. 5

γ Herculis

glam stop w.

ε Herculis

ε Draconis Ari 2^a

γ Ophiuchi

δ Herculis

π —

ε Ophiuchi

α —

δ Camelopardis Ari 1.

β Ophiuchi 3.4.5

γ Herculis

δ Draconis

ε —

ζ —

η 17 54 0

20

25

30

35

40

45

48

50

1864 June 17th

E 12 40 0

8 Virgini

12 Aurum poly

E Virgini

~~Over~~Polaris wire 1 Air 2^a

Polaris 2.3.4.5

Polaris wire 2.3.4.5

E Virgini

P —

Saturn ft. Equat Air 2^a

4 Bootis

P —

14 26 58.5 + 2 19.0

+ 2^a 2836 8.5

5 Bootis

P XIV. 132 - 14 30 9.8 + 2 54.5

2 2844 6.9

14 32 27 + 0 22.3

0 3216 8.5

14 34 2.6 + 0 44.2

0 3223 7.5

105 Virgini

~~105 Virgini~~

14 38 9.7 + 1 18.7

1 2972 6.5

2 Librae

P XIV. 205

14 46 21.0 0 9.5 0 3264 8.6

* Dec. 1st 47th bad obs. lost by fault of circuit

in dome

20

14 52 8.8 + 1 29.4

1 3013 8.5

2 Serpenti 14 54 24.6 + 0 26.2

0 3297 8.3

110 Virgini 14 55 35.2 + 2 40.0

2 2905 6.7

4 Bootis

P XIV. 228 15 0 38.5 + 0 30.2

15 0 57.2 + 0 54.1

15 0 26.1 + 0 55.0

27

P Librae 2.3.4.5

E 15 11 0

New Sheet

E 15 16 0

5 Bootis

P XV. 221 13 23.45 Air 2^a

30

37 Librae

Horvian

Glaunt 4th type

14 33 0.8

1 Serpenti

2 —

3 —

4 —

Jove

To
1864 June 17. ant.

38

ε Serpentis
γ Serpentis

40

δ Scorpis
ζ 750^m Ari 2^a
β Scorpis
α Draconis
δ Ophiuchi
ε —

γ Herculis

Alt 5493

α Scorpis

γ Draconis

50

β Herculis

ζ Scorpis

δ Ophiuchi

50 Lepus H. 1. 2. 3. 4. Ari 2^a

δ Herculis

Alt 16390

γ —

ε Scorpis

53

δ Scorpis

α Ophiuchi

ε Herculis

60

Elman min 3. 4. 5. Ari 2^a

η Ophiuchi

ε Herculis

Alt 1790

To
1864 June 18. W. A. R.

α Coronae
6 Canis M. 2. 3. 4. 5 (2.5 rej)

ε Serpentis

α — rej. 1

γ Umi

γ Serpentis not very good

ζ 750 2. 3. 4. 5

β Scorpis rej. 1

α Draconis 3. 4. 5

ζ 779

δ Ophiuchi

Alt 16110

not pag

El 16 23 0

B Hercules 4.5

Scorpii

Optimuli (Ebad)

R XVI. 182

Scorpii

4

El 16 48 0

K Optimuli

B Hercules

4 Optimuli

Uranus I

B Hercules

El 17 27 0

a 59 0
Polaris

June 19th Sunday eve
El 13 1 0

Polaris

2 Virginis

4 Uranus

Pemfuto

W.A.R.

El 14 26 0

Polaris

El 15 14 0

El 15 14

El 1 1 0
Polaris 1.2.4.5 faint
El 1 16 0

June 21st MW

2 Virginis

Alentauri

20th in 13 Ari 2^a 2nd 2nd 2nd

2 Virginis

1 Capricornus

2 Boobis

1

0

El 14 32 0

1864 June 11 *W. cont.*

El 14 34 0

μ Virginis
 ϵ Bootis

α Librae 1.2.3.4
 μ ——— 2.3.4.5.

Titan
 Attempted to observe Saturn; the
 obs. of declination was tolerable
 but in AR not so, as Titan was just
 over following limb of ball; is not
 enough time to get ansa of ring.

δ Ursaemini B 2.3.4.5 α Ursa

δ Librae

γ Coronae

δ Camelopardis

ϵ Serpentis

α ———

α ———

μ ———

ϵ ———

γ ———

γ 758 ϵ

β Scorpiae

γ 759 ϵ

δ Ophiuchi

ϵ ——— 3.4.5

γ Herculis

El 16 16 0
 New Sacet

El 16 19 0

α Scorpiae

γ Draconis

β Herculis

ϵ Scorpiae

δ Ophiuchi

α VI. 182 3.4.5

δ Herculis

η ———

ϵ Scorpiae

δ ———

δ ———

δ Ophiuchi

ϵ Herculis

not page

1864 June 21 ^A MNR cont.

4 Ophiuchi
 2 Herculis
 N

Σ Ophiuchi

64 Canis M. p. 2^a

74 — 13 p. 2, 3, 4, 5.

3 Draconis

2 Ophiuchi 2, 3, 4, 5

3 —

10 Herculis

1st Draconis m

— full

Σ —

Σ

Chm. stopped after filling pen

70 Ophiuchi p.

EB 17 59 0

10 Sagittarii

Σ —

40 Draconis

41 Draconis Ob. not very good; lamp very out.

To be retained.

Σ Ursa minoris 2^a

22 Canis M. p.

Σ —

54 Cephei 14 p. 2^a

110 Herculis

Σ —

Σ —

EB 18 46 0

Chm. Shut

EB 1 0 0

Polaris 2^a, JMS

" 1 15 0

1864 June 22^d ^D MNR w. A. R.

Σ Bootis 2^d oad?

Σ —

Σ 527 Rej. 1

Σ Virginis

Σ Bootis 1st doubt.

1864 June 22 M.W. W. 4.0

 α Librae α XIV. 217 β Umi γ Scorpii δ Boötis ϵ — β Librae γ Umi δ Comae ϵ Serpentis ϵ — not very good δ Umi γ Serp. rei. 1 γ 200 2.3.4 not very good γ Scorpii rei. δ Opiculus ϵ — ϵ 16 11 0
new sheet ϵ 16 15 0 δ Opiculus 1.2. δ Arctis γ — rei. 5 δ Opiculus ϵ Arctis ϵ Umi anisot. δ Arctis γ — 3.4.5 rei. 3 β Draconis δ Opiculus 4.5 β — μ Arctis δ Draconis 3.4 γ — γ Umi 4.5 faint Cloud ϵ 18 22 0

10

15

20

25

30

35

38

1864 June 23

Pole El 12 53 0

AR Polaris (2nd in 1st bk occidental) Long W. 31

" Virginis

" 5

" 4 UMa

" 4 Bootis 3.4.5 5

" 2 Virginis

Am. 2 Bootis

2145 2 Virginis

" 4 Bootis 10

" 8 Bootis

El 15 14 0 Saturn with Gr. Equat.

El. 16 4 0

Zone 7145

El 14 59 0

El 18 2 0

2145 2145

40 Draconis

41

8 Sagittarii

2 Ursa minoris An 29 15

23 Capricornus 2.3.4.5 17

24 Capricornus 14.5 19

El 18 41 0

1864 June 24

El 14 5 0

2 Bootis

2 Virginis

2 Bootis 3.4.5

8

2 Bootis

2145 2145

2145 2145

El 14 44 0

El 14.46 0

Bess Min AM

1864 June 24th

y Scorpii

20 Librae 1st isolate A.M.

p Bootis

c Bootis

3 Librae

u Bootis

y Mus Min 1st & 2^d wire Band

37 Librae

a Coronae Bor

c Serpentis

a _____

l _____

u _____

e _____

Last wire ^{lead} ~~plate~~ ~~on party~~

Chronograph stopped run out

26 15 36 0 New sheet

Gr 779 Sp

d Ophiuchus

e _____

y Herculis

a Scorpii

y Draconis J.H.S

p Herculis "

e Scorpii "

y Ophiuchus "

26 16 31 0

Ri XVI. 182 } Air 2^d.

50 Cephei 14 p }

u Herculis

e Scorpii

K Ophiuchus

e Herculis

e Ursae minor 1.2.3.5 Air 2^d.

Cloud interfered with some stars here set on,

64 Cassiopeia sp. Air 2^d.

327 Ursa 1.4.5 } Cloud

2 Ophiuchus 2.3.

1864 June 26th SW

Ec 16 18 0 W.A.R.

B Herculis 2.3.4.5

3 Ophiuchi faint

5 Herculis

4 —

Ec 16 43 0

1864 June 27th

Ec 12 53 0

Polaris 2^d doubtful: being ^{4 cloudy} ^{bad} W.A.R.

α Virginis

β Bootis ^{Cloudy}

γ —

γ. 587 2.3.4.5

α Virginis "

ε Bootis "

β Virginis 2.67 "

Ec 14 50 0

new sheet

Ec 15 0 0

α Librae W.A.R.

γ Ursae 2.3.4.5 "

γ Ursae 13. 4.5 "

β Librae "

α Coronae "

α Canis M. "

β Serpentis "

4 — "

Ec 15 41 0

Ec 16 17 0

" 17 47 0 2m 7m 56 (mid 56)

" 17 47 0

— — —

— — —

— — —

Ec 15 54^m 55^s W.A.R. seeing 1

Polaris 7^h 14^m 5^s

Ec 14 0

1864 June 28th M. East

El 13 30

Palais 1.2.3.4 Air 2^o T.H.S

Wigam

El 13 18 0

El 14 8 0

α Bootis Am

β Bootis "

γ Bootis "

μ Virginis "

ε Bootis 2.H.S

δ Librae 1.2.3.4 T.H.S

ζ ——— 3.4.5 "

ρ XIV. 217

β Ursa minoris

γ Scorpis 223 B - Air 2^o

ε Bootis 4.5

β Librae

El 15 12 0 Refilled pen. -

El 15 14 0

μ Bootis

σ Ursa mi B. 2.3.4.5

ζ Librae

α Coronae

ζ Serpentis

α ———

α ———

μ ———

ε ———

γ ———

γ Scorpis Rad in eye

β ———

α Draconis

El 16 1 0

El 16

54.5

Head

June 24th

Zone - T.H.S

after hours

δ Ursa mi 4.5 Air 2^o Ec.

