

sequent report of this discussion in your Journal these views were suppressed. The abstract of the rejected paper was printed in the annual report of the British Association, just issued, among the Section B papers, from the officers of which section I had received uniform courtesy and consideration throughout the transaction.

Now such a joint resolution as I have mentioned ought to have precluded any referee from rejecting a paper which had already been approved, and I have to suggest that a by-law be framed to render an occurrence of this kind impossible in the future.

WILLIAM ACKROYD.

Striped Hawk-moths in Sligo.

THERE has been a letter or two in recent numbers of NATURE on the finding of rare moths in England. It may be of interest to the writers to know that in the middle of last September there was caught in the town of Sligo a specimen of the striped hawk-moth. It was captured in the printing office of the *Sligo Independent*, its great bulk first attracting attention and then its beautiful markings. I know but very little about insects, the honey bee excepted, but I carefully compared the living object with a description and coloured plate in a work on Lepidoptera, and have no doubt but that it was the very thing your correspondents are making so much ado about. It is now preserved in a little collection of Mr. Irvine (Ratcliffe Street), but the gorgeous colouring has all gone, and the striping is barely traceable. I have been told that another exactly similar moth was found last year a few miles from Sligo along the sea coast.

I never noticed one of these insects before, but if it be such a rarity in the British Isles as your correspondents seem to hold, it is easy enough to account for its presence in the present instance. Sligo is a sea-port town, and in August last a cargo of timber from, I was told, South America was discharged. Most likely the eggs came over in the timber and were here hatched out.

JOSEPH MEEHAN.

Creevelea, Drumkeeran, co. Leitrim.

THE SIMPLON TUNNEL.

AS the Simplon Tunnel is rapidly approaching completion, natural curiosity is aroused as to the extent to which the accuracy of the alignment has been attained. This is a riddle which can only be answered when the last metre of rock has been removed and the two headings unite.

It was hoped that this international meeting of Switzerland and Italy, under Mont Leone, would take place in October, but in consequence of unexpected difficulties which occurred early in September, it is probable that the actual junction will not occur so soon.

The setting out of the centre line of the tunnel is done every month by the company and contractors, but, in addition to this, the work is checked several times in the year by the Government engineers. On these occasions the work in the tunnel is entirely suspended, so as to ensure that the atmosphere for the entire length shall be bright and clear. A small slit of light is thrown into the tunnel by means of a powerful lamp, and by the aid of theodolites this is taken right up to the working face. It is anticipated that when the actual meeting occurs the error in level will be nil, and that the error in direction will be under eighteen inches.

As our readers know already, the length of the tunnel will be $12\frac{1}{2}$ miles, all of which has been penetrated with the exception of a short distance of about 260 yards near the middle. The work consists of two single line tunnels 50 feet apart, axis to axis, and the object of having two tunnels in place of one has been fully justified by later experience, and for the following reasons. The ventilation is much more efficient, one tunnel being used as an "intake" for fresh air, which

is blown in by powerful high-speed fans working with a water-gauge of nearly 9 inches, the other being the outlet; in case of derailment of a train occurring it cannot possibly run into a train in the opposite direction; when repairs are required one tunnel can be closed for a time, the traffic being conducted in the



FIG. 1.—The Great Spring, 12,000 gallons per minute.

other; and finally, which is most important, the crushing weight of the material overhead is much more easily dealt with than it would be in a double line tunnel. When it is remembered that the overlying rocks extend to a height of 7005 feet, and that the workmen are at the enormous distance of nearly $1\frac{1}{2}$ miles below the surface, or 50 per cent. more



FIG. 2.—The Brandt drill at work at the "face." Daily progress 18 feet. Size of heading 10 feet x 6 feet.

than man has ever been heretofore, it will be realised that not only is the pressure enormous, but the heat is also great; in fact, the pressure which has been encountered is so great that in one place the arching, consisting of granite blocks, is 2 metres in thickness. The tunnel is arched throughout, as it was deemed advisable that no risk should be incurred of even a