

## PREFACE.

One of the principal objects the author has in view in this design is to make it possible to place on the floor of the domestic parlour, or an Academy, an illustrative mechanical apparatus which will serve all the important purposes to the private student of the stars that are served in every astronomical observatory, by the use of that beautiful instrument styled "*The Fraunhofer* (or German arranged) *Equatorial Telescope*."\* The only difference in the case being that the new invention, as it needs not, has not any of the optical lenses and appendages the other has to magnify the numerous objects examined on the model map of the Celestial Sky.

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\*In the progress of optical research to improve the astronomical telescope, after Dolland, in England, made his great discovery of the process to perfect the instrument, it was a considerable time after before one could be made of sufficient magnitude to advance and widen the boundary of our knowledge of the Heavens. In Germany, Fraunhofer, an eminent Optician of Munich in Bavaria, and the inventor of Spectrum Analysis, was the first to overcome the difficulties which were in the way. He completed the first great Achromatic Equatorial mounted telescope, as above alluded to, which was bought by the Russian Government for the National Observatory at Dorpat, in latitude  $57^{\circ} 22' 47''$ . In astronomy the connection of this instrument with the observational labours of the late two distinguished, Struves and Argelander, and Bessel, especially the latter observer, who wrought with the instrument for thirty years to solve the parallax of 61 Cygnus, stamps it to be one of the foremost telescopes as yet used in the history of observational astronomy.