ζ Camelopard. sp.

α Lyrae

σ Cephei H

El 18 41 0

Polaris at AR

1864 June 29th

EC 13 0 0

Polaris sp. in 2nd
Virginia

EC 13 18 0

EC 13 31 0

2 Ursae Majoris AM

2 Bootis

a Bootis

1 Virginis 45 h.s

0 Bootis 1 2 3 4 5 - 4 coplate

8 — 71.5 before here

5 — "

EC 14 32 0

New Street

EC 14 35 0

11 Virginis

2 Bootis

11 Librae 1. 2. 3. 4

11 — 2. 3. 4. 5

Arg. + 1st 3018 80 14 56 0.8 + 1 26.9

1 Bootis

EC 15 6 0

filled pen

EC 15 7 0

11 Librae

Arg. + 1st 3058. 71 15 11 1.3 + 1 27.6

8.8 45 12 43.3 + 1 31.5

11 + 1st 3074 1.2.3.4 too faint repeat

37 Argem. B. Apr 2nd false bk. before 1st h.

37 Librae

11 Coronae

6 Camelopardis

1 Serpentes

1 —

1 — 3.6.5

11 —

25 Serpens fr. 11 Serpentes

0 Ursa Minor 2. 3. 4. 5.

July 3 *W. Hart*

EC 12^h 55^m 0^s *W. Hart* seeing 2
 Palais
 as Virginis

EC 13^h 19^m 0^s

EC 14^h 44^m 0^s

B. Mus Min seeing 3

γ Scorpii

ν Bootis

ε Bootis

β Librae n.s. 4 5

γ Mus Maj

AR 15^h 28^m 55^s 3 4 5

37 Librae

α Cor. Bor.

6 Camel H. 2 3 4 5 had seeing

ε Serpenti

α ———

γ ——— 2 3 4 5 cloud

μ ———

ε ———

3 Mus Min

γ Serpenti

AR. 750, 3 4 5 cloud

δ Draconis 5 doubtful

ρ Cepheide

ε ———

γ Mercuris

α Scorpii not very good window in the way

δ Draconis 2 3 4 5

β Mercuris

γ Scorpii

ρ Cepheide

AR. 16 33 33 seeing 2

AR 16 34 30 2 3 4 5

3 Mercuris

6 Camel. of

31 Scorpii

32 ———

EC 16^h 56^m 0^s

new star

EC 16^h 58^m 0^s

ε Mus Min seeing 1

ρ Cepheide

α Mercuris pr. et reg.

π Mercuris

♂ Aphionis

64 Camelopard

Wrong Star for 74 Camelopard prob.

♂ Draconis

♂ Aphionis

♂ Draconis 2 3 4 5
pr. et reg.

♂ Aphionis

♂ Sagittarii

41 Draconis pr. et reg.

♂ Serpenti

♂ Ues Min

23 Camelopard 1 2 3 4 cloud

♂ Lyrae

51 Cephei

110 Mercuris

♂ Lyrae

♂ Sagittarii & fymilue
♂ Serpenti pr. et reg.

50 Draconis

♂ Sagittarii

♂ fymilue

π Sagittarii

EC 19^h 4^m 0^s

July 4, 13^h 0^m 0^s

PAFARIS seeing \perp 5 uncertain cloud

EC 13^h 15^m 0^s

EC 13 46 0
♂ Bootis 2^h 45^m

EC 14 6 0 filled pen

♂ Bootis

♂ —

♂ —

♂ —

♂ Virgini

♂ Bootis

♂ Librae

♂ Librae 3 4 5

1864 July 4th cont.

γ Scorpii
 & Bootis

C —
 Aug + 0° 33' 22"

— + 1° 30' 58"

— + 1° 30' 74" 2.3.4.5 faint

γ Urae minoris 2.3.4.5. 2.4

β Urae min B 3.4.5. An 2.0

20 3 γ Hydrae

Δ Coronae

Aug + 1° 31' 10"

α Serpentis

Aug + 1° 31' 25"

— + 1° 31' 31"

— + 2° 30' 01"

ω Serpentis 2.30.02. 5.8.

ε Urae minoris

α Scorpii

30

β —

α Draconis 6.2.3 sheet came to its end

New Sheet

Δ 16 4 0

α Ophiuchi

ε —

35

γ Herculis

13.6.

Δ Scorpii

β Herculis

ε Scorpii

δ Ophiuchi

40

β XVI. 182

γ Herculis

γ —

ε Scorpii

γ —

γ —

Δ 16 42 0 3 filled in

Δ Ophiuchi

ε Herculis

ε Urae minoris An 2.0

γ Ophiuchi

50

α Herculis

11 —

40 Ophiuchi

over

15 6 47.2 +0 54.1

11 1.3 1 27.6

17 43.3 1 31.5

8^m 2 15 33 0.8 1 56.2

6.7 15 38 17.0 1 19.0

7.0 40 6.3 1 59.8

8.0 40 50.7 2 2.0

5.8. 42 56.8 2 38.0

Th

4864 July 4 5th East cont.

53

Opiculus

64 Canal 13 up 2.3.4.5 Air 2⁺

15

Opiculus

El 17 31 0

1864 July 5th East

El 13 30

Polaris Air 2⁺ 214.5

El 13 20 0

El 14 22 0

Bootis

—

Virginis 2.3.4.5

Librae

— 3.4.5

Brsae minoris

Scorpii

El 14 57 00

El 15 0 0

Bootis

Librae

57 *Ursae min* 12. Air 2⁺

37 *Librae*

Coronae

Sagittarii

Scorpii

El 15 53 0

Zone Sheet

EC 16^h 5^m 8^s

Zone 714.5

El 17 58 0 Thr. 66[°].8

El. 18 1 0 stopped afterwards

40 *Draconis* } wires alternated

41 *—*

Sagittarii

Ursae minoris

Dec. 29.13 Vertical W.A.R.

—

57 *Eph* 14 up 2.3.4.5 Air 2⁺

1101 *Herula*

Zone 513 Vertical W.A.R.

β Herculis
2 C 15^h 29^m 0^s

Seeing 1

172

1864 July 8th

C 13 3 0

Blair Air 2^d

Virgin

C 13 22 0

C 14 19 0
 ϵ Bootis being deranged in apparatus
 for carrying pen, and
 14 22 0
 ϵ Bootis

μ Virginis

ϵ Bootis

δ Librae 2.3.4.5

β Ursa minoris

C 14 52 0

Mercury

γ Scorpii

C 14 57 0

δ Bootis

ϵ Bootis

β Librae

Aug. + 103058

+ 1 3074 1.2.5 very faint or pretty good

fills in β Air 2^d

δ Librae 2.3.4.5

δ Corvinae

δ Serpentis

μ —

γ —

δ Scorpii

for 700 δ 3.4 sp Air 2^d

Orion in β Air 2^d

δ Opusculi

C 16 8 0

filled pen

C 16 10 0

ϵ Pleiades

γ Hercules 1st Air

δ Scorpii

δ Draconis

β Herculis 2.3.4.5

not page

1864 July 8th Ill East continued

Scorpii
 5 Opusculi
 Fix 17.182 3.4.5
 7 Herminij
 E C 17 1 0

206

E C 17 8 0 *Zone* *Ther.* 61.9

E C 18 47 0 " 59.5

1864 July 9th Ill East

26
 Polaris An 2^h
 & Virginis
 E 13 23 0

E C 14 25 0
 p 18000 2.3.4.5

E —
 4 Librae

E C 14 54 0
 new tract

E C 14 57 0
 4 Bootis

223 Canis B 3.4.5 An 2^h

3 Librae

323 Ceph B sp.

37 Librae

2 Loranæ

2 Serpentes

μ —

γ —
 5 Scorpii

gr 250 sp

4 Draconis

14 Herminis

10 Opusculi

E C 16 44 0

~~new tract~~

E C 16 44 0 *Zone* *Ther.* 68.6.

E C 18 27 0 *Zone* *Ther.* 65.5

β Scorpii probably lost by failure of ink

EC 18 29 a (2145)

51 Cepheus H. sp. Air 2.^a

11a Herculis

3 Cygnus

5 Sagittarii 1.2.3 (4.5 in equal alt. R)

P. Vert. W. Alt. [Cygnus 13]

8 Serpentes m
foll

+ foll 8 Serp. N.

4 Aquilae

4 Sagittarii

7 Aquilae

11 Sagittarii

2 Aquilae

8 Sagittarii

4 Aquilae

7 Aquilae

242

EC 19 42 0

July 10

EC 16^h 34^m 0^s

3 Mercuris

n

9 Caprell

16 Ophiuchi

2 Mercuris

2 Virg Min

Accidental breaks between 4 and 5

16 Ophiuchi

EC 17^h 16^m 0^s clouded up

1864 July 12th Illuminated West

21.

Polaris 3.4.5 Air 2.^a

21. 13 27 0

EC 14 38 0

21. 13 27 0

21. 13 27 0

21. 13 27 0

21. 13 27 0

21. 13 27 0

1864 July 17th M. W. cont.

Librae

u Bootis

323 Cephus 13th Aug 2nd / Images badly defined

37 Librae

4 Coronae

6 Camel Hrs.

4 Serpentis

5 Scorpii

Gr 750th 2.3.4.5 } Aug 2nd

62nd u w B 2.3.4.5 }

2C 16^h 4^m 0^s

N.S.R.

10 Aphrodisia

2

2 Mercuris

2 Scorpii

Reject 2 (bad seeing)

n Droco 245

B Mercuris

7 Scorpii

3 Aphrodisia

AR 16 33 33

AR 10 34 30

2 3 4 5

n Mercuris

2 Scorpii

31

32

10 Aphrodisia

2 Mercuris

2 Van Vian

n Aphrodisia

2 Mercuris

7

2C 17 15 0 Pileat off

~~new star~~

2C 17 17 0

64 Camel 15

2 3 4 5

B Droco

2 Aphrodisia

B Droco

pr. et. reg.

