Scientific Museum.

Concentrated Human Labor.

In late accounts from Europe, we have seen it stated, that R. Stephenson, the eminent engineer is now in Egypt for the purpose of reconstructing a new railroad there, which during his absence in Canada, had been laid down upon an embankment which proved altogether too low for the inundations of the Nile. The following is a very pithy description from one of Mr. Stephenson's speeches showing what can be done by concentrated labor:—

In connection with the Britannia Tubular Bridge, there were nearly two millions of cubic feet of masonry required; in three years the two millions of cubic feet of masonry were brought from the quarry and put together, and raised into a magnificent edifice. Three cubic feet of masonry were set every minute for twelve hours in each day, for three hundred days in a year, and for a continuous period of three years. He mentioned the circumstances in regard to the time in which so much work was performed by ingenuity in the application and use of tackle; but they must not overlook the fact that other things are brought to bear in other countries which nearly rival any thing that we can do as regards the amount of work done. A case of this kind came under his notice in Egypt; an embankment was to be constructed over the Delta of the Nile, extending over one hundred and forty miles, and in eighteen months the embankment, eight feet high, and twenty-five feet wide, was constructed, an operation which struck him as remarkable for the systematic application of human labor properly divided. This was done, too, in what was called a barbarous country; but he has never seen it excelled in any country, however civilized.

Effects of Luxury.

Luxurious habits will not, of course, engender crimes of turbulence or violence; will not become the parents of the rougher and fiercer vices; but, not the less, they may demoralize a man to his heart's core. They have an enervating and enfeebling influence; nay, it is an indisputable truth, though it may sound like a paradox, that, in aggravating his selfishness, they soften and harden a man at the same time. They soften him, as they render him more and more unable to endure privations or cope with difficulties, and as they bind him round with the roseate chains of self-indulgence; they harden him as they accustom him to live in a state of callous apathy with respect to the necessities and distresses of his fellow-creatures, and as they turn his face like a flint, against any appeal which may disturb his repose or offend his fastidiousness, which may give him trouble or demand of him effort and exertion; they make him a sickly Sybarite, neither resolute nor gentle; without vigor, and yet without tenderness.

The Source of the Arveiron.

I was advancing close to the glacier, to observe the source of the Arveiron, when the guide, David Coutet, came and earnestly called me back; he then pointed out a source of danger which I had not before observed. High upon the edge of the glacier lay numerous stones and rocks, some of them of large size, which might at any moment fall, with imminent danger to those below. I of course withdrew to a place of safety, where I could at my ease view the birth of the river. Above is an elegant crystal arch, which, when we saw it, was about twenty feet high; but in August this vault will be thirty or forty feet or more above the stream. It can then be entered, but not without serious danger, as the long and huge icicles and other masses frequently fall. Some years since, two young Englishmen who had entered the cavern, had the extreme temerity to fire a pistol there. The concussion, as might have been expected, brought down so much ice that one of them was killed, and the other severely wounded. The Arveiron, even at its exit from under the glacier, is a large and vigorous stream, turbid with the pulverised granite from the bed of the glacier. It rushes onward with great power.—[Silliman's Visit to Europe.

