SCIENTIFIC MUSEUM.

Heat of the Sun.

M. Secchi, of Rome, has made a series of photometric experiments on the disc of the sun, by means of a thermo-electric pile. He has found that the heat of the borders of the disc is nearly half that of the centre, which confirms, as regards radiation of heat, what was already known tor light and chemical action. But he observed further, that the heat was not the same at all points equi-distant from the centre; and that the place of maximum temperature was 3′ above the centre; the isothermal curves were a species of parabola. The sun's surface differs in temperature not only because of the absorption due to its atmosphere, but also from certain inherent differences in the surface itself. But M. Secchi also remarks that at the time of the observations, the 20th, 21st, and 23d of March, the solar equator was raised about 2′·6 above the centre, and hence the inferior part of the disc presented the south pole of the sun, while the north pole was concealed; and, moreover, the ascertained point of its greatest heat lies in the equator. The conclusion therefore follows that the equatorial regions of the sun are hotter than the polar. M. Secchi's observations did not extend to the spots of the sun; yet in a few trials they were found to produce a sensible diminution of temperature. He says that the prevalence of the spots about the equatorial region corresponds well with the view that this part is the hottest in the sun.

A Singular Freak of Nature.

The editor of the Charleston Mercury says that he was visited a few days since by a gentleman named R. H. Copeland, native of Lawrence District, S. C., but now residing in Hard Co., in that State, who presents in his peculiar organization a very remarkable natural phenomenon. His right arm, hand and leg, are infected in a manner as to exhibit in every movement the nature and motion of a snake. The arm affected is smaller than the other, its muscular developments different, sensation much less acute, and its actions altogether beyond the control of his will. The motion of the arm seemed to be impelled by a separate and distinct volition, or an instinct entirely its own. The character of the movement is shaped to a considerable extent, by external circumstances, at any sudden noise, startling appearance, or the like, the arm sometimes forms itself into a coil—the hand starting out from the coil as if in the act of striking, at other times the arms and hand have the movement of a snake under full headway making its escape, preserving the peculiar tortuous motion of the reptile. At such times the rapidity of the motion is truly astonishing. The action of the affected parts is continuous. The muscles are never at rest, though sometimes the action is less than at others. The right eye has a snakish look that is not seen in the left, and the formation of the teeth is very striking. On the left side of the mouth, both in the upper and lower jaw, the teeth are well formed and regular, while on the right side, above and below, they are extremely irregular and fang-like.

Mr. C. is now 46 years of age, and has been thus affected from the time of his birth. He is one of those curious cases which sometimes occur, in which the effects of intense fright with the parent are seen in the unnatural organization of the offspring.

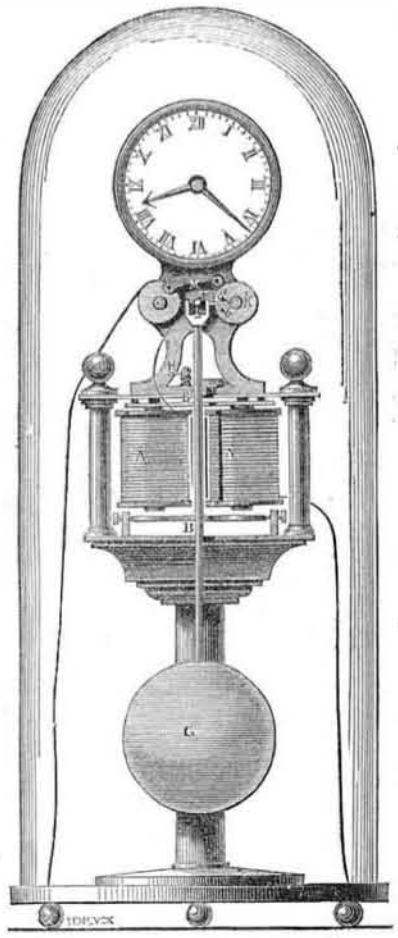
[This is about as good a snake story as any we have ever read.

