

of the prism box almost under the third prism. It was firmly screwed to the base of the box and served to prevent flexure at the outer edge of the prism box and the lower end of the camera. The upper end of the camera was provided with a brace, but this was further stiffened by a diagonal connecting rod. The prism cells, as before mentioned, had already been firmly clamped to the base of the box so that no displacement could arise there.

So far as stiffness of the outer end of the prism box is concerned, the spectroscope was immeasurably improved by this truss. A test of the displacement showed that the flexure had been much reduced, as a movement of two hours caused a displacement equivalent to about 5 kms. per second.

This was still too great, and a careful examination showed that it was probably due to a movement of the collimator end of the prism box, which was only supported by one projecting arm of the frame work. A built-up brass T-piece of suitable thickness was inserted between the other projecting arm, to which it was firmly screwed, and the top of the prism box. The arms of the T were made sufficiently long to extend to the outer walls of the box to which they were also screwed, the upper plate not being thick enough to form much support. The introduction of this piece further stiffened the instrument and resulted in a reduction of the displacement to an amount equivalent to between 2 and 3 kms. per second.

As this displacement was still rather great, I removed the swinging arm, which carried the telescope or camera when used with the single prisms or grating, the verniers on the circle and other small attachments. Two pieces of two inch brass tubing were bored out to fit the projecting ends of the 1½ inch supporting tubes, and these, one of which is shown at *H*, were firmly joined at their lower ends by a rigid U-shaped truss *I*, built up of brass plate to which the outer edge of the prism box was screwed. The projecting arms of the frame work were also firmly attached to the tubes *H*, while the prism table and divided circle were rigidly