J. S. Plaskett:

and, as the changes in focus due to temperature are very slight, it remains at that setting.

Focus of Camera.—The accurate focussing of the camera is in my opinion much more important than that of the collimator. Here one cannot depend upon the test of definition, as the focus may be changed through a half-millimetre, an amount fatal to accuracy in line of sight work, without appreciably affecting the sharpness of the lines. The method employed here of obtaining the camera focus was evolved from Newall's method of focussing the collimator, a somewhat similar method being described by Hartmann*, and the focus is tested on every night the spectroscope is used. The method depends upon the displacement of the spectral lines on a plate not in focus when the pencil which forms them has its centre of intensity separated by a sensible distance from the centre of the objective.

Practically, the procedure is as follows. By a pair of diaphragms or windows situated close in front of the slit, which will be presently described, two spectra can be made side by side on the same plate, or rather one spectrum about 0.3 mm. wide along the centre of the plate has on each side a spectrum about 1 mm. wide. These spectra touch each other so that when there is no displacement of the lines they appear continuous, but the slightest displacement is at once apparent. Below the collimator lens is an opening in which a brass plate slides. This plate has a rectangular opening about 12 mm. wide and 30 mm. long, and the position of this opening is regulated by stops, so that in one position it allows a pencil of light of half the aperture to pass through the prisms near the refracting edge, and in the other position near the base. The middle spectrum is made through the refracting edges, and the outside spectra through the bases of the prisms. Hence the centres of intensity of the two pencils through the camera objective are separated by about 12 mm., and if the camera is not in exact focus the lines of the spectrum will not be con-

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* Astrophysical Journal, vol. XIL, p. 45.

108