fraction of its amount. Moreover, I see no insuperable objection to the superposition of two systems of the kind, the mirror resting upon a stiff disk which is itself supported upon a second one.

This plan has been entirely successful in the cases in which it has been applied, mirrors up to 12 inches in diameter showing not the slightest flexure when moved into all practical positions. Unfortunately it has not yet been tried with reflectors of a larger size.

THE EQUATORIAL COUDÉ.

By applying the simple method just described for mounting mirrors, an equatorial surpassing all others in convenience of use has been put into operation at the Paris Observatory. The plan of having a telescope of which the tube itself should be the polar axis, so that the eye-piece should constantly point towards the north pole, is quite familiar to astronomers. The plan heretofore proposed is this:

Below the object-glass, which in the northern hemisphere would point towards the south pole, is to be placed a reflector capable of turning round an axis at right angles to that of the telescope while the latter turns upon its own axis. The latter motion would the measure right ascension and the revolution of the mirror would be one-half the change of the declination. This plan is subject to the inconvenience that, in order to look near the south horizon, the mirror would have to be much elongated, while the view around the north pole would always be cut off by the intervention of the telescope itself.

In the equatorial coudé this difficulty is obviated by the use of a second reflector. The telescope, as its name indicates, is elbow-shaped. Its lower part consists of an arm at right angles to the axis. At the elbow is fixed a mirror, from which the light is reflected at an angle of 45 degrees. At the outer end of the arm is a second reflector, also at an angle of 45 degrees, and turning upon a central axis of this arm. By its motion, the field of view of the telescope will sweep over a belt of uniform width from the pole to the horizon, so that its position angle will correspond to declination. By turning the whole instrument on its axis the field of view will sweep through a zone of constant declination. The object-glass is in the arm between the two reflectors. The angle of reflection from each mirror is constantly 45 degrees.

The advantage of this construction is, that the observer does not have to follow the eye-piece of his telescope, but always sits in a fixed position in a comfortable room. All the motions and all the readings are