(Two last)

2 Droco

2 Aphrodisia Reject 1

u Sagittarii

41 Droco

π Sagittarii Reject-2 (both strokes)
 π Serpentis
 π Mus Min 3 4 5

22 Camel^h
 297 B Mercuris P.V. Subtint. 8^h from 5

2 C? Had not time to get it
 New Sheet

2 C?
 5 B Lyrae P.V.
 271 B Mercuris P.V.

2 Aquilae
 1-423 Cygni P.V.
 2 26 B Cygni P.V.
 116 ——— P.V.

π Aquilae
 6^h Vulpeculae
 β Cygni pr. et seq. (Two stars)
 π Sagittarii
 8^h Cygni 2 51^m 0^s
 2 C. 19 2 51^m 0^s

1864 July 13th

15 23^h a
 37 Librae W. A. R.
 2 Corvinae 7.17.5
 1 Serpentis —

2 ———
 54 Stopped and general confusion

4 Serpentis
 5 Scorpii 28 15 53 0
 A. 750 3.4.5 2.6
 3 Scorpii pr
 5 Ophiuchi D
 2 Ophiuchi

21 16 13^h a
 5 Serpentis D
 21 16 20^h a
 5 Scorpii 2.3.4.5
 4 Draconis

201a - Star D 13246? 16 24 1.5 + 1321
 201a - Star D 13290 34 27 0 1327
 201a - Star D 14 Ophiuchi

10

1864 July 13th cont.

y Henulis

E Scorpi

E

Zou. 1st 0th 17th Dec 2.3.4.5 - no D + 0th 3993 7th 20

E Henulis

E Unae minoris Au 2^a

y Opiniolis

E Henulis

Aug. + 1st 3408 5.5 17 9 11.3 + 122.6

1 3411 6.8 10 17.8 1 55.0

400 Opiniolis

E

64 Camdoph 2.3.4.5 Au 2^aAug + 1st 3448 7.5 17 23 30.6 + 115.0

2 3344 8.0 17 25 8.2 + 2 30.6 30

E Opiniolis

E xvii. 172 6.7 17 31 50.3 + 2 6.8

B Opiniolis

E Henulis

E Draconis m } Wides alternate

E Draconis fol } Wides alternate

E 17 48 0

New Sheet

E 17 52 0

y Draconis

40 Opiniolis

Bradly 2272 + 2nd 3493 18 0 4.0 + 2nd 28. 40

E Sagittarii

40 Draconis } Wides alternate

41

E Sagittarii

E Unae minoris Au 2^a

E Lyrae

54 Caput m 2.3.4.5

110 Henulis

E Lyrae

Comp. y B Lyrae

E Sagittarii W. A. R. oblique with R.

E Serpenti m

E Sagittarii

E Sagittarii

E Sagittarii

E Sagittarii

E Sagittarii

E Sagittarii

E Sagittarii

E Sagittarii

1864 July 13th cont. UW

El 4 54 0

α Aurigae

β Orionis

El 5 19 0

El 6 37 0

Sirius

El 4 57 0

1863 July 14th UW

El 13 2 0

Polaris sp. etc. & a

α Virginis

El 13 22 0

El 14 59 0

α Bootis

β Librae

μ Bootis

323 Cephei sp.

β Librae

α Coronae

El 15 34 0

El 15 36 0

α Serpentis

U

Aug + 2nd 3008

8th 5 15 43 7.4 + 2 15.4

Pi xv. 2009

preceding & Serpentis

γ Serpentis

δ Scorpii

β

El 16 0 0

(α Draconis 2.3.4.5

New pen

El 16 5 0

δ Ophiuchi

2

α Serpi

γ Draconis

β Herculis

α Serpi

γ Draconis

α Serpi

γ Ophiuchi

1864 July 14

✓
3. *Hexaulis* 3.4.5.

4 —
Scorpi

5

30

5 Oplivchi

& Herault's

E. Ursae minoris *Am. C.*

и оптички

49

A —

64 Camelopardes Asiatica

α. optimis

29 —————

18 00

New Sheet

Feb 18 30

49

Aspidium

49 Dianconi } ruas alternate Am v^o
41 — }

41
Nayitau

Alutae minoris *Si 2a*

57 Cephus 44 Au 26.

et la Mercutio,

El 18 44 0

filled pen

1845

Sapittau

Superior pr

Amelia - for

50

S. militaria

5 April

II *Lapittaxii*

a Aquilae

B. Saitarii

Ngày 6/7/1960

Spuita

1864 July 15th

1349

Polawi Ar. 2^a

& Virginia

§ 13 (30?) 0

1000

d-Smithsonian Center for Astron

M. A. R. this in France
Among three

1864 July 15th M.W. cont.E6 γ Scorpii 3.4.5

E6 15 1 0

 β Libine5 γ Urs mi β Ari 2nd. Star faint α Coronae δ Serpenti

Arg + 2.3001

15 40 50.7 + 2 2.0

8.0

 α Serpenti 3.4.542 58.8 + 2 38.0 + 2nd 3007

5.6

10 Arg. + 1st 3154.

52 39.1 + 1 2.1

7.4

 δ Draconi

Arg + 2.3053

16 1 27.9 + 2 14.3

8.9

 γ Herculis

Arg + 0.3553

29 43.7 + 0 32.7

7.2

15 Moon I

E6 16 38 0

New Sheet

 α Scorpij

E6 16 42 0

 γ Scorpii δ —+ γ Ophiuchi

20 Arg + 0.3654

17 5 22.5 + 0 32.3

7.0

 δ HerculisArg + 1st 3608

17 9 11.3 + 1 22.6

5.5

" + 1st 3611

10 12.8 1 55.0

6.8

 α Ophiuchi21 δ —

Arg + 0.3678.

17 15 39.7 + 0 54.1

7.3

" + 2nd 3312

17 18 32.6 + 2 17.4

" + 2nd 3316

53.7 2 13.2

" + 2nd 3323

21 1.7 2 19.8

30 " + 1st 3448

23 30.6 1 15.0

7.5

" + 2nd 3344

25 8.2 2 30.6

 α Ophiuchi

Pi. XVII 172

23373

31 50.3

2 6.8

Arg + 1st 350935 " + 1st 3523

+ 1.3524

+ 1.3527

Pi. XVII. 291

48 55.2 0 42.7

Arg + 1st 355640 α Ophiuchi 13560

54 24.2 1 18.7

70 —

1346 6137

Arg + 2nd 3570

2 24.9

1864 July 15th Ill. W. cont.

45 Ay + 2° 35' 10"
 + 2° 35' 12"
 Mesajittaiii
 Ay + 1° 36' 29"
 " + 1° 36' 33"
 8 Urae minoris Air 2°
 50 5 Cephei Hp. 2, 3, 4, 5, Air 2°
 5 Aquilae
 C 19 20

July 16 Ill W N.S.R.

EC 15^h 49^m 08^s
 Scorpii 2 3 4 5 Reject 3

Scorpii

Gr. 779

2 Ophiuchi

2 Hercules 3 4 5

3 Ophiuchi

2 Camel

2 Scorpii 3 4 Reject both

31

32 Ophiuchi Reject 3

2 Hercules

2 Ophiuchi 1 3 4 5

2 Hercules pr. only

40 Ophiuchi

1 doubtful

64 Camel

2 Ophiuchi 2 3 4 5

45

2 Hercules

41 Draco

42 Draco

40 Ophiuchi pr. 1 doubtful

41 Sagittarii

41 Draco

42

N Sagittarii Ref 1
 N Urs Min 245 Jansen took after 4.
 EC 18 19 (20?)

New Sheet -

EC 18 22

297 B Mercuris P2.

5 B Lyrae P2.

271 B Mercuris P2.

4423 B Cygni P2.

116 B ——— P2.

226 B ——— P2.

N Lyrae

6a B Cygni

B Cygni 2345

Q ———

EC 19 37 cv

July 18th Ill W

EC 16 7 0 W.S.R.

B Mercuris

7 Scorpii

3 Ophiuchi

50 Cephei H Ref 5

3 Mercuris 45

2 Mercuris

2 Camel Faint

2 Ophiuchi

2 Mercuris

2 Urs Mon

2 Ophiuchi

2 Mercuris 45

40 Ophiuchi

Q ———

64 Camel B

B Draco Ref. 4

2 Ophiuchi

B ———

2 Mercuris

2 Draco

2 ———

2 ———

2 Draco
 2 Draco

70 Aphinchi
 40 Sayittain
 41, Draco
 4 1/2 Sayittain
 7 Serpentes
 2 Mrs Min 2 3 4 5-

2 C 18 20 0

new sheet-

EC 18 23 0

23 7 15 Mercuris P.L. Accidental ^(ill. bad) ~~break~~ after 1

5 B Lyrae n.s. p2

2 71 B Mercuris p2

2 42 3 Cygni p2

2 26 B p2

116 B

P.L. Reject - 3rd break 4th wire

3 Aquilae

6 Vulpeculae

3 Cygni

3 Cygni

42 Sayittain

3 Cygni

3 Aquilae

Moon I

3 Aquilae ~~Accident~~ broken 4 5

3 Sayittain

2 Mrs. Min

E.C. 20 9 0

1864 July 19th M.W. S.H.S.

EC 13 40

Polari 1.2.3.4 Ari 3 Thick haze

EC 13 19 0

which increased so that

stars could not be observed

EC 14 5 0

2 Boote. W.H.S.

14 11 0

EC 14 33 0

2 Wras W.H.S.

July 19 1864 Ill. W.
W.A.R.

2 Scorpii < h Draco 2345
 B Mercuris
 T Scorpii
 3 Ophiuchi ?
 50 Cephei #
 h Mercuris
 9 Camel Ref: 1st peak 4th min
 h Ophiuchi
 2 Mercuris
 False signal
 E Mrs Min
 h Ophiuchi
 E C 17 4 0
 New Star
 E C 17 9 0
 h Mercuris
 64 Camel B
 h Ophiuchi
 u Mercuris
 v, Draco
 v2 —
 E —
 v —
 70 Ophiuchi
 u Sagittarii
 41 Draco
 42 —
 h Sagittarii
 3 Lepentis
 h Mrs Min 2345
 297 B Mercuris P.C.
 5 B Lyrae R.G.
 271 B Mercuris P.C.
 4423 Cygni P.C.
 200 B — P.C.
 116 B — P.C.
 S Aquilae
 62 Cygnus
 h Cygni
 h2 Sagittarii
 8 Cygni
 E C 17 37 0

3 41 m
3 41 pole

403
413

3 m
7 pole

1864 July 20^m LWN MAS

El 15 10 after some trouble with chronograph
which needs a slight repair

γ Urae minoris 4.5.

