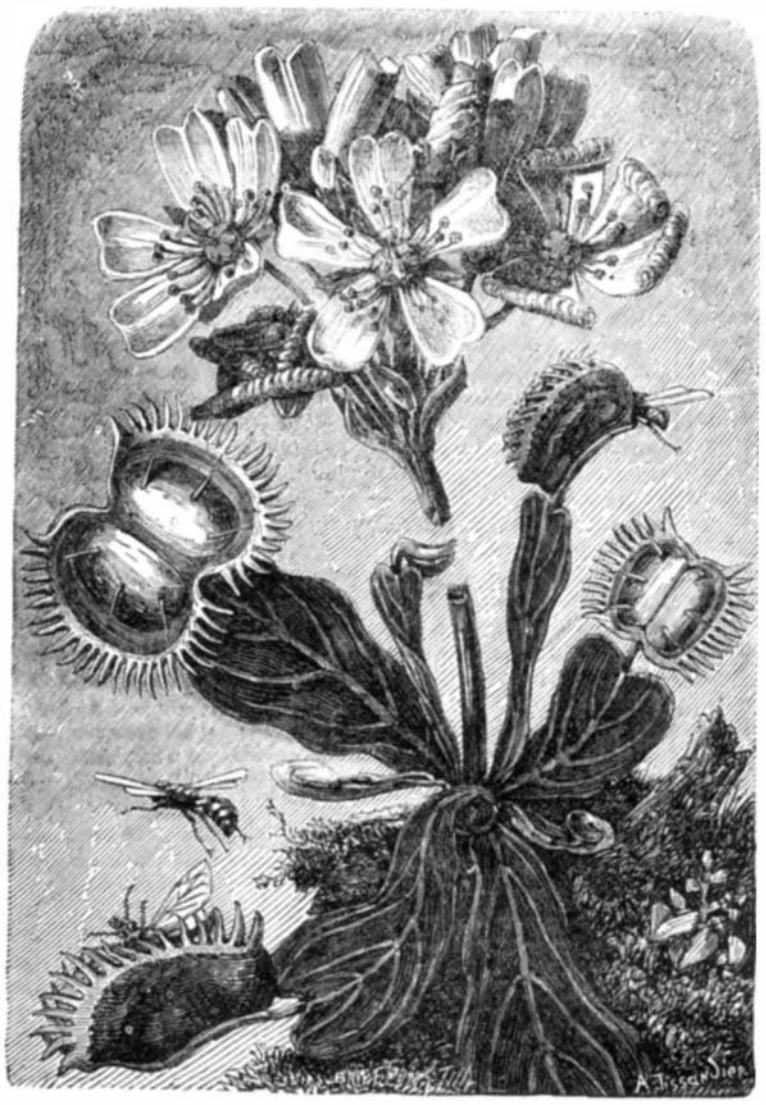
ELECTRIC PHENOMENA OF THE LEAVES OF THE FLY CATCHER.

The *dionæa muscipula* or fly catcher is one of the most curious examples known of a vegetable gifted with motion. The leaves of this plant, which are shown in the annexed engraving, for which we are indebted to *La Nature*, are terminated by a limb which carries two concave plates or valves united by a kind of hinge. If an imprudent fly venture to rest upon the inner surface of this trap, the plates, the minute bristles upon which become irritated by the presence of a foreign body, suddenly snap together like the covers of a book quickly closed. If the insect struggles, the portions adhere more closely, holding him prisoner until he dies or until, tired out, he remains motionless. Then the plates slowly open, ready to close again, however, on the least movement of the fly. If this does not take place, the trap allows its victim to fall out and remains set for new prey.

