

APPENDIX M.—*Continued.*

OBSERVATORY, QUEBEC.

August 25, 1869.

Sir.—I have the honor to enclose my report of the proceedings of the Canadian Eclipse party, and to request that they may be laid before His Excellency for his approval.

As it is of great importance that the observations made by us should be printed and distributed amongst the learned societies, I trust that His Excellency will sanction a further sum of \$200 for that purpose.

I have the honor, to be Sir,

Your obedient Servant,

E. D. ASHE,

Director Quebec Observatory.

WM. SMITH, Esq.,

Deputy of Minister of Marine, &c.

On hearing that \$400 would be given for the Eclipse Expedition, the Canadian party, consisting of Commander Ashe, Mr. Douglas, and Mr. Falconer, made the necessary arrangements and left Quebec on the 26th July, to take up a position assigned to them by the American Astronomers, at Jefferson, Iowa.

The telescope belonging to the Observatory, of 8 inches aperture, and 9 feet focus, driven by clock work, by Alban Clark of Boston, was taken, although the weight of the several parts together was little less than a ton.

The Grand Trunk, the Michigan Central, and the Chicago North Western Companies, gave a free passage for ourselves and luggage over their respective lines.

Jefferson is situated on the prairie in latitude $42^{\circ} 10'$, N. Longitude $6\text{h. } 17' 28''$ west, a little to the southward of the central line of eclipse, but the convenience of being near a town where lumber, nails, and carpenters could be obtained to erect an observatory for our instruments, induced us to stop at Jefferson, instead of going nearer the central line. A site was chosen on the prairie about a mile from the town, and in two days the Observatory was up and instruments in position.

The different duties were performed as follows, viz.; Mr. Douglas prepared the plates, Commander Ashe exposed them for 10', and then handed them back to Mr. Douglas to develop. We obtained the assistance of Mr. Stanton, who most kindly offered his services to cover and uncover the object glass.

We were also most fortunate in making the acquaintance of Mr. Vial of Philadelphia, as we travelled together from Boone to Jefferson. He possesses great talent and ability, and undertook to observe the eclipse with a small telescope by Dolland, of 42 inches focus. Mr. Falconer noted the general appearance as seen by the naked eye.

The weather for two days previous to the eclipse was cloudy, and on the morning of the 7th it looked like rain, but about eight o'clock the clouds cleared away, and although the sun was seen, still there was a haze that was anything but satisfactory for photography.

As the time approached the weather improved, and was better during the critical three minutes than at any part of the day.

Four photographs were obtained during the totality, which are shown in the accompanying photographs respectively marked 1, 2, 3, 4.

I consider them most successful, as they show, not only the covering and uncovering of the protuberances as the Moon passed across the Sun's Disc, but also the Corona, and when the protuberances are examined with a lense they show their curious formation as seen in plate VI.