

Slatter's Observatory, Ipswich

THE OBSERVATORY OF THE REV. JOHN SLATTER, F.R.A.S.

This observatory, recently erected by Mr. Slatter, was completed in the spring of the year 1850. It consists of one room whose size is 18 ft. 6 in. by 10 ft. 6 in. inside measure, 10 ft. 6 in. square being appropriated to the equatorial, the rest to the transit-room, of which, however, a portion has been cut off to form a porch. The roof of the equatorial room, which is of course revolving, is octagonal; the walls are of 9 in. brick, on which were laid octagonal frames of oak, which serve as the bed for the balls which support the roof to run upon. These are kept to their places by a circular oak curb made of eight pieces, the joints of which are made to quarter with those of the frame-work below; the base of the roof above the balls is the exact counterpart of this. The whole of this frame-work is put together with common bed-screws and tightened by tonguing. The roof is of deal rafters, and is in shape a sort of truncated pyramid, all the rafters from the angles beneath meeting at the angle of a square above of which each side is 2 ft.; this makes a zenith door, which is opened from below by a string acting on a bent lever, and the opening thus made is prolonged down the side, which is closed by one sloping door overlapping the aperture. The balls are four, of lignum-vitæ $4\frac{1}{2}$ in. diameter, and the roof is moved by a cord and hook which fits in staples set at intervals; the end passing round an upright roller, and being then brought over a large pulley 1 ft. in diameter. The motion is so easy that an observer with the pressure of one hand can move it without rising from his seat, but even this is rarely necessary as the opening admits of following a star for at least an hour in most positions of the aperture. The angle of the octagon that falls on the division of the two rooms rests on a square brick pillar diagonally placed, behind which is the clock, so that the clock can be equally well seen from either room; this, which is found a most convenient arrangement, was suggested by Mr. Johnson.

The instruments are both by Simms. The meridian instrument is an 18 in. transit-circle, which is placed on a stone table; and, with *lead* plates between the iron frame and the stone, it keeps its adjustments with great accuracy. The telescope attached to the circle has a focal length of 28 in. with an aperture of somewhat more than 2 in. The circle is read by micrometers to 1".

The equatorial has a focal length of 7 ft. 4 in., and a clear aperture of 4.9 in. It bears a power of 236 commonly, and with this will separate the components of any double star, which exceed 1" in distance; up to this point its performance is satisfactory, such stars, *e.g.* as α Aquilæ, being beautifully separated. It shewed the ring of Saturn within a few hours of its disappearance. The declination-circle and hour-circle attached to it are of 18 in. and 15 in. in diameter respectively, and can be read to 5" and 1s. respectively. Both the instruments were made by Simms. The clock is an old one by Fayrer.

The longitude of the observatory is 0h. 4m. 56.5s. west, and the latitude $51^{\circ} 43' 50''$ north, which agrees closely with the position given in the Ordnance maps.