δ Serpentis

μ —

γ Urae minoris

δ Scorpii

Arg + 3^h 31^m 15^s

ϵ Ophiuchi

δ Serpentis + 13215

(10) Arg + 0^h 35^m 11^s

* Dec + 1^h 51^m ? Arg + 1^h 32^m 39^s

Pi xvi. 151 13286

14 ophiuchi 13290

B + C 5625 23174

Arg + 1^h 33^m 09^s

γ + 0^h 35^m 43^s

Prof Bond's value of large P. U.

El 16 52 0 killed pen

Arg + 0^h 36^m 54^s

δ Urae minoris

20

Arg + 1^h 34^m 08^s

40 ophiuchi

Arg + 0^h 36^m 26^s

δ Urae minoris it is 2.6

El 17 24 0

New sheet

El 17 26 0

ϵ Ophiuchi

Arg + 0^h 32^m 63^s

Pi xvi 266 + 13528

μ Sagittarii

η Serpentis

δ Urae minoris

Search for Olympia. Irish Haze

δ Sagittarii

2.3.4.5.

Chronograph stopped

El 19 6 0

stopped again

1864 July 20th

C 19 20 0

h Sagittarii
y Aquilae37
81N
C 19 51 01864 July 20th East

Chronograph has been cleaned

C 15 34 0

C 15 36 0 refilled pen

x Scorpius

x ———

x ———

x ———

x Urae minor An 2^a

x Scorpius

Gr 757 sp An 2^a (3.4.5)

x Scorpius

x Urae minor

x Ophiuchus

Let pw zone - flying clouds

x Ophiuchus

x Hercules

x Urae minor 2.3.4 ri 2. An 2^a.It was cloudy at 1.5 and partially
10 at 2.5 so that that wire is insecure

x Hercules

C 17 9 0

C 17 12 0

(cloudy - when 40 oph. passed)

x Ophiuchus

69 Canell 13 sp An 2.

x Ophiuchus

Gr 177 1.2.5. + 2^a 3223

x Ophiuchus

61 ———

61 ———

} alternately 2 3390
3391

Clouds up

1864 July 23 All. E. W.S.R.
 E C 16ⁿ 20^m 8^s

3 Mercuris

n ———

2 Ophiuchi

2 Mercuris

4 Lyrae P.C. 1345 Rej 3

2 Mercuris

n Lyrae P.C. 1234 Rej 3

B. Droop

2 Ophiuchi

2 Mercuris

V. Droop

10

2 Ophiuchi 2 Reject both faint

41 Droop

n Serpenti

n Virg Min 345

2 Lyrae

51 Cygnus 2345 ~~to~~ None

The primary vertical observations are entitled to
 no confidence. too faint. E.C. 16ⁿ 40^m 8^s

1864 July 26ⁿ All East

E 12 57 0 J.H.S

Polaris An 2^h rej 4 w.

2 Virgini

E 13 24 0

E 14 5 0

2 Bootis

E 14 11 0

E 15 22 0

2 Corvinae

2 Serpenti

1864 July 26th 2nd East cont. 11.5

3 Unae minoris

4 Serpentis

2 Scorpii

~~2 Scorpii~~

gr 779 op

5 Ophiuchi

2 Scorpii

4 Draconis 2.3.4.5

3 Ophiuchi

50 Lepidopteri 1.2.3.4

3 Heruli 3.4.5

2 Scorpii

16 43 0

~~Done that~~

E.C. 17 15 00

Attempted Zone: Too Lazy.

E.C. 18 6 0

E.C. 18 10 0

5 Sagittarii

7 Serpentis

2 Unae minoris in 2^a

E.C. 18 27 0
filled pen

E.C. 18 2 0

2 Cygni

3 — Some wires lost by breaking of circuit in

5 Sagittarii

2 Serpentis pr

falling

50 Draconis 2.3.4.5

2 Aquilae

2 Sagittarii

3 Aquilae

11 Sagittarii

2 Aquilae

2 —

6 Vulpeculae

2 Cygni pr

falling

12 Sagittarii

2 Cygni

up pen

1864 July 26th East cont. W.S.

4 Aquilae

2 —

4 Sagittae

8 Aquilae

11 Capricorni

2 —

Uranium pattern too faint

2/1/11 27 kpp
E 20 12 0th

1864 July 27th East W.S.

E 16 16 0

2 Scorpii

2 Draconis

2 Herculis

2 Scorpii

5 Ophiuchi

2 Scorpii clouded up

1864 July 28th Thick haze, cleared a little

E 17 20
140 Ophiuchi (wires not quite in focus)

8 —

2 —

2 Herculis

2 Draconis m. Air 2nd fall

20 Ophiuchi

2 Sagittarii

40 Draconis 2.4.5 }

41 — 2.3.4.5 }

8 Sagittarii

4 Serpentis

8 Uranium 2.3.4.5.

2 Lyrae

57 Cephei 1.3. Cloudy

110 Herculis

5 Sagittarii

50 Draconis

8 Aquilae

2 Sagittarii

11 —

next page

1864 July 28th M, East cont,

Cl 19 32 0
New Sheet

Cl 19 36 0

γ Aquilae

α Capric

δ —

Cl 20 33 0

1864 July 29th

Al 17 27 0

α Lepidus

17 37 0

26 17 57 0 signal at the time
Thur + 65° Low break before next run

Cl 19 37 0

Cl Transit
γ Aquilae

Cl 19 41 0
α Aquilae

β — — — — — 13 Sin 2.0

γ Aquilae

α Capricorn

2 α Capricorn

γ Cygni 2.3 4.5 14 2.3.

α Cygni

32 Vulpeculae

Cl 20 54 0

Cl 20 54 0

41 Cygni pr

5 Cygni

Cl 21 14 0

1864 Aug 30

C 16 31 0
 5 Hercules
 2 Scorpii
 2 Scorpii
 C 16 49 0
 2 Ursa minor in Air 2.6
 7 Optimistii
 2 Hercules
 11 —————
 64 Camelopardalis in Air 2.6
 2 Optimistii
 61 ————— full
 61 ————— full
 4 Draconis
 26 18 20 (filled pen.)
 30
 4 Sagittarii
 40 Draconis
 41 —————
 4 Sagittarii
 7 Serpentes
 2 Ursa min. 2.3.4.5.
 2 Lyrae
 57 Cepheus 11.2p
 C 18 39 0
 C 19 7 0 in 68.90
 200
 C 20 57 0
 New Sheet
 61 Cygnus full 4.5-3
 no. 5-3
 C 21 4 0
 3 Cygni
 C 21 10 0
 E.C. 21 20 M.R.

Obs. of (58). The obs. begin at about 21.38, the
 previous obs. being failures on account of clouds

The planet - at times very faint
 EC 22 19 0

Aug 31 W.S.R.
 E.C. 20 7 0
 Observation of Olympia

EC 21 18 0

Herzhaft-

E.C. 21 20 00

Observation of Menomynae ?
 EC 22 3 0

1864 Aug 1st

EC 15 35 0 J.W.S.

x Serpentes

u Serpentes

y Serpentes

B Scorpii

α —

— 5 Serpentes

+1° 32' 16"

— B 5 4 4 3

+2 31' 06"

— 5 Scorpii

— Ophiuchi 21 B 3. 4. 5

0 35' 29"

— 5 Ophiuchi

2 31' 18"

— 5 Scorpii 2. 3. 4. 5.

5 Ophiuchi

50 Aphrodisia An 2^b

— 19 Ophiuchi

2 31' 25"

5 Scorpii

+ Hercules

40 Ophiuchi

EC 17 12 0

EC 18 8 0

5 Serpentes

5 Ursa minoris 2. 3. 4. 5 An 2^b

5 Ursa

5 Aphrodisia

1864 August 1. st all E cont

110 Hercules
0 Saururus
2 Aquilae rej 4th
1 Clapionni
2x Capricornii

El 20 25 0
New Sheet

El 20 27 0

Equal. Obs by W. A. R.
x Cygni x Equal. Obs. together
More Equal. Obs.
22 Vulpeculae
76 Draconis
5 Cygni
2 Epsilon A
1 Diac A Aii 2.1
119 Epsilon B,

El 21 30 0

1864 August 5th all East 214.5*

El 15 36 0
Serpentes

u Scorpii 1.3.4.5. Clouds,

8 Ophiuchii

x Scorpii

711 24 Draconis

Chronograph stopped

El 16 29 0

9 Camelopardis

El 16 55 0

* Mr. Rogers returned to his College in Alfred
Center N.Y. August 3^d.

