

Snow's Observatory, Ashurst

THE OBSERVATORY OF ROBERT SNOW, ESQ., F.R.A.S.

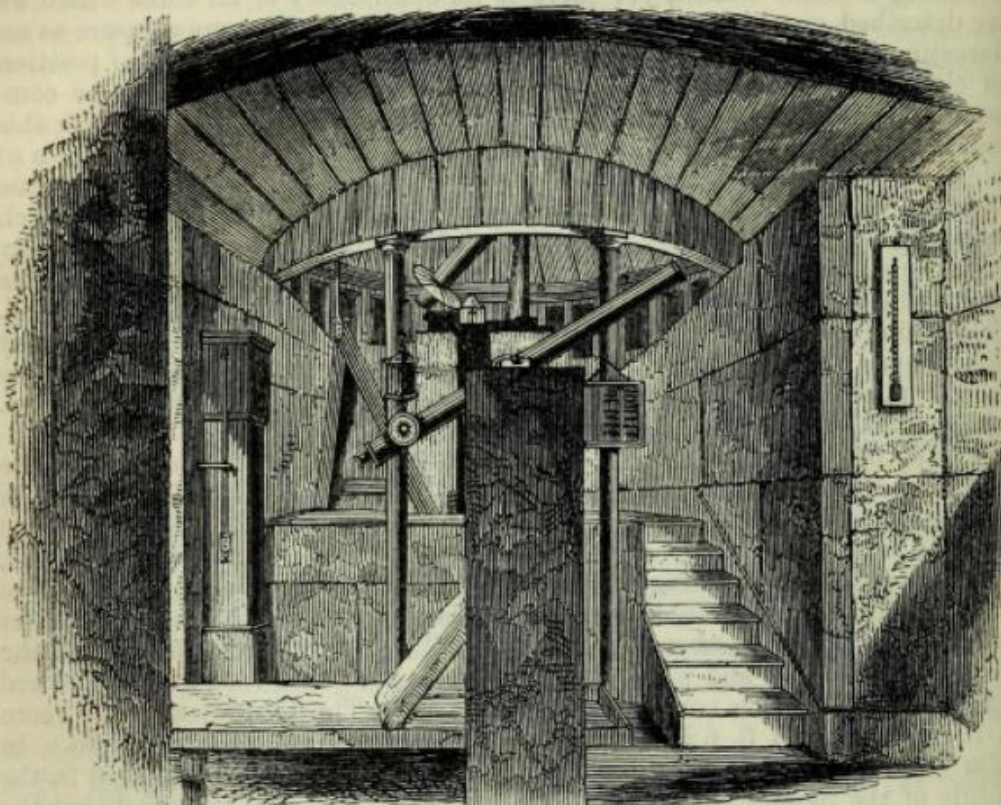
This observatory, which was planned by Mr. Snow, and built in 1834, is situated at Ashurst, in Kent, in longitude 1m. 10s. west of Greenwich, and in north latitude $51^{\circ} 15' 58''$, the former being determined by transport of chronometers between Ashurst and Lord (then Mr.) Wrottesley's* observatory

* Lord Wrottesley, on coming to the title, removed to his seat at Wrottesley, near Wolverhampton, where he has an observatory well equipped with excellent instruments, especially with a large equatorial, formerly belonging to E. B. Beaumont, Esq.

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at Blackheath; the latter by observations with a portable 20 in. transit placed in the prime vertical. Its elevation is 550 ft. above the level of the sea. Its general construction, which deserves notice for its convenience and simplicity, will be well understood by our engraving. It is a small building in the form of a parallelogram 24 ft. by 10 ft. The walls are of brick 14 in. in thickness, painted of a slate colour. The soil on which the observatory stands is a rocky gravel, and the neighbourhood is hilly, though there are no heights that materially obstruct the horizon in any direction.



MR. SNOW'S OBSERVATORY.

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The entrance to the observatory is by a door at its north end, which opens into a passage or ante-room useful for keeping books and apparatus.

This ante-room communicates directly with the transit room, and the latter communicates, by means of a flight of steps, with a rotating dome containing an equatorial. We will proceed to describe each of the instruments.

The *Transit Instrument* by Simms is of $3\frac{1}{2}$ ft. focal length, and $2\frac{3}{4}$ in. aperture. The length of the axis is 18 in. from shoulder to shoulder. The piers are erected with great solidity from some depth in the gravel beneath, and the lower parts of them are cut away for several inches to allow convenient space for the observer. The shutter openings are continuous from horizon to horizon, and consist of north and south windows, and shutters in the sloping roof.

Adequate provision is made for protection of the instrument from the sun's rays.

There are seven fixed vertical wires, and one wire moveable by a micrometer in the principal focus of the telescope. The error of collimation is obtained by means of a fixed mark on a stone pillar erected on a hill to the north about three-quarters of a mile distant. Numerical corrections are applied for the error of collimation, as well as for the errors of level and azimuth; and imperfect transits are rigorously reduced to the mean of wires.

The transit-clock (which can be seen and heard from every part of the

observatory) was made by Molyneux, father to the present well-known clock and chronometer maker; it has the usual dead-beat escapement and mercurial pendulum.

The *Equatorial* is by Simms. The object-glass of the telescope has 3.9 in. clear aperture and 5 ft. focal length, and has given its owner every satisfaction. It was originally ground for the observatory at Alabama. The mounting of the instrument is that generally known as the Fraunhofer mounting, and is very solid. It has some peculiarities, among which may be mentioned that the polar axis is a bold conical brass tube, long enough to admit both the declination-axis and the telescope-counterpoise *withinside* of the northern pivot and its support. The support of the northern pivot is also a conical brass tube. The telescope is made to follow a star by a convenient application of clock-work motion, modified slightly from Fraunhofer's plan. The hour-circle is 2 ft., and the declination circle 18 in. in diameter. It is fitted up with a wire position micrometer, with the usual furniture of eye-pieces. For observations into which time enters, direct use is made of the transit-clock.

The rotative roof of the dome is neatly ribbed within by a frame-work of carpentry, and has three convenient openings extending together rather more than from horizon to horizon. It is 10 ft. in diameter, and traverses on three turned balls of lignum-vitæ. Though of sufficient weight to enable it to resist the heaviest gales, it is turned easily by hand. Without, the roof is of the semiconical pigeon-house shape frequently adopted in such buildings, and is covered with copper.

Other instruments connected with the observatory are—

A 20-in. portable transit-instrument by Troughton;

A 45-in. achromatic telescope by Dollond, with wire position micrometer and other equipments;

A comet seeker by Simms, on an equatorial stand;

An eight-day chronometer, by Molyneux;

A Daniell's hygrometer; two mountain barometers; some thermometers and a pair of small globes.

Mr. Snow has made good use of the means at his disposal, and many valuable contributions made by him to astronomy will be found in the *Memoirs* and the *Monthly Notices* of the Royal Astronomical Society.