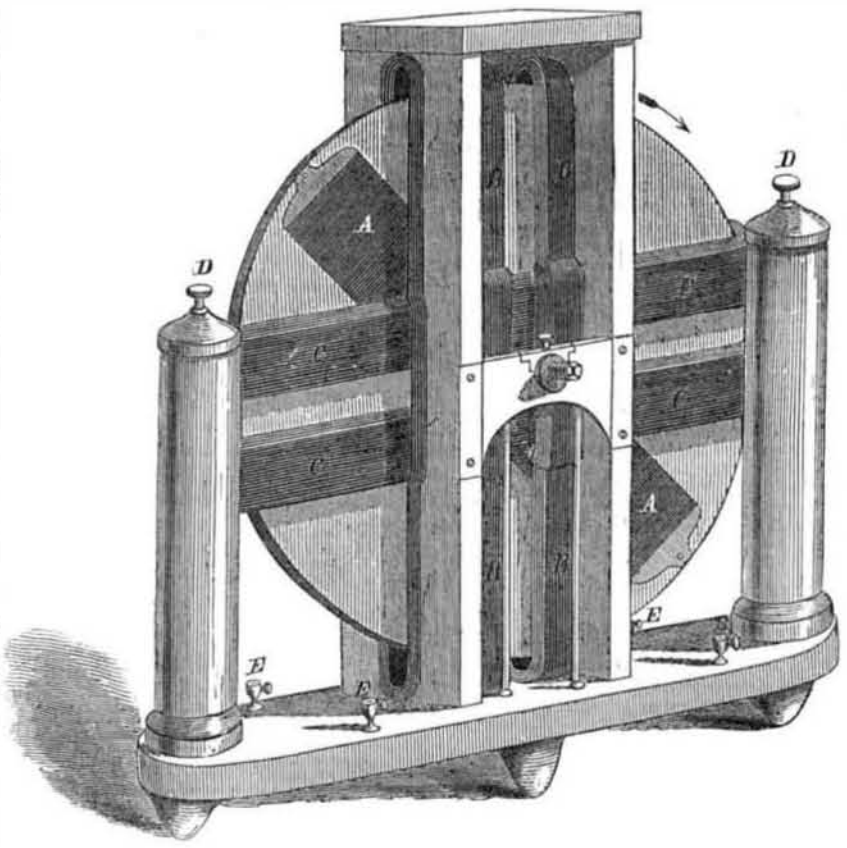
Captnre of a Sea Serpent.

The John O'Groat (Scotch) Journal gives a long descriptive account of a curious marine animal recently captured on the Caithness coast. It was of the species Gymnotrus Hawkenii, and is described as a creature of a snake-like form, sixteen feet in length covered with a long pendulous crest on the back of the head.

The ship Great Republic has been abandoned to the underwriters. It is uncertain what will be done with her. Capt. McKay has collected the insurance on her to the amount of $235,000.

Twenty locomotives for different Western roads have been detained at Erie.

VERGNES' ELECTRO-MAGNETIC ENGINE.



This machine is, in a measure, founded upon the same principle as a huge galvanometer, which instrument consists of a magnetic needle, suspended by its center of gravity within a lateral multiplying circuit. The slightest current of electricity effects the needle, by tending to place it at right angles to the coil. As this is the most sensitive of all instruments, should it not also be the most powerful? One difficulty in the way of using such a machine would arise from the fact, that after several revolutions, the current of the lateral coil, which runs in a contrary direction to the polarity of the magnet, would destroy its energy. On the other hand if an electric magnet is employed, and the current of the battery runs through the coil as well as the wire that excites the magnet, the effect is but feeble. In the machine of which the above is an engraving, Prof. Vergnes supposes he has avoided these two defects. A A, is the electro magnet enveloped by the wire to excite it, and forming the diameter of a wheel of wood. It revolves within the multiplying coils, B B, C C. These are two distinct coils; C C, C C, forming in fact but one, and B B, B B, the other, divided as they appear above, solely for the admission of the axle; they are alternately excited, so as to produce a rotary motion of the magnet A A, and the wheel. The great improvement in this machine is the employment of two distinct separate batteries, one communicating with the magnet, the other with the coils. By this, the magnet always retains its strength, and is not liable to be depolarized by the lateral current; in all positions its power remains the same. And the current of the lateral coils is always of equal volume. This machine, instead of being on the principle of the resistence of the passive current of the natural magnet, or of the current of one battery, upon itself, is on the principle of the resistance of two active currents of separate batteries, contending with each other. It follows of course, that by increasing the size of the machine and the strength of the current, the power must be at least proportionally increased, and Mr. Vergnes insists that it increases at a much greater ratio, than a direct proportion. The battery used by Mr. Vergnes requires neither platina nor nitric acid. He employs calcined coke placed in an earthen vase, surrounded by a cylinder of zinc, the whole immersed in a cylindrical vase of copper, and for acid, a mixture of peroxyd of manganese and sulphuric acids. By this arrangement the negative surface is extensive, and the zinc, although in limited quantities, radiates without losing a particle of its surface on the side of the coke. Mr. Vergnes calculates that in a machine of one horse power no more than sixty to sixty four cents worth of acid will be consumed daily.