1864 Aug 8th J.H.S.

El 16 19 0

2 Scorpi
4 Draconis
2 Herculis
5 Ophiuchi

El 16 31 0
32 0

5 Herculis

11 —

2 Herculis

2 Ursae min

+ Herculis

El 17 26 0

2 Ophiuchi

El 17 38 0 New Pen

2 Herculis

5¹ Draconis pr
— fall

4 Draconis

20 Ophiuchi pr.

4¹ Draconis 2¹ 3¹ 4¹ 5¹ 6¹ 7¹ 8¹ 9¹ 10¹ 11¹ 12¹ 13¹ 14¹ 15¹ 16¹ 17¹ 18¹ 19¹ 20¹ 21¹ 22¹ 23¹ 24¹ 25¹ 26¹ 27¹ 28¹ 29¹ 30¹ 31¹ 32¹ 33¹ 34¹ 35¹ 36¹ 37¹ 38¹ 39¹ 40¹ 41¹ 42¹ 43¹ 44¹ 45¹ 46¹ 47¹ 48¹ 49¹ 50¹ 51¹ 52¹ 53¹ 54¹ 55¹ 56¹ 57¹ 58¹ 59¹ 60¹ 61¹ 62¹ 63¹ 64¹ 65¹ 66¹ 67¹ 68¹ 69¹ 70¹ 71¹ 72¹ 73¹ 74¹ 75¹ 76¹ 77¹ 78¹ 79¹ 80¹ 81¹ 82¹ 83¹ 84¹ 85¹ 86¹ 87¹ 88¹ 89¹ 90¹ 91¹ 92¹ 93¹ 94¹ 95¹ 96¹ 97¹ 98¹ 99¹ 100¹ 101¹ 102¹ 103¹ 104¹ 105¹ 106¹ 107¹ 108¹ 109¹ 110¹ 111¹ 112¹ 113¹ 114¹ 115¹ 116¹ 117¹ 118¹ 119¹ 120¹ 121¹ 122¹ 123¹ 124¹ 125¹ 126¹ 127¹ 128¹ 129¹ 130¹ 131¹ 132¹ 133¹ 134¹ 135¹ 136¹ 137¹ 138¹ 139¹ 140¹ 141¹ 142¹ 143¹ 144¹ 145¹ 146¹ 147¹ 148¹ 149¹ 150¹ 151¹ 152¹ 153¹ 154¹ 155¹ 156¹ 157¹ 158¹ 159¹ 160¹ 161¹ 162¹ 163¹ 164¹ 165¹ 166¹ 167¹ 168¹ 169¹ 170¹ 171¹ 172¹ 173¹ 174¹ 175¹ 176¹ 177¹ 178¹ 179¹ 180¹ 181¹ 182¹ 183¹ 184¹ 185¹ 186¹ 187¹ 188¹ 189¹ 190¹ 191¹ 192¹ 193¹ 194¹ 195¹ 196¹ 197¹ 198¹ 199¹ 200¹ 201¹ 202¹ 203¹ 204¹ 205¹ 206¹ 207¹ 208¹ 209¹ 210¹ 211¹ 212¹ 213¹ 214¹ 215¹ 216¹ 217¹ 218¹ 219¹ 220¹ 221¹ 222¹ 223¹ 224¹ 225¹ 226¹ 227¹ 228¹ 229¹ 230¹ 231¹ 232¹ 233¹ 234¹ 235¹ 236¹ 237¹ 238¹ 239¹ 240¹ 241¹ 242¹ 243¹ 244¹ 245¹ 246¹ 247¹ 248¹ 249¹ 250¹ 251¹ 252¹ 253¹ 254¹ 255¹ 256¹ 257¹ 258¹ 259¹ 260¹ 261¹ 262¹ 263¹ 264¹ 265¹ 266¹ 267¹ 268¹ 269¹ 270¹ 271¹ 272¹ 273¹ 274¹ 275¹ 276¹ 277¹ 278¹ 279¹ 280¹ 281¹ 282¹ 283¹ 284¹ 285¹ 286¹ 287¹ 288¹ 289¹ 290¹ 291¹ 292¹ 293¹ 294¹ 295¹ 296¹ 297¹ 298¹ 299¹ 300¹ 301¹ 302¹ 303¹ 304¹ 305¹ 306¹ 307¹ 308¹ 309¹ 310¹ 311¹ 312¹ 313¹ 314¹ 315¹ 316¹ 317¹ 318¹ 319¹ 320¹ 321¹ 322¹ 323¹ 324¹ 325¹ 326¹ 327¹ 328¹ 329¹ 330¹ 331¹ 332¹ 333¹ 334¹ 335¹ 336¹ 337¹ 338¹ 339¹ 340¹ 341¹ 342¹ 343¹ 344¹ 345¹ 346¹ 347¹ 348¹ 349¹ 350¹ 351¹ 352¹ 353¹ 354¹ 355¹ 356¹ 357¹ 358¹ 359¹ 360¹ 361¹ 362¹ 363¹ 364¹ 365¹ 366¹ 367¹ 368¹ 369¹ 370¹ 371¹ 372¹ 373¹ 374¹ 375¹ 376¹ 377¹ 378¹ 379¹ 380¹ 381¹ 382¹ 383¹ 384¹ 385¹ 386¹ 387¹ 388¹ 389¹ 390¹ 391¹ 392¹ 393¹ 394¹ 395¹ 396¹ 397¹ 398¹ 399¹ 400¹ 401¹ 402¹ 403¹ 404¹ 405¹ 406¹ 407¹ 408¹ 409¹ 410¹ 411¹ 412¹ 413¹ 414¹ 415¹ 416¹ 417¹ 418¹ 419¹ 420¹ 421¹ 422¹ 423¹ 424¹ 425¹ 426¹ 427¹ 428¹ 429¹ 430¹ 431¹ 432¹ 433¹ 434¹ 435¹ 436¹ 437¹ 438¹ 439¹ 440¹ 441¹ 442¹ 443¹ 444¹ 445¹ 446¹ 447¹ 448¹ 449¹ 450¹ 451¹ 452¹ 453¹ 454¹ 455¹ 456¹ 457¹ 458¹ 459¹ 460¹ 461¹ 462¹ 463¹ 464¹ 465¹ 466¹ 467¹ 468¹ 469¹ 470¹ 471¹ 472¹ 473¹ 474¹ 475¹ 476¹ 477¹ 478¹ 479¹ 480¹ 481¹ 482¹ 483¹ 484¹ 485¹ 486¹ 487¹ 488¹ 489¹ 490¹ 491¹ 492¹ 493¹ 494¹ 495¹ 496¹ 497¹ 498¹ 499¹ 500¹ 501¹ 502¹ 503¹ 504¹ 505¹ 506¹ 507¹ 508¹ 509¹ 510¹ 511¹ 512¹ 513¹ 514¹ 515¹ 516¹ 517¹ 518¹ 519¹ 520¹ 521¹ 522¹ 523¹ 524¹ 525¹ 526¹ 527¹ 528¹ 529¹ 530¹ 531¹ 532¹ 533¹ 534¹ 535¹ 536¹ 537¹ 538¹ 539¹ 540¹ 541¹ 542¹ 543¹ 544¹ 545¹ 546¹ 547¹ 548¹ 549¹ 550¹ 551¹ 552¹ 553¹ 554¹ 555¹ 556¹ 557¹ 558¹ 559¹ 560¹ 561¹ 562¹ 563¹ 564¹ 565¹ 566¹ 567¹ 568¹ 569¹ 570¹ 571¹ 572¹ 573¹ 574¹ 575¹ 576¹ 577¹ 578¹ 579¹ 580¹ 581¹ 582¹ 583¹ 584¹ 585¹ 586¹ 587¹ 588¹ 589¹ 590¹ 591¹ 592¹ 593¹ 594¹ 595¹ 596¹ 597¹ 598¹ 599¹ 600¹ 601¹ 602¹ 603¹ 604¹ 605¹ 606¹ 607¹ 608¹ 609¹ 610¹ 611¹ 612¹ 613¹ 614¹ 615¹ 616¹ 617¹ 618¹ 619¹ 620¹ 621¹ 622¹ 623¹ 624¹ 625¹ 626¹ 627¹ 628¹ 629¹ 630¹ 631¹ 632¹ 633¹ 634¹ 635¹ 636¹ 637¹ 638¹ 639¹ 640¹ 641¹ 642¹ 643¹ 644¹ 645¹ 646¹ 647¹ 648¹ 649¹ 650¹ 651¹ 652¹ 653¹ 654¹ 655¹ 656¹ 657¹ 658¹ 659¹ 660¹ 661¹ 662¹ 663¹ 664¹ 665¹ 666¹ 667¹ 668¹ 669¹ 670¹ 671¹ 672¹ 673¹ 674¹ 675¹ 676¹ 677¹ 678¹ 679¹ 680¹ 681¹ 682¹ 683¹ 684¹ 685¹ 686¹ 687¹ 688¹ 689¹ 690¹ 691¹ 692¹ 693¹ 694¹ 695¹ 696¹ 697¹ 698¹ 699¹ 700¹ 701¹ 702¹ 703¹ 704¹ 705¹ 706¹ 707¹ 708¹ 709¹ 710¹ 711¹ 712¹ 713¹ 714¹ 715¹ 716¹ 717¹ 718¹ 719¹ 720¹ 721¹ 722¹ 723¹ 724¹ 725¹ 726¹ 727¹ 728¹ 729¹ 730¹ 731¹ 732¹ 733¹ 734¹ 735¹ 736¹ 737¹ 738¹ 739¹ 740¹ 741¹ 742¹ 743¹ 744¹ 745¹ 746¹ 747¹ 748¹ 749¹ 750¹ 751¹ 752¹ 753¹ 754¹ 755¹ 756¹ 757¹ 758¹ 759¹ 760¹ 761¹ 762¹ 763¹ 764¹ 765¹ 766¹ 767¹ 768¹ 769¹ 770¹ 771¹ 772¹ 773¹ 774¹ 775¹ 776¹ 777¹ 778¹ 779¹ 780¹ 781¹ 782¹ 783¹ 784¹ 785¹ 786¹ 787¹ 788¹ 789¹ 790¹ 791¹ 792¹ 793¹ 794¹ 795¹ 796¹ 797¹ 798¹ 799¹ 800¹ 801¹ 802¹ 803¹ 804¹ 805¹ 806¹ 807¹ 808¹ 809¹ 810¹ 811¹ 812¹ 813¹ 814¹ 815¹ 816¹ 817¹ 818¹ 819¹ 820¹ 821¹ 822¹ 823¹ 824¹ 825¹ 826¹ 827¹ 828¹ 829¹ 830¹ 831¹ 832¹ 833¹ 834¹ 835¹ 836¹ 837¹ 838¹ 839¹ 840¹ 841¹ 842¹ 843¹ 844¹ 845¹ 846¹ 847¹ 848¹ 849¹ 850¹ 851¹ 852¹ 853¹ 854¹ 855¹ 856¹ 857¹ 858¹ 859¹ 860¹ 861¹ 862¹ 863¹ 864¹ 865¹ 866¹ 867¹ 868¹ 869¹ 870¹ 871¹ 872¹ 873¹ 874¹ 875¹ 876¹ 877¹ 878¹ 879¹ 880¹ 881¹ 882¹ 883¹ 884¹ 885¹ 886¹ 887¹ 888¹ 889¹ 890¹ 891¹ 892¹ 893¹ 894¹ 895¹ 896¹ 897¹ 898¹ 899¹ 900¹ 901¹ 902¹ 903¹ 904¹ 905¹ 906¹ 907¹ 908¹ 909¹ 910¹ 911¹ 912¹ 913¹ 914¹ 915¹ 916¹ 917¹ 918¹ 919¹ 920¹ 921¹ 922¹ 923¹ 924¹ 925¹ 926¹ 927¹ 928¹ 929¹ 930¹ 931¹ 932¹ 933¹ 934¹ 935¹ 936¹ 937¹ 938¹ 939¹ 940¹ 941¹ 942¹ 943¹ 944¹ 945¹ 946¹ 947¹ 948¹ 949¹ 950¹ 951¹ 952¹ 953¹ 954¹ 955¹ 956¹ 957¹ 958¹ 959¹ 960¹ 961¹ 962¹ 963¹ 964¹ 965¹ 966¹ 967¹ 968¹ 969¹ 970¹ 971¹ 972¹ 973¹ 974¹ 975¹ 976¹ 977¹ 978¹ 979¹ 980¹ 981¹ 982¹ 983¹ 984¹ 985¹ 986¹ 987¹ 988¹ 989¹ 990¹ 991¹ 992¹ 993¹ 994¹ 995¹ 996¹ 997¹ 998¹ 999¹ 1000¹

