

Academy of Sciences will be found of interest as bearing on this question. Writing from Rome on the 27th of August, he says (*Comptes Rendus*, p. 613):—"On the 15th of this month we had an Aurora Borealis by day, at ten o'clock in the morning up to midday. The magnetometers were greatly disturbed, and in the heavens at half-past ten appeared an arch of light cirrus clouds, stretching from N.N.W. to N.E., and crowned along the whole of its contour by numerous and fantastic rays (*jets filamenteux*). The forms of these rays so perfectly resembled those of the solar protuberances that some of the drawings of them might easily be mistaken for drawings of solar protuberances even by people well accustomed to these observations."

Merton College, Oxford

J. P. EARWAKER

Meteor

LAST night, Oct. 9-10, about midnight, G.M.T. a meteor was seen by my wife in the S., considered by her to rival the brightness of Venus, and describing a path which was so carefully sketched by her immediately afterwards as to form a possible basis of comparison; and which therefore may be thought worthy of insertion in NATURE. It seems to have become visible near ζ Ceti, probably rather *not* that star (which, however, was not noticed by her through a dewed window-pane), and to have passed with a slow motion and a yellowish light, in a path somewhat convex towards the zenith, in the direction of β Ceti, before reaching which it vanished. For about three-fifths of its course it preserved the same aspect, as of a ball of light with sparklings round it, and some appearance of a train; but in its further progress it seemed to waste away to extinction.

T. W. WEBB

Hardwick Vicarage, Herefordshire; according to Ordnance Map, long. W. 3h. 4m. 23s., lat. N. $52^{\circ} 5' 20''$.

Fossil Oyster

I HAVE recently noticed a fossil oyster, in what Sir C. Lyell calls the Lower Miocene, or Hampstead beds. Can you, or any of your readers inform me if it has been noticed before. I can find no mention of it, in any work within my reach. I have been a subscriber, from your first number; and have observed the kind notice you have extended to other inquirers, and have thus been emboldened to trouble you.

INQUIRER

N.B.—I have no pretensions to science, or any scientific acquaintance, being merely a solitary observer.

AN ELECTRICAL BAROGRAPH

I HAVE recently designed a barograph, a brief account of which may be interesting to your readers. The advantages claimed are:—

That the record may be seen as it is going on.

That it is quite as, if not more sensitive than, the photographic barograph, and the scale is larger.

That no time is lost preparing the paper, printed forms answering the purpose.

That the first cost and cost of working are both much less than in the photo-barograph.

A photograph has been taken which shows the instrument in working order, with part of a day's record shown on the cylinder.*

The cylinder is ten inches long, and eight inches in diameter, allowing for one inch per hour of paper.

The clock, or governor, is connected by a bar to a movable inclined plane, this is again connected by a bar to the long wire parallelogram which carries the pen, and the clock, by means of an eccentric, causes the inclined plane, and with it of course the pen frame, to move backwards and forwards once every minute. The wire frame is guided by four brass friction wheels, attached to a brass frame having motion up and down only; under it are the coils of an electromagnet, the armature of which is attached to the brass frame. So long as no electricity passes through the coils the brass frame is thrown up by a small spring high enough to lift the pen off the paper.

* A photograph and section were obligingly forwarded by the author with his description.

The barometer tube is an ordinary glass one 0.58 in diameter, and is fixed firmly to the case. Its cistern is a small glass one, one inch in diameter, and cemented to a brass arm hinged to the left side of the case, and which allows it perfectly free motion up and down, but not sideways. From this cistern projects a very light arm, also hinged, and bent at the end so as to extend over the inclined plane. One wire of the battery is attached to the cistern arm, and the other, after passing round the magnet, to the inclined plane. As soon, then, as these two parts touch, the electro-magnet brings down the brass frame, and with it the pen, on to the papers which at once begins to mark, and continues to do so until the motion of the clock draws the inclined plane from the cistern arm, and so breaks the contact; the pen remains off the paper until, by the motion of the clock, the inclined plane is brought to touch the projecting cistern arm, when the pen at once begins to write. As the barometer, when the pressure increases, must draw the mercury for its increased height from the floating cistern, the cistern becomes lighter, and rises with it, and the smallest motion may be made sensible by altering the inclination of the moving inclined plane. The accuracy of the motion of this plane is secured by making it work on two fine steel points—the same motion, in fact, as that given to the cutter of a dividing engine. The cistern floats in a reservoir of mercury.

The pen is a syphon pen, supplied with *thin* ordinary writing ink.

H. C. RUSSELL

Sydney Observatory, Aug. 10

BEAUFORT'S WIND SCALE AND THE BOARD OF TRADE*

THE Board of Trade have recently issued instructions to Receivers of Wreck and Officers of Coastguard, with reference to Beaufort's Wind Scale, so that one uniform construction should, as far as possible, be placed upon the wind scale by them. In the Circular the following passage occurs:—

"The Board of Trade are led to think that different constructions are placed by different persons upon the scale known as Beaufort's scale. In illustration, it may be remarked that the higher forces, 11 and 12, are, as the Board learn from the Meteorological Committee, scarcely, if ever, reached in the British Isles. Force 12, which is intended to represent a West India hurricane, the velocity of which is 80 miles per hour and upwards, has been reached only twice in four years on the coasts of the United Kingdom; notwithstanding high winds prevailing at the time of a wreck are frequently described by the ships' officers as storms or hurricanes."

It is here taken for granted that the positions of the anemometers of the Meteorological Committee are such as to record observations of wind fairly comparable with those felt at sea; and also that the anemometers are constructed to record those velocities of the wind which are applicable to the case in hand.

It is not stated how the two instances of velocity of 80 per hour and upwards were ascertained. Since, however, the space traversed or recorded by the anemometers at the observatories of the Meteorological Committee can scarcely be measured for a shorter period of time than 15 minutes, it may be assumed that on two occasions, and only on two occasions during four years, have the anemometers been noted to record a velocity of 20 miles or upwards in 15 minutes—that is, a velocity at the rate of 80 miles an hour or upwards. If the tracings of the Hemispherical Cup Anemometer could be read off for so short a period as five minutes, many instances of 80 miles an hour, and even several velocities of 100 miles an hour and upwards, could be taken from the records of these four

* See Circular, No. 558.