Weighing Bodies by Submersion.

Messrs. Editors:—Reading in Dingler's "Polytechnic Journal" an article of which the following is a translation and extract, it struck me that, in connection with Mr. Griffith's article on the tunnage of ships, published in your valuable journal, it might be acceptable to your many thousand readers:—

"Professor Dove, author of a theory of storms, gives the following experiment as a beautiful and very demonstrative illustration of the hydrostatic law, that a floating body displaces as much water as it (the body) weighs. Fill a cylindrical glass vessel to a certain mark with water, and balance the filled glass on a pair of scales; empty the glass, put in a floating body, refill the glass to the same mark with water, the body floating in it, and the weight of the whole will not have changed. The floating body weighs evidently as much as the water, which formerly filled the place of its submerged part."

Dr. Fr. Mohr founded on this experiment a very easy method of ascertaining the specific gravity of solid bodies, which sink in water, by measurement. A. Zumbrock, M. D.

Philadelphia, Feb. 9, 1854.

Uses of the Beard.

There is in the crypt of Hythe Church, one of the Cinque Ports of England, a vast pile of human bones, which were gathered many years, after the battle fought on the sea shore, between the Danes and the Saxons, about 1000 years since, and amongst them are skulls of aged warriors, finely developed; the teeth in many of which are so perfect, so beautifully sound, and so firmly embedded in the sockets, that you cannot remove them. The owners of those teeth wore beards.—[Exchange.

[The author of the above, we can easily perceive has a hirsute lip and chin. Perhaps the teeth of the wives of those savage Danish and Saxon warriors, were just as good, as those of their Liege Lords.

The Iron Manufactures of the World.

The manufacture of iron in the world is divided as follows by the London Chronicle:—In Great Britian, 2,380,000 tons; United States, 400,000; France, 348,000; Russia, 189,000; Austria, 160,800; Sweeden, 132,500; Prussia, 112,000; making a total of 3,722,300 tons of iron manufactured annually. In 1850 there were 450 iron furnaces in Great Britain, and of the 2,380,000 tons which these produced, about 809,000 were exported. In 1796 but 125,000 were manufactured in Great Britain, and the total exports were about 408 tons. During the ten months ending November 5,1853, Great Britain exported $75,000,000 worth of Iron, and by far the largest portion of this enormous mass of exports was taken by the United States. Of pig iron the United States received 57,000 tons, and Holland, which comes next upon the list, took 13,000. Of bar, bolt and rod iron, the United States took 263,530 tons, or nearly six times as much as Canada, which received the next largest amount.

Portable Steam Engines for Planters.

The Charleston (S. C.) "Evening News" speaks very favorably of the portable steam engines manufactured in that city, by William Lebby. It says:—"The smallest size is three horse power, which, from its extreme lightness, may be drawn by a single horse, over roads upon a farm where it would be impracticable to take an engine of greater weight. The five horse engine may be drawn by two horses on a tolerably good road, and is chiefly used for thrashing. One of eight-horse power may be made available for many other purposes such as sawing, pumping, or for driving the whole of the barn implements of a plantation. On very large estates where more power may be required for driving mill-stones, sawing wood &c., a larger size can be furnished, but those already described are sufficient for all purposes to which they are likely to be adapted. The consumption of fuel varies, according to the power. The five horse engine consumes about a quarter of a cord of wood per day.

These engines are made of the best materials, and are very useful for planters."