Iceland Moss.

A lichen, occasionally employed in invalid-diet, to form a jelly which possesses certain tonic and nutritive properties. In the sterile island, whose name it bears, it is however an important article of food, as a substitute for wheat-flour. It is washed, dried in the sun, and reduced to powder, by stamping in strong bags, after which it only requires sifting to make it applicable to the ordinary purposes of meal or flour. The plant consists of upright leaves, of the peculiar membranous texture common to lichens; these are soft and pliant when moist, but rigid and brittle when dry. The organs of fructification are sprinkled over the exterior surface like small black warts, and the edges of the leaves are fringed with short hairs. The whole plant is smooth and shiny, and inclines to a reddish hue towards the roots.

Electro-Magnetic Clock.

FIG. 1.

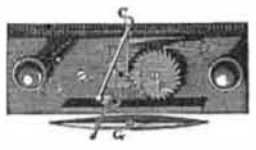


The accompanying engravings and description are translated from Gardisal's "L'Invention Journal," Paris. The inventors are C. Detouche and B. Gobert, of that city.

Figure 1 is an elevated section, and fig. 2 is a small transverse section, taken near the top. The same letters refer to like parts.

A A is an electro magnet; B is a movable piece, carrying the pendulum, G; this pendulum gives motion to the handle on which is fastened the spring, H, the end being so arranged, that at each revolution it strikes the rod thereby giving motion to the pendulum. The movable piece, B, is retained in its place by a spring, not shown. The pendulum rod, F, is fastened to the plate, J, by a piece of thin steel, which springs just enough to allow it to oscillate. On the top of the rod there is a small copper pin, the end of which plays between two small pins, *a b*, placed upon the wheel, *k*. The pin, *a*, is made of ivory, the one, *b*, of copper. Upon the wheel, *k*, there is

FIG. 2.



a small friction roller, M, to augment the friction of wheel, *k*, as it moves from right to left. The plate, J, and the axles of the wheels on each side, are isolated from their supporters by ivory. The pendulum receives a uniform motion as follows: An electric current is communicated by the magnet, A A, to the axles of the two wheels, and another current is communicated to the plate, J. When the small pin on the upper part of the pendulum rod comes in contact with the metallic pin, *b*, the electric circuit is closed, the magnetic action then takes place, the movable piece, B, is attracted and the pendulum throws the spring, H, backwards. Upon its return the pin on the top of the rod of G, comes in contact with the ivory pin, *a*, the circuit is broken, the magnetic force ceases to act, and the spring, I, fig. 2, drawing the movable piece, B, by the pendulum, the rod, D, forces the spring, H, to strike against the pallet of the escapement. This little shock, which is received at each oscillation of the pendulum, is sufficient to keep up a uniform movement. The uniformity of the movement does not depend upon the variation in power of the electric current. The electricity only attracts the piece, B, while the intensity of the shock depends upon the spring, I. A uniform movement once obtained, it is easy, by the ratchets connecting with the wheel, R, to transmit this movement to the hands on the dial, by the agency of an endless screw, placed upon the axis of the said wheel, and communicating with a toothed wheel upon the axle of the dial hands. To make the hands on the dial mark the hours, minutes, and seconds, it is only necessary to proportion the wheels to the office each has to perform. The electro magnet is imbued with electricity from a battery, by wires proceeding from the same. The first electro-magnetic clock ever produced in public, was the invention of A. Bain, who, in 1841, secured a patent for it, and it was the subject of a long controversy between him and Professor Wheatstone. Since that time many electric clocks have been constructed, and this is one of them. Recently it has been applied to clocks quite different in construction, however, by Prof. Bond, of Cambridge, Mass., and Dr. Lock, of Cincinnati, for recording the transit of stars.

Submarine Diving.