41 —

4 Serpentes

2 Ursae min

2 Lyrae

51 Alpha 1.2.3.4

110 Herculis

El 18 41 0

New Sheet

El 18 43 0

5 Sagittarii

4 Serpentes pr.

— fall

8 Aquilae

Choo. wings.

5 Aquilae

25 Canis M. 2.3.4.5 for 2a

1863 Sept 2. W cont.

5 Aquilae
6 Vulpeculae
8 Cygni
2 Sagittarii
4 Aquilae
2 —
13 —

4 Sagittae
M. minoris 2, 3, 4, 5 (ref 1st bk of win 3)
9 Aquilae
2 Capricorni
2 —

El 20 14 0 (Too fatigued to observe more
S.H.S)

1863 Sept 6th W cont.

El 16 11 0
2 Scorpii
3 Herulis
El 06 44 0

2 Aurigae 3, 4, 5 Air 2^a
El 14 26 0

2 Lyrae
51 Cap. H. sp Air 2^a

110 Herulis
3 Aquilae
6 Sagittarii
A Serpenti pr
10 — toll

50 Draconis
E Aquilae
4 Sagittarii
3 Aquilae

15 11 Sagittarii
4 Aquilae
B. vii 64 sp
8 Aquilae

6 Vulpeculae
20 13 Cygni

2 Sagittarii
* juv & by juv
A Cygni

25 4 Aquilae
156 Camel Corp Air 2^a

Next page

1864 Sept. 6th West. cont

B. Aquilae
 4 *B. Aquilae*
 4 *Ursae m. B*
 8 *Aquilae*

Air 2^a & rather faint.

30 1^a *Capricorni*
 2^a *Capricorni*
 El 20 14 0
 New Sheet

El 20 17 0
 4 *Cygni*
 0 *Ursae sp.*
 8 *Capricorni*

35 *A. Ursae sp.*
 8 *Cygni*
 46 *Cygni B = B. XX. 257*

40 4 *Delphinii*
 7 *Draconis* Air 2^a
 8 *Cygni*

7 *Cygni*
 6 *Ursae majoris*
 32 *Vulpeculae*
 76 *Draconis* Air 2^a

45 8 *Cygni* for
 fall

8 *Cygni*
 El 21 9 0

3 *Aquilae*
 3 *Cygni*

El 21 29 0
Aquilae hardly visible from land

El 21 41 0
 1864 Sept 7

El 16 18 0
 1 *Serpentis*
 3 *Herculis*

El 16 39 0 *Ursae minoris* 2, 3, 5 Air 2^a
 El 18 20 0

El 18 47 0

Zone - See next page

1864 Sept 7 Zone Ext. Mr +50° Clear.
 1st obs of star 1st wire $EL = 19^h 2^m 37^s$

At end

$EL\ 47.2$ " $EL\ 21\ 70$

$EL\ 21\ 18\ 0$

1 Draconis H. sp. Air 2^a

β Aquarii

β Cephei

γ Capricorni

ϵ Pygmi

δ Capricorni

δ Ursaeminoris M.
 16 Pygmi

$EL\ 21\ 49\ 0$

$EL\ 21\ 57\ 0$

δ Aquarii

Chronograph stopped.

62/

1864 Sept 9 M. West

$EL\ 18\ (?)\ 0$

δ Sagittarii

η Serpentis

δ Ursaemin 2.3.4.5 Air 2^a

Ary + 103212 18 26 12.1 + 1 48.1 } faint

— + 0 3982 18 30 47.2 0 16.3 }

δ Pygmi

δ Cephei H. sp. Air 2^a

110 Hercules

+ 1 37

Ary + 2 3737

16 45 42.6 + 2 39.9

— + 2 3716

46 58.7 2 47.9

— + 2 3724

48 21 2 56.5 faint rej 5

Pi XVIII 241

49 28.1 2 17.2

δ Serpentis

49 39.2 2 21.2

Ary + 103840

57 19.5 1 43.4

— + 1 3854

53 54.0 1 49.9

Aquila 3013 13865.5 6 12.5 1 36.4

ϵ Aquilae

next page

1864 Sept 10th M^c cont

β Pictoris

α Regulus

El 23 50

Sept 14th

1864 Sept 15th M^c

El 13 40

Palatinoth Air 2^a

El 13 16 0

El

α Coronae 3. 4. 5

El 15 38 0

El 19 50 0

α Min. 13. 2. 3. Cloud. Air 2^a

Cephei 46 13. 4. 5

α Delphini

Elysi

4 Cephei 12 3 5

6 Ursae majoris sp.

61 Cygni pr 2. 3. 4. 5

fall 3. 4. 5

Cloud

El 24 20 0

New Sheet

El 21 10 0

Cephei

1 Draconis N^y Air 2^a

β Aquarii

Comp. of β Cephei 1. 2. 3. 4. 5

β Cephei

El 21 40 0 Clouded up.

1864 Sept 16th M^c

El 13 40

Polari. sp. 1. 2. 3. 4 Air 2^a Cloud flying at 5 miles

El 13 16 0.

El 17 10

η Optimae

α Herculis

β Draconis

α Optimae

1864 Sept 26 Th M^cEnt

β Ophiuchi
 μ Herculis

ϕ Draconis pr. 3.4.5 Air 2^a
 Foli. just visible

γ Draconis
 δ Sagittarii
 η Serpentis

δ Ursae minoris 2.3.4.5 Air 2^a

E 18 19 0

New Sheet

E 19 28 0

γ Aquilae

196 Cassiopeia 4.5

β Aquilae

+194159 74 19 51 23.3 +1 16.7

γ Sagittae

Klunus B Air 2^a

At XIX. 407 between 3 and 4 n. of Men. B. 20 0 243+22.2

δ Aquilae

α Capricorni

α —

go 1418 sp Air 2^b Star faint

δ Ursae majoris

δ Capricorni

δ Ursae majoris

Cephei 46 B.

δ Delphini

74 Draconis Air 2^a

Elypi

γ Cephei

δ Ursae majoris sp.

δ Vulpeculae

76 Draconis Air 2^a

224294 50 20 56 21.8 +2 21.8

α Ursae majoris sp

61 Cygni pr

— pod }

γ —

δ Cephei

1 Draconis sp Air 2^a

β Aquarii

β Cephei

Air 2^b

not pr

1864 Sept 16th M^c cont.

gr. 1864 Apr. (2.3.4.5 26.100)

4 Capricorni

18th XXI 237

26 Aquarii

8 Regani

5 Capricorni

11 Regani

2 Uⁿ mag^z p. 3.4.5

16 Regani

Pi XXI 330

— XXI 353

2 Aquarii

5 Regani

Pi. XXI 417

8 Aquarii

30 Camelopard^z p

El 22 16 0

New Sheet

El 22 19 0

5 Aquarii

193 Camelopard^z B p 2.3.4.5 Ai 2⁶

8 Regani

7 —

8 —

34 Capricorni

2 Phic^z austrini

2 Uⁿ mag^z p

3 Phic^z austrini

2 Regani

4 Phic^z austrini

61 Aquarii

18 Phic^z austrini

202 Camelopard^z B p 2.3.4.5 Ai 2⁶

39 Capricorni Ai 2^a

2 Phic^z austrini

El 22 34 0

1864 Sept 17th M^c &

El 12 25 0

4 Phic^z austrini

2 Oplic^z austrini

2 Oplic^z austrini

21 33 46.2 + 0 39.8

34 48.0 0 38.0

21 39 53.8 + 21.0

21 48 17.2 + 40.1

21 52 36.0 + 0 13.7

21 59 16.7 + 144.1

22 1 47.5 + 2 1.4

8.9 0.4765

1.8 4770

1.6 502.4414

7.5 + 14580

8.1 + 0 4806

- 7.0 + 14584

7.2 + 14474

60

70

76

1864 Sept 17th In E cont.

μ Herculis
 ϕ^1 Draconis μ 4.5 } Air 1.

ξ Draconis } μ 4.5 } Air 1.
 & γ Cygni received a slight
 blow which probably did not alter collimation

γ optimis

~~ϕ^1 Draconis~~

40 Draconis } Air 2^a

41

δ Sagittarii

δ Ursae minoris Air 2^a

δ Lyrae 3.5

δ Cephei Air 2^a

ϕ 18 39 a

New Sheet N^o 2

ϕ 18 41 0

Arg + 2^h 3707

" + 2.3716

" + 2.3726 (1.2.3.5)

" + 1.3827

δ Sagittarii

Arg + 1^h 3879

ξ Aquilae

η Sagittarii

Arg + 0^h 4122

R XIX 46.