Professor Burdon Sanderson, of the Royal Society, has recently made some interesting investigations into the electric condition of this singular plant, proving that its movements are due almost entirely to electrical circumstances. By connecting sometimes the limb and sometimes the petiole of a living leaf with the circuit of a galvanometer, two permanent currents have been discovered, acting in contrary directions, one passing through the limb from base to apex, and the other directed from the base of the limb to the base of the petiole. The experiments of Professor Sanderson throw considerable light on phenomena heretofore very obscure. The peculiar movements of vegetables, it may be considered as established, result from changes in tension produced in the tissues, either spontaneously or accidentally. The tensions are due to the unequal turgescence of the cellules, the surfaces of which either absorb the water which surrounds them or else abandon it, by virtue of a special property of their substance under the influence of physical forces, such as light, heat, and without doubt electricity. The most recent researches, for example, show that the drooping and the erection of the leaves of the sensitive plant result from a displacement of the water which swells alternately the superior and inferior vessels of the base of the petioles.



THE FLY-CATCHING PLANT.

The Samuel Owen Centenary.

The hundredth anniversary of the birthday of Samuel Owen, May 13 last, was made the occasion of a public celebration in Stockholm. To Owen is due the credit of first instructing the Swedes in the use of their native iron, and he is now termed the father of Swedish steam navigation.

Leaving England with but one hundred pounds sterling, Owen established a manufactory at Kungsholmen and devoted himself to teaching his workmen not only to improve their labor but their lives. Hearing of Fulton's successes with steam navigation in America, he began researches into the same subject, which, it is said, led him in 1815 to the discovery of the screw propeller. He did not, however, prosecute his experiments in that direction, having neither time nor money, but continued labor in his factory, from which, up to 1843, when the works were closed, thirty steamboats, two of which were of iron, were produced. He died on February 15, 1854.

Professor Edlund, of the Stockholm Academy of Sciences, read an account of his life and services and pronounced a fitting eulogy, and subsequently a monument, bearing a fine bust of Owen, erected by the ironmasters of Sweden, was unveiled.

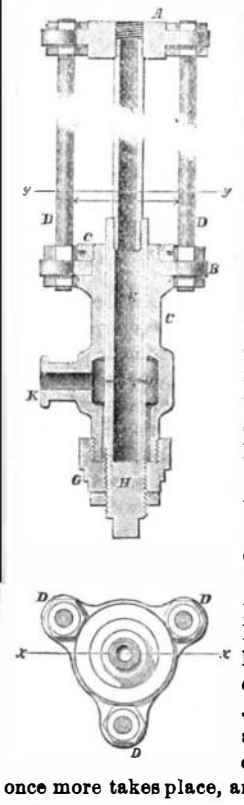
The Fort St. Philip Canal.

A bill has lately passed the House of Representatives which provides for a canal two hundred feet deep at the bottom, and twenty-five feet deep, to form a permanent highway from the Mississippi river to the Gulf of Mexico. The work is to be constructed by the United States, to be free to all nations, to be completed within three years, and to cost not more than eight millions of dollars.

For many years past, all the efforts which have been made to keep open the channels through which the great river empties into the Gulf have been attended with failure. As far back as 1837, extensive dredging was attempted but abandoned as unavailing, and in 1852 jetties were put down at the mouth of Southwest Pass, and another trial of deepening made, the results of which work, however, completely disappeared within the four years subsequent. Latterly steam dredging boats have been employed, rendering the river mouths practicable at times for large vessels, but not effecting the opening of the permanent channels for which the large commerce of New Orleans is now suffering. The present proposed canal, which is to extend a distance of six and a half miles, from the left bank of the Mississippi below Fort St. Philip to a point four miles south of Breton Island, was projected by Benjamin Buisson some forty years ago. The plan was favorably regarded by Congress and several surveys were made of the route, up to the beginning of the war, which put a stop to further proceedings. At the present time, the urgent necessity for the work has been brought to the notice of Congress, and it seems probable that it will before long be begun. The canal will form an outlet for the great region drained by the Mississippi, covering some 750,000 square miles and producing yearly a billion of bushels of cereals; and its construction will tend greatly to the speedy development of the commerce of New Orleans and the adjoining country.

BONSER'S PATENT STEAM TRAP.

