Date 1877	Object	Quadrant	In Conjunction with	Gl. M. T. Certainly not up	Gl. M. T. Fully up	Gl. M. T. Certainly past	Weight	Observer
Nov. 16	Dione	s. p.	Ring	9 ^h + 7 ^m 0	9 ^h +12 ^m 0	9 ^h +19 ^m 0	4	P
17	Dione	n. p.	Ring		10.+10.0	10.+13.0	3	P
21	Rhea	n. p.	Ring		8.+55.0	8.+57	3	P
21	Tethys	n. p.	Ring		10.+55.0		2	P
22	Tethys	s. f.	Ring	9.+26.7	9.+32.1	9.+36.1	4	H
23	Enc.	n. f.	Ring		5.+4.0	5.+4.0	2	H
23	Dione	n. f.	Ring	5.+19.3	5.+25.3	5.+31.8	3	H
23	Tethys	n. p.	Ring	8.+ 6.1	8.+10.6	8.+14.6	3	H
28	Tethys	s. p.	Ring			8.+40.0	3	P
28	Te. & Di.	s.p.&n.p.	Each other		8.+47.0		4	P
28	Dione	n. p.	Ring	8.+55	8.+59.5	9.+ 3	4	P
29	Tethys	n. f.	Ring	7.+ 7	7.+14	7.+18	4	P
Dec. 7	Enc.	s. f.	Ring		7.+48	7.+56	3	P
8	Dione	s. p.	Ring			6.+57	3	P
8	Di. & Te.	s.p.&n.p.	Each other		8.+49		4	P
10	Tethys	n. p.	Ring			8.+ 7	3	P
11	Tethys	s. f.	Ring	6.+36.5	6.+41.4	6.+43.3	4	P
12	Tethys	n. p.	Ring		8.+24.0	8.+27.0	4	P
19	Dione	s. p.	Ring		5.+42.3		4	P
20	Dione	n. p.	Ring	6.+34.0	6.+38	6.+41	5	H

Measure of Position Angle and Angular Distance.

Date 1877	Object	Pos. Angl. & Time Gl. M. T.	Comparisons	Wt.	Ang. Dist. & Time Gl. M. T.	Comparisons	Wt.	Observer
Sept. 27	Enc.	273°5 at 10 ^h + 20.6	4	3	32'71 at 10 ^h + 34.5	6	3	H
Oct. 22	Enc.	276.9 at 8 + 18.0	6	3	28.56 at 8 + 47.0	6	3	H
31	Tethys	270.8 at 9 + 4.0	8	3	48.5 at 8 + 16.9	6	3	P
Nov. 11	Dione	274.0 at 9 + 44.6	5	3	56.3 at 10 + 3.6	5	3	H
16	Tethys	96.8 at 10 + 2.1	6	4	44.37 at 10 + 11.4	6	4	H
17	Dione	279.8 at 7 + 35.6	6	4	32.13 at 7 + 49.6	6	4	H
17	Tethys	275.5 at 8 + 16.7	6	4	43.3 at 8 + 31.0	6	4	H

The method of measuring distance is essentially that described at length, in the Washington Observations for 1874. (Introduction p. LXVIII). In place, however, of estimating by the eye bisections of the disc, measures are made on both sides of the fixed thread, to both

the nearer and more distant limb, and the mean of them taken for the reading of the center.

Morrison Observatory Febr. 1878.

C. W. Pritchett.

Eclipses of Jupiter's Satellites observed at Windsor N. S. Wales in 1877.

The following eclipses were all observed with the 4½ inch equatorial and a magnifying power of 180. It may be well to state, that neither in these observations nor in any previous ones proceeding from this observatory has the light of the primary planet been excluded from the eye of the observer by an occulting bar.

Date of obs.	Satellite	Planet	Observatory mean time of phase	Remarks.
April 27	III	R	10 ^h 42 ^m 55 ^s .7	Sky clear, but full moon present. The planets limb boiled, but the observation was good. The satellite attained full brightness by 10 ^h 49 ^m 47 ^s .
May 4	III	D	12.18.55.8	Beautifully clear sky, with excellent definition at both phases, but the moon above horizon. Satellite attained full brightness by 14 ^h 52 ^m 18 ^s .
	III	R	14.41.26.5	
11	III	D	16.16.26.5	Clear sky and good definition. Satellite began to fade 16 ^h 10 ^m 25 ^s .
17	I	D	8.46.47.5	There was a slight boiling of the planet's limb. The satellite began to fade 8 ^h 44 ^m 30 ^s . Just as the last faint trace of the satellite was disappearing at the time noted a hazy cloud obscured the planet.
18	II	D	10.20.45.0	Clear sky and pretty good definition. The satellite began to fade about 10 ^h 18 ^m 58 ^s .
Oct. 16	III	D	7.55.44.0	Sky beautifully clear and definition excellent.
Nov. 4	IV	D	8 30.53.4	Strong wind, but sky beautifully clear. The planet's limb boiled greatly. The satellite disappeared and reappeared several times before the final disappearance at the recorded time.

Windsor, N. S. Wales December 17. 1877.

John Tebbutt.

Ueber Schmidt's Nova Cygni.

Ende September 1877 versuchte ich am 4zölligen Meridiankreise der hiesigen Sternwarte noch einige Positionen dieses Sternes zu erhalten. Zu diesem Zwecke betrachtete ich ihn am 28. September zunächst bei vollkommen dunklem Gesichtsfelde und schätzte ihn um fast eine Grössenklasse schwächer als B.D. + 42^o4184, somit 10. Grösse.

Auch an den folgenden Tagen, dem 29. und 30. Sept., war seine Helligkeit so gering, dass er nur eine ganz geringe Fadenbeleuchtung vertrug, bei der ich zwar noch eine leidliche Bestimmung der A.R., aber keine genaue

der Decl. mehr bekommen konnte; ich schätzte ihn daher auch an diesen Tagen 10^{mag}. Die erhaltenen Positionen auf 1877.0 reducirt lauten:

	α	δ
1877 Sept. 29	21 ^h 36 ^m 52 ^s .45	+ 42 ^o 17' 3
30	52.69	16.5
Mittel	21.36.52.57	+ 42.16.9

Sie stimmen mit den in Astr. Nachr. Nr. 2116 mitgetheilten Positionen so gut überein, als man bei der Schwäche des Objectes erwarten kann.

Wien, 2. Februar 1878.

J. Holetschek.

New Companion to Aldebaran.

I have recently found with the 18¹/₂-inch refractor of the Dearborn Observatory a much nearer attendant to the bright star, α Tauri, than Herschel's companion which makes the double star H VI. 66 (= α 2 App II = S 452). The new companion is an exceedingly faint point, and makes with the ruddy bright star an object in difficulty and appearance not unlike Mars and its outer satellite. It is troublesome to measure with the large star in the field. I have three observations as follows

$P = 111^{\circ}6$	$D = 30'16$	Oct. 31
103.3	30.61	Nov. 10
112.1	30.27	Dec. 30

It is well known that the change in the old com-

panion is due to the proper motion of Aldebaran. The extent and direction of this will be seen from the measures of Herschel, Struve and Dembowski to which is added a single measure of my own.

H	$P = 37^{\circ}0$	$D = 87'75$	1782.0
α	36.0	109.08	1836.0
D	34.9	112.66	1863.4
B	35.2	113.94	1877.9

The observations of a few years will be sufficient to determine whether there is any physical relation between the closer components.

Chicago Jan. 1, 1878.

S. W. Burnham.