α Aquilae

β^1 Sagittarii

μ

4 Ursae minoris Bop 3.4

κ Sagittarii

Arg + 0^h 4270

" + 0^h 4292

" + 0^h 4302

γ Aquilae

Arg + 0^h 4314

156 Samuel Bop Air 2^a

R. S. utae

γ Sagittarii

ϕ

ϕ 19 53 a

18 45 42.6 + 2^h 39'9 faint

46 58.7 2679

48 7.1 256.5 faint

49 43.3 118.8

18 57 13.4 + 1 46.3 prong 2.

δ

19 2 45.5 + 0 42.6

19 9 46.9 + 0 14.7 R. + 0^h 4158 7.5

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

δ

1864 July 17th M. L. ent

§ Cygni

EO 21 8 0

α Cygni 3.4.5

40. 18 Drachm Sp Au 2^a

Arg + 1st 4489 21 22 54.3 + 1 49.7 - reject * faint

? - + 1 4488 + follow above better

β Aquarii 4.5 reject

β Cygni

Gr 1564 Sp

γ Capricorni

Si XII 237 21 33 44.2 + 0 39.8 P 4765 8.5

26 Aquarii 21 34 48.0 + 0 38.0 P 4770 5.5

ε Cygni 3.4.5 good

50 α Capricorni

γ Draconis Sp

Si XXI 330 21 48 17.2 + 1 40.1 P + 14560 7.5

Si XII 353 21 52 36.0 + 0 13.7 P + 0 4806 8.5

α Aquarii

Arg + 1st 4584 21 59 16.7 + 1 46.1

α Cygni

Si XII 417 22 1 47.5 + 2 1.4 P + 24474 7.2

α Aquarii

30 Camelopard Sp Au 2^a

EO 22 24 0

New Sheet N^o 3

EO 22 26 0

60 γ Aquarii
195 Camelopard Sp 23.5 Au 2^a

ε Cygni

γ —

ε —

α Aquarii

α Pictoris austrini

α Ursa major Sp

β Pictoris

α Cygni

70.

γ Pictoris

α Aquarii

κ Pictoris

202 Camelopard Sp Au 2^a

39 Cygni H Au 2^a 2.3.4.1

α Pictoris

EO 23 35 0

1864 Sept 19.

Evita despit filiola mea carissima. Ad Operculum
adiri Sept. 22. 2145.

1864 Sept. 22,

2 Ophiurini

Eg 17 29 0
filled new

Eg 17 32 0

in H. Mullis, etc

4 Diatomids 3. 4. 5

20 Ophiurids for

5 20 Serpents

2 Annis 2. 3. 4. 5. An 2 a

Eg 18 19 0

8 Eg 18 31 0 2 Lyras
51 Aph. H. An 2 a

Eg 18 39 0

Clouded before I could get back from tea.

About 19 20 or 30

1864 Sept. 26

Eg 13 1 0

Polaris with An 2 or 3. Repeat

Eg 18 31 0

1.

2 Lyras

51 Eph. H. An 2 b

10 Idemulins

3 Lyras

6 Sagittarii

0

3 Apollas

Eg 19 3 0

EC 19 32 0 ^{Pir} 48.4
 Zone
 Eb. 45.6

EC 21 21 0

Clouds.
 2 Aquarii
 C Pegasi
 10 1 Aquarii 2.3.4.5
 Eb 22 21 0
 22 9

5 Aquarii
 4 4.5
 3 Pegasi
 7

5 Aquarii

2 Pictoris

3 Anem 1.2.5

cloudy: bad obs. reject
 good, not in the cloud

10

2 Pictoris

2 Pegasi

Eb 23 2 0

" 23 8 0

1 Pictoris

12

20 Claudop Bp 2345 Air 2 (print)

39 Caput H. Air 2a

1 Pictoris

* 10th 1 Sculptor

21 23 43 0

18

2 And 3.4.5

Clouded up

Eb " 9 0

1864 Sept. 27 21. East

Eb 18 9 0

1 Sagittarii

11 Serpens

111 mi 3.4.5 Air 2a

Eb 18 19 0

Sept. 27

cont. 5

EC 18 31 0

2 Lyrae

51 Cephei H. 1.3.4.5 Air 2^a 1.6. without illumination

4 Aquilae

21 Aquilae 2³⁸²⁴ 56 19 6 24.0 + 2 2.9 P +10.2

Pi XIX 46 2 458 7.5 19 9 46.9 4 14.7 P 11.1

a Aquilae

Arg + 0⁴¹⁸⁰ 19 13 32.7 0 38.5 7.48 11.1

Pi XIX 87 0 466 7.5 19 14 55.0 0 6.7 P 12.7

0 Aquilae 4010 6.3 19 21 41.1 1 38.8 P 10.9

Pi XIX 144 2³⁹⁰⁴ 6.9 19 22 56.3 2 36.4 6.9 10.0

2 Sagittarii

Pi XIX. 202 0 426. 7.0 19 30 52.0 0 1.4 P 11.2

Arg + 0⁴²⁷⁰ 0 427. 8.0 19 33 32.9 0 22.2 13

4 Aquilae

2 —

2 —

EC 19 51 0

EC 20 21 0

Zone

Eth. + 68°

" 22 18 0

" 66.6

EC 22 21 0

0 Aquarii

η —

4 Persei

η —

2 —

34 Cephei H

2 Pici australis

2 Un maj η 2.7.4.5

B Picius

2 Persei

EC 23 4 0

Sept. 29th1864

2K E

E6 21 45 0

16 Regi.
2 Aquarii
0 Regi.

clouded up.

E6 23 1 0

Sept 30th } 2K E
1864 }

32 Vulpeculae

occasional clean
pores

E6 20 52 0

61 Cygni pr

foll.

E6 21 49 0

0 Regi 1.2.

0 Aquarii

~~30 Cygni 2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.~~

0 Aquarii

7

E6 22 31 0

new sheet

E6 22 33 0

0 Regi

0

0 Aquarii

34 Cygni H. Ari 2nd

2 Picatanini

2 Cygni 2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.

0 Regi

0 Regi

0 Aquarii

Chronograph 200. down

20 Cygni 2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.

E6 23 24 0

39 Cygni H. Ari 2nd

1 Picatanini

P. 192 (Sculptoris)

Radcl. 6202.

2 Ceti

4 Regi

5th in 13 Ari 2nd (Star faint)

12 Ceti

Bradley 48. 2.3.4.5. Ari 2nd

2 Cygni

0 Ceti

/over

Sept. 30th 1864
M. E. cont.

8 Picium 3.4.5
Bradley 74 3.4.5 Air 2^a
H. Astrologicae.

E 0 57 0

New Sheet

E 1 0 0

Polaris Air 2^b (Cloudy)

E 1 21 0

Oct. 4th 1864
M. West

E 18 10 0

2 Lyrae
110 Hercules 1.3.4.5 } Cloudy
4 Serpenti 4.1 }
100 4.1 } Cloudy
50 Draconis 3.4.5
E Aquila 1.3.4.5.

Oct. 5th 1864
M. West

E 12 0 0

Polaris Air 2^b

E 12 17 0

E 13 7 0

8 Sagittarii
7 Serpenti
7 Ursae min 3.4.5 Air 2^a

2 Lyrae

57 Cephei 11^h Air 2^a

3 Lyrae

8 Sagittarii

50 Draconis

2 Aquila

8 Sagittarii

2 Aquila

8 Sagittarii

2 Aquila

E 19 13 0

E 20 4^h 0

Polaris 26 medium

Oct. 5th 1864
 M West cont.

♄ Apollon
 ♄ Capricorn
 ♄ Cygnus
 20 ♄ Ursa m. sp.
 ♄ Capricorn
 ♄ Ursa m. sp.
 ♄ Cygnus
 ♄ xx 25th
 ♄ Delphinus
 26 ♄ Draconis Air 2^a

EC 21st 4^m 01

EC 21st 11^m 00 +570

EC 22nd 6^m 00 +52.

Oct 6th 1864

EC 13 4 0

Oct 7th 1864

Oct 12 4 5 Air 2^a Cloudy at 3rd w.
 " 13 17 6

EC 17 4 0

♄ Draconis

♄ Ophiuchus

♄ Hercules

♄ Draconis

♄ Sagittarius 4

♄ Serpens

♄ Ursa m. 3.4.5 Air 2^a

Moon I.

♄ Cygnus

♄ Capricorn Air 2^a

♄ Sagittarius

Moon - Star

♄ 2^a

Moon - Star

♄ Draconis 23.4.5

♄ Sagittarius

♄ Apollon

♄ Sagittarius

♄ Camelopard 3.4.5 Air 2^a

♄ Apollon

♄ Sagittarius

EC 19 14 0

Oct. 7th 1864
in West

EE 19th 16th 0th New Sheet N^o 2

Bivii 67

Aquilae

6 Vulpeculae

B. Cygni pr

fall 1.3.4.5

4 Cygni

4 Aquilae

B. —

E 19 50 0

E 20 34 0

74 Dra. 1.3.4.5. Flying Cloud

4 Cygni

32 Vulpeculae

76 Draconis 2.3.4.5. Air 2^a

8 Ursae majoris sp

61 Cygni pr

fall

4 Cygni

1 Draconis H. sp. Air 2^a

B. Aquarii

B. Cygni

Gr 1564 sp

4 Capricorni

4 Pegasi

8 Capricorni

8 Ursae map sp.

16 Pegasi

4 Aquarii

6 Pegasi

30 Canul H. Air 1.

Chronograph ran down

E 22 17 0

8 Aquarii

E 22 29 0

New Sheet N^o 3.

E 22 32 0

4 Pegasi

4 —

4 Pictoris

8 Ursae majoris sp

4 —

4 Pictoris

1864 Oct 10th end.
LWW.

ε Cygni
6 Ursa majoris sp
32 Vulpecula
Eb 20 50 0
new Sheet N^o. 2

10
Eb 20 50 0
6 Ursa majoris sp.
61 Cygni sp
tall

γ —
ε Lepus
1 Draco sp. at 2^a
β Aquarii
β Cephei
γ 1544 sp
γ Capricorni
ε Pegasi
δ Capricorni
U Ursa maj sp.
16 Pegasi
δ Aquarii

1
Clytia Equatorial - Clouded

Eb 22 42 0

22 43 0

U Aquarii (Partly Clear again)
κ Pictoris

Eb 23 24 0

new Sheet N^o. 3.