Mr. John H. Green, who is employed by Monsieur Maillefert to assist in raising the steamer Atlantic, has furnished the Buffalo Commercial with some interesting information respecting the experience of a diver, from which we extract the following:—

"The marine armor consists of a perfectly air tight india rubber dress, topped by a copper helmet with a clear, thick plate of glass in front. The pipes which supply and exhaust the air, lead from the top of this helmet. The pumping requires much labor—four and sometimes six men being employed upon it at the same time, and compelled to work hard at that. A great pressure of air is experienced by the diver upon his lungs equal to 75 lbs. to the inch, and very few individuals could bear it for any length of time. When first going into the dress, the sensation of oppression is very overcoming, but passes off in a great measure after entering the water. When a depth often feet is reached in the descent, the dress becomes entirely emptied of air and collapsed to the body, causing a pressure all over the diver equal to the heft of a ten pound weight, excepting as to the head, which is protected by the copper helmet. The difficulty in breathing now becomes great, and a painful sensation is experienced by the diver; the jaws becoming distended, and the head seemingly splitting.—This contiues until after descending another ten or twelve feet, when the pain is relieved, the diver feels comfortable, and experiences no further inconvenience. When about sixty feet below the surface, hundreds of the legitimate inhabitants of the water surround the diver, nibbling at their strange visitor as though he were 'food for the fishes.' After reaching seventy-five feet all is perfectly dark—a black, impenetrable darkness—and an electric flame plays around the inside of the helmet, caused by the friction of the pump. At about one hundred and sixty feet the water is very cold, being in the present season within four or five degrees of freezing.

Steamboats of the World.

According to the returns made to the Secretary of the Treasury, it appears that the steamboat tonnage connected with the American lakes, exceeds that of Great Britain and all her dependencies. The steamers on Lake Erie alone measure more tons than all the steamboats in Europe, Asia, and Africa, inclusive, provided you leave out those which belong to Great Britain. What a comment are such facts on the boundless resources of our soil, and the go-ahead tendency of our free institutions.—[N. Y. Tribune.

[The above is not correct. If any person will refer to page 189, Vol. 7, Scientific American, he will see a comparison made of the steam navies of America and Great Britain.

Freedom of Arabs from Leprosy.

M. Guyon, in a note to the Academy of Sciences, Paris, attributes the absence of leprosy among the Arabs to their living under the direct action of light and air in tents, while the Kabyles, who often suffer from this disease, live in fixed dwellings often more or less beneath the level of the earth's surface.

LITERARY NOTICES.

LITTELL'S LIVING AGE—Number 437 of this excellent work—the cream of foreign literature—commences a new volume. We have often spoken favorably of this weekly publication, but have rather understated than overstated its merits. We know of no literary publication in our land more instructive and entertaining. This number contains fifteen able articles, selected from the most eminent foreign reviews, magazines, and newspapers. It is for sale by Dewitt & Davenport, this city.

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ARTHUR'S HOME MAGAZINE—Is the title of a new monthly just commenced under the Editorial management of T. S. Arthur, so long and favorably known to the lovers of refined and elegant literature. The number before us is of rare interest and we doubt not of its success. Terms, $2 per annum. Each number will contain 80 pages. T. S. Arthur & Co., Philadelphia; H. Long & Bro., 43 Ann street, N. Y., agents.

GRAHAM'S MAGAZINE, for October, has been sent us by Dewitt & Davenport. It is a very fine number, and abounds in spirited engravings and able contributions

GODEY'S LADY'S BOOK, Edited by Mrs. Sarah J. Hale, and L. A. Godey. The October number is double; it contains splendid embellishments, and a fine array of able contributions from Hasting's Weld, T. S. Arthur, Mary Howitt, and others. Long & Bro., agent, 43 Ann st., N. D.

HEADS AND HEARTS, or, My Brother the Colonel, a new novel, just received, and published by Dewitt & Davenport, Tribune Buildings, price 50 cts.