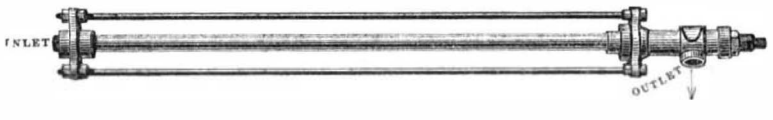
Absence of floats, disks, and levers, thus avoiding lost motion, a positive operation, simplicity, and durability, are the advantages claimed for the improved steam trap represented in vertical section, horizontal section, and in perspective, in the annexed engravings.



At the top of the instrument is a triangular head, A, and a similar triangular plate, B, is screwed to the cylinder, C, by the nut, *c*. These plates are held together by means of three rods, D, which are provided with screw nuts. Within the cylinder, C, is a tube, E, to which is attached a second tube, F, screwed in the triangular head. These tubes are of copper or other suitable metal. H is a tubular spindle, held in cylinder, C, by the thimble nut, G, and its upper end with the lower extremity of tube, E, both being flat square surfaces, form a joint, J, surrounded by the chamber, I, which chamber is in communication with the outlet pipe, K.

The water of condensation enters tubes, E and F, and is discharged between the ends of tube and spindle and thence out of the pipe, K. Steam then enters and takes the place of the water, when the tubes, E and F, will expand downward in length from the head piece, A, sufficiently to close the aperture in joint. J. When water again accumulates and becomes cold, the tubes (or one of them) contract and a discharge once more takes place, and so on indefinitely.

The thimble nut, G, allows the tubular spindle, H, to be adjusted with great nicety, so that the joint, J, will close when the tube contains steam and open when it contains water or when the temperature falls.



It will be seen that the instrument, when properly adjusted, is governed by the degree of temperature. Its operation will be the same if steam enters only tube, F.

For further particulars address the inventor, Mr. S. Bonser, Dover, N. H. The patent is offered for sale on reasonable terms.

The King of Siam's Dinner Service.

A superb service of silver plate, of the total value of $50,000, and weighing 15,000 ounces, has just been manufactured by the eminent firm of Messrs. Elkington & Co., Birmingham, England, and which exemplifies, in a high degree, the great perfection in taste, design, and workmanship to which the art of the silversmith is carried. It is a state dinner service, made to order for the King of Siam, and is, in every respect, well fitted to grace a royal table. It is, of course, solid silver throughout, and consists of a large number of pieces, being intended to dine about sixty persons in state. Conspicuous among the others is the principal centerpiece, a splendid and massive piece of workmanship. It is nearly four feet high, and the design is that of a three-headed elephant—a symbol of the Siamese religion—standing upon a plateau, and bearing on its back a castle, above which is a double vase with a tower-shaped stem. The trappings of the elephant are of delicate gold work, and gold tassels depend from the ears. Though the idea of gracefulness, in conjunction with a three headed monster, might seem rather difficult to conceive, the heads are so arranged as to detract in no degree from the appearance of the figure. Standing in front, just under the heads, are two keepers in martial attire, each with a long staff, from the top of which projects the national flag of Siam. This piece, which weighs 700 ounces, bears in three places the coat of arms of the King, in high relief and richly molded and chased. There are fourteen other centerpieces of smaller size, but all of the same design as the principal one. Six four light candelabra, of palm tree design, with a three-headed elephant standing under each, will help to illumine the royal banquet whenever the service is used; and among the other pieces which compose the set are six wine coolers, six large hot water dishes and covers, six rice dishes, six oval *entrée* dishes, twelve bread baskets, eight sauce tureens, six cruet frames, four large oval trays 28 inches long, and four salvers of smaller size, and about 150 dozen of spoons and forks.

The design is Oriental, and an elephant with one head forms the handle of each of the dish, tureen, and other covers. Every piece has also carved upon it the King's coat of arms and his name in a monogram.—*Ironmonger.*

Hydrophobia.

The Board of Health of this city, referring to an ordnance requiring dogs