39 Cephei at 2^a

Eb 23 31 0

ι Pictoris

Cloudy till 0^h 32^m

(Clytia again Equatorial)

Polaris at 2^a

η Pictoris

30
U Persei

ν Pictoris

2 Cen

χ —

β Arietis

δ Capricorni

δ Pictoris fully.

δ Arctis

Eb 22 20

1864 Oct 10th

E 13 10

M.W. cont

Polaris 2.3.4.5 Cloudy at 1. Air 2⁶

E 13 18 0

End of Transit Book

1864 Oct 11th

E 21 39 0

M.W. cont

16 Pegasus
+ Aquarii
+ Pegasus

E 22 2 0

22 50

A. Aquarii
Polaris. 14 sp. Air 2^a*6 Aquarii
7 Aquarii
4 Pegasus

7

E 23 47 0

A. Aquarii
Polaris. 14 sp.
+ Pegasus29 Cephei 3.4.5 Air 2^a*

+ Piscium

Polaris 19^a called 2 Sulphur

E 23 47 0

new sheet

E 23 50 0

+ Piscium

3 Ceti
+ Monoceros
+ Pegasus

5 Piscium

E

Polaris Air 2^a 1 at table 3.4 of wire 2.

E 1 18 0

atmosphere
+ The ~~being~~ for southern. can say no better than 2⁶ of
also for Ceph.

1864 Oct. 16

M. West,

E 13 5 0

Polaris 1.2.4.5 rej 2 Air 2. Cloudy.

E 13 18 0

1864 Oct. 17

M. West,x Lyrae
E 18 34 0

x Lyrae

o Lyttanini 2.3.4.5 Cloudy

x Aquilae

15 Camelopardalis Air 2

E 19 5 0

New Sheet: No. 2

E 19 7 0

w Aquilae
Clouds

x Aquilae

15 Camelopardalis

x Aquilae

E 19 50 0

E 20 59 0

61 types for
tall

x Lyrae

+ 2° 43' 32" 8.5 21 10 34.0 + 2° 58' 7"

+ 1° 46' 5" 8.0 21 14 26.6 1 26.0 Sp 2

+ 1° 44' 6" 8.5 21 15 38.1 1 36.1

1 Draconis 2.3.4.5 Air 2

x Aquilae

Gr 15 Camelopardalis

x Capricornus

+ 0° 47' 30" 5.8 21 34 48.0 + 0 38.0

x Lyrae

x Aquilae

x Ursa major

+ 0° 47' 30" 8.5 21 44 48.2 + 0 44.9

16 Lyrae

+ 1° 45' 6" 7.5 21 48 17.2 + 1 40.1

+ 0° 48' 6" 8.5 21 52 36.0 + 0 13.7

x Aquilae

+ 1° 45' 8" 7.0 21 59 16.7 + 1 44.1

x Lyrae

+ 2° 44' 34" 7.2 22 1 47.5 + 2 1.4

x Aquilae

x Lyrae

30

32

Tw

1864 Oct. 17

W. West.

cont.

E 22 180 filled pen

Opaarii Laupr went out

η Pegasi

35

E 22 450 new sheet, no time at top

δ Aquarii

34 Sept. 11 4.5 Air 2^a

α Perseus

α Ursae maj

40

β Perseus

α Pegasi

E 22 Cytus Equat.

R. Ex. 192 (Sulphur)

Radth 622.

E 23 49 a

α Perseus

309 Sept. 13 3.4.5 Air 2^a

2 Ceti

α Andromedae

η Pegasi

5 Ursae min 13 ep Air 2^a

50

α Phoenicis

12 Ceti

Bradley 48 Air 2^a

β Ceti

δ Perseus

μ Andromedae

43 Sept. 14 2.3.4.5 Air 2^bε Perseus D. Air 2^aPolaris Air 2^a

47

E 1 16 a

New Sheet No. 4

E 1 18 0

214 Canal Box Air 2^a

η Perseus D

Aug + 11 218 D faint 1 34 17.7 + 11 12.9

— 11 236 D 1.4.5 faint 1 41 27.1 11 40.1

— 11 245 D 4.5 1 44 52.7 11 43.3

α Arctis

E 2 7 0

Observations
in different — Hans for
Cytus

11.

1864 Oct 18th

M. West

El 20 59 0

61 Lygus pr.
full

8 —

1 Oratt. sp.

3 Aquarii 4.5. (Cloudy at 1.2.3)

1864 Oct 19th

M. West.

Lyrae 2.3.4.5 Cloudy at 1

El 18 34 0

7 Lyrae

8 Aquilae

10 —

11 —

6 Vulpeculae

6 Cygni
full

1 Sagittarii

4 Aquilae

15th Camelopardalis Air 2a

3 Aquilae

24th Air 13 145. Air 2b

8 Aquilae

4 Capricorni 5th Cloudy

El 20 14 0

1864 Oct. 20th

M. West.

El 13 5 0

Polaris sp Air 2a

El 13 17 0

1864 Oct. 21st

M. West

2 Aquilae

8 —

6 Vulpeculae

El 19 25 0

New Short Wave

El 19 27 0

1 Sagittarii

next page

1864 Oct 21st
 M. M. cont

9 Aquilae
 156 Samuel H. p. Air 2.⁸
 3 Aquilae
 7 Sagittae
 144 min B. 20 4.5 Air 2.⁶
 8 Aquilae
 1 Capricorni
 ———

Ec 20 12 0

End 7th

Ec 20 35 0

+46°

Zoue

Ec 22 31 0

+43

Ec 22 36 0

n Pegasi

—

8 Aquarii
 1 Pisc. austr.

Ec 22 52 0

Ec 22 54 0

3 Piscium

2 Pegasi

7 Piscium

6 Aquarii

1 Perseus

Ec 23 22 0

Ec 1 2 0

Polaris Air 2.⁶

Ec 1 17 0

1864 Oct 22nd M. M. had a severe cold partly caused by last night's

sun

1864 Oct. 23rd

Ec 13 3 0

M. M.

Polaris Air 2.⁶

Ec 13 17 0

1864 Oct 24
2nd West.

EB 18 31 9

α Lyrae

B — 3.4.5

EB 18 47 9

New Sheet N. 2

EB 18 51 0

25 Camel H^{rs} Air 2nd Star faint

Clouds up

1864 Oct. 25

EB 18 31 0

2nd West

α Lyrae

β Lyrae

γ Aquilae

π Sagittarii

EB 19 5 0

β Cygni

2.3.4.5

EB 19 27 0

κ Sagittarii

γ Aquilae

15th Camel B Air 2nd star faint

β Aquilae 3.4.5

λ Umi B Air 2.

ε Aquilae

α Capricorni

γ

Gr 1418 1st Air 2.

ο Urae way 2.3.4.5

ρ Capricorni

σ Urae way 2nd

46 Cephei 1st

τ Umi 1st & *Delphinii*

α Delphinii

α Cygni

EB 20 39 0

δ Aquarii

α Piscium

EB 22 53 0

β Urae way 2nd

γ way 2nd

ρ Piscium

α Pegasi

EB 23 0 0

New Sheet N. 2

EB 23 9 0

γ Piscium

1864 Oct. 25 ^m *
 M. Westant

K. Picium

Let for Echo. Transit ch.

2 Ceti
 & Andromedae
 4 Pegasi

Echo.
 Polaris An 2.
 Eb 1 26 0?

Eb 13 40
 Polaris sp

Eb 13 17 0

^m
 1864 Oct. 26
 M. West
 & Lyrae
 Eb 18 34 0

& Aquilae
 Eb 19 3 0

& Aquilae
 Eb 19 20 0

Eb 19 27 0
 & Sagittarii
 Eb 19 30 0

Eb 19 37 0
 & Aquilae

156 Camel Bsp An 2.
 & Aquilae

L. Urae an 13 An 2.

& Aquilae

& Capricorni

156 Camel Bsp An 2.

& Urae an

& Capricorni

Aurac an

Eb 20 25 0

Eb 22 33 0

& Pegasi

& Pegasi

& Urae an sp

& Picium

32 Camel H has been obs'd
 1863 Dec 23
 1864 May 23
 31

El 46.02 slow

22 480
 46.02
 23 34.02
 Chas. 25 0.5
 sub 7 21 0
 25 54.5

1864 Oct. 26th M. W. ent

2 Pagan

4 Picium

6 Aquarii 2.3.4.5

1 Picium

EC 23^h 48^m 0

new sheet
 El 23^h 33^m 0

" 0 1 0

α Andromedae ^{red} faint

El 0 4 0

4 Pagan

2 Echo Equat

5 Picium

1 Andromedae

43 Ceph 2.3.4.5 Ai 2

Polaris Ai 2

6 Ceti

El 1 21 0

1864 Oct 31st M. W.

El 13 29

Polaris Ai 2 last seen
 perhaps some other lost.

13 16 0

1864 Nov 1st M. W.

El 20 30

9 Aquilae

1 α Capricorni

2 α Capricorni

4 Cygni

0 unnamed sp

1 Capricorni

A unnamed sp

El 20 26 0

New Sheet No. 2

Pi xx 257

α Delphinii

El 20 35 0

α Cygni

6 unnamed sp

1 Capricorni

El 21 30

EC 21^h 15^m +32°
 Zone

Sheet N^o. 2 again

EC 0 25 0
 Br. 48 Air 2⁶ r.f. lamp going out
 & Picium
 Br. 74 ~~2.45~~ Air 2⁶
 per Andromedae
 53 April 2.3.4.5 Air 2⁶
 & Picium
 EC 0 59 0
 filled pen

EC 1 1 0
 Polaris Air 2⁶
 + Ceti
 * for Cythra Ark above
 2 Persei
 + for Cythra - Oct. 17th
 + for Cythra - Oct 11th
 + for Cythra - Oct 10th
 X Ceti
 + for Echo - a of Oct. 25th
 + for Echo - b of Oct. 25th
 50 Sappiriana
 & Picium pr 135
 pr 24
 & Arctis
 & Draconis pr.

EC 2^h 22^m 0

EC 13 2 0
 Polaris pr Air 2⁶

EC 13 17 0
 See First Page of this Book

