

Rumsden's eye-piece, magnifying about ninety times; the shaded screen used from the 21st to 24th inclusive, was a compound one, composed of one dark purple glass, and one green glass, giving a greenish yellow image, the yellow predominating. On the 26th the screen used was made of three green glasses, giving a greenish image; the full aperture of the Telescope was used on every occasion, and with these appliances the observations were made with perfect safety and comfort. The shaded screens were supplied to me by Mr. Potter, Optician, of this city.

I regret that, in consequence of my not having a Micrometer attached to my Telescope when these observations were first made, I have been unable to give correct measurements of the dimensions of the spots, and of their distances from the limb of the Sun. I resume the extracts from my register.

The 27th, 28th and 29th were cloudy days, and no observations could be made.

On the 30th. This day, at 12<sup>o</sup>-20', apparent time, definition bad—Sun's limb very tremulous—strong wind blowing, and atmosphere very much disturbed. The spots first seen on north-eastern limb are now close to the North-Western limb, parallel to it. Penumbra seen above and below Nucleus of each spot, and also on the side next to the limb—no Penumbra on side next the Sun's centre—these spots are much diminished in size—the small spots advanced towards the Sun's centre—four Nuclei enclosed in a common Penumbra, which is very faint—observed a very large spot close to South-Eastern limb, with a well defined Nucleus—the Penumbra broad towards the limb, and just visible only towards the Sun's centre—the upper and lower parts of the Penumbra of this spot much darker than the central parts—the spot parallel to the Sun's limb. This spot is marked No. 7, in the accompanying drawing.

#### *South-Eastern Group.*

*February 1st.* Definition only tolerably good—fringed look of Nucleus, which is lighter towards the Sun's centre; whilst the Penumbra is darker towards the limb of the Sun—the Nucleus separated by a light kind of band—brilliant Faculæ around the lower spots.

*February 3rd.* Definition good—ragged look of Nucleus—light colored arch in it—Nucleus not equally dark—some parts much lighter than others—small spots much increased in size and number.

*February 4th.* Light clouds at intervals—definition good—the same ragged or streaky look of the Nucleus observed.