

of snow required to yield an inch of water from observations taken here :—

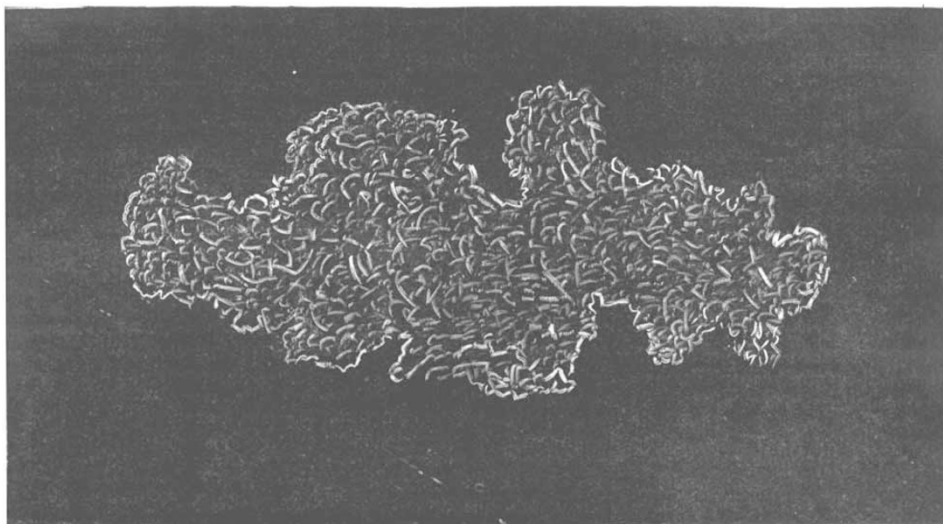
1886, January 23, snow 2 inches, melted '063 (*i.e.* .33 inches for 1 inch of water); March 1, snow 7 inches, melted '800 (*i.e.* .9 inches for 1 inch of water); December 26, snow 7 inches, melted '967 (*i.e.* .7 inches for 1 inch of water). 1887, January 4, snow  $3\frac{1}{2}$  inches, melted '379 (*i.e.*  $8\frac{1}{2}$  inches for 1 inch of water); January 7,  $\frac{1}{8}$  inch, melted '030 (*i.e.* .6 inches for 1 inch of water).

The damage done on December 26 was unusually great, the snow being very heavy, as much as 5 lbs. weight on a square foot of a cedar-branch; this, when moved by the wind, caused much breakage.

January 8.—Since sending my note yesterday I find that at Chepstow and at Itton the snowflakes were larger than anyone

had before seen, so that probably the storm had an extended area; at all events it was 5 miles broad.

The present storm is a very similar one to that recorded by myself in January 1838, except that the largest flakes in 1838 did not exceed 2 inches. In that storm the largest flakes fell more rapidly and more perpendicularly. I then pointed out that large snowflakes were produced by two upper currents driving the flakes together; and afterwards, by the largest falling with increased velocity and more perpendicularly: they were thus able still more to augment their dimensions by adding smaller ones to their bulk. This was well seen on January 7, when an estimate was made as to the velocity and angle of their descent. Not only were a number seen to be added as they fell upon them, but it was thought that small flakes when near to the



Shape and size of snowflake. (There were more of a somewhat similar form to this than the more circular ones, though there were very many more circular and less indented.)

large ones were attracted to them. The flakes were, however, large whilst at a considerable distance from the ground.

Several flakes were sketched before they began to melt, and one of the sketches is sent as an illustration. The glasses were at a temperature of freezing, and therefore it was some time before the snow melted, and not thoroughly so until they had been 5 minutes in a hot-house.

January 13.—The snowflakes folded over on the edges, boat-like, and this curling over caused the thick look observed. There was a slight zigzag in their downward course of some  $2^\circ$  or  $3^\circ$ . This storm passed over Chepstow, Itton, and Monmouth in this county; Wirewoods Green, Tidenham, and Dennil Hill, all in Gloucestershire, and Bath: in all of these places the flakes are spoken of as the largest ever seen. One correspondent at Chepstow reports them as larger than the hailstones in the storm of May 1848, which were larger than hens' eggs, and broke the shop windows, and destroyed the glass of hot-houses near Chepstow.

E. J. LOWE

Shirenewton Hall, near Chepstow

#### Auroras

THE account, in NATURE for December 16 (p. 159), of a bright cloud "emitting brilliant rays of light," that suddenly appeared at Hamar, in Norway, on the night of November 3, recalls the fact that on November 2 there was at Lyons, New York, an aurora which at one time during the evening consisted entirely of detached luminous clouds, as was noted in NATURE for November 18 (p. 54). It is stated that on November 4 one of the finest auroras of the year was visible at Throndhjem, Norway.

M. A. VEEDER

Lyons, N. Y., January 3

#### A Solar Halo

IN the weather report issued on Friday evening, the 14th inst., a solar halo is recorded as "observed in Jersey during the day."

Between noon and 12.30 I observed a very complete and well-defined halo, of radius about  $\pi/8$ , in this neighbourhood. It was not perceptibly tinted, but the duskiest of the interior, as compared with the clear sky exterior to the luminous ring, was more pronounced than I ever remember to have noticed it on other occasions—so much as to suggest comparison with the "curtain" of the aurora: "Solem quis dicere falsum audeat!"

J. J. WALKER

Hampstead, N. W., January 15

#### THE NATIONAL SCIENCE COLLECTIONS<sup>1</sup> II.

25. **R**EVERTING to this country, the "Patent Museum," now under the charge of the Science and Art Department, is a collection of a peculiar nature; and in order to explain its origin, and the objects it was intended to serve, we may make some extracts from the Report of a Select Committee of the House of Commons, appointed in 1864, to inquire as to the most suitable arrangements to be made respecting the Patent Office, Library, and Museum. The Committee said:—

The second point to which your Committee directed their attention was that of the Patent Museum, having regard especially to its formation, its present state, its relation to the Patent Office and Library, and the nature of its contents, so as to render it practically useful.

Your Committee found that the Patent Museum was formed by Mr. Woodcroft, the Superintendent of Specifications, by the request of the Commissioners of Patents, and that it consists of models and machines belonging partly to the Commissioners of Patents, partly to the Commissioners of the Exhibition of 1851, and partly to Mr. Woodcroft himself, and various private persons.

<sup>1</sup> Continued from p. 254.