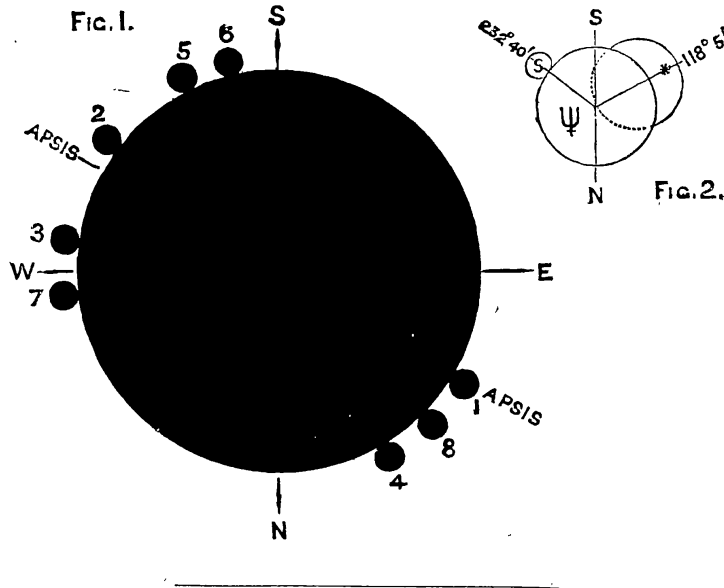


measured photo-diameter of the planet was $12''.21$, and of the star $9''.5$.

In the event of any computations being made touching the subject of this communication, the sixteen negatives referred to will be available for measuring positions and distances between the planet and the surrounding stars during the opposition of *Neptune* in 1891.

The photographs do not indicate the existence of any other satellite than the one discovered by Lassell.



Photograph of the Region of Hind's Variable Nebula in Taurus.
By Isaac Roberts, F.R.S.

In November last year Mr. Burnham, of the Lick Observatory, drew my attention to the region of Hind's Variable Nebula in Taurus, and informed me that he had searched the region with the 36-in. refractor and found what appeared to be a small star placed within a very small condensed nebula, the nebula being elongated in the direction of $151^{\circ}.7$. A rough reading of the wires gave $4''.4$ for the length of the nebula.*

The photograph does not show any nebulosity or nebula or nebulous star anywhere about the region here referred to, though the exposure extended during three hours, and therefore nebulosity of a much fainter character than that shown in the *Pleiades* should have appeared on the photograph.

I am not suggesting that there can be any error in the observations made at the Lick Observatory, but the absence of any trace of nebulosity on the photograph may point to some rapid

* *Monthly Notices, R.A.S.*, vol. li. p. 24.

changes having taken place in the object between October 15, 1890, when observed at Lick, and December 9, when the photograph was taken. I am sending a copy of the photograph to Mr. Burnham, with the object of assisting to clear up what is now obscure.

The position of the nebula and of Hind's variable (R.A. $4^{\text{h}} 14^{\text{m}} 58^{\text{s}}$, $D + 19^{\circ} 14'$) is indicated within the larger of the white circles drawn on the photograph, and within the smaller white circle is the planet *Neptune* shown with its satellite.

The satellite is very strongly imprinted on the film of the negative as a black spot, and this is itself an indication of the faintness of the luminosity required to make an impression on the photograph.

Photograph of the cluster 44 M. Cancri (the Præsepe). By Isaac Roberts, F.R.S.

The photograph now presented is an enlargement to three and a half times from a negative which was taken on February 13, 1891, and is intended to serve as a chart of the stars between R.A. $8^{\text{h}} 30^{\text{m}}$ and $8^{\text{h}} 38^{\text{m}}$, declination N. $19^{\circ} 19'$ to $21^{\circ} 19'$, covering four square degrees of the sky. The exposure was given during ninety minutes in the 20-in. reflector. The negative shows many faint stars that cannot be copied on the enlarged photograph, and I propose to engrave (direct from the negative) this and some other clusters, as illustrations of the advantage of the engraving process over the photographic in showing all the stars, including the faintest, that may be on any negative and in eliminating from the chart specks on the film that would in any photo-printing process appear as, and be mistaken for, stars.

The photographs illustrating the above three communications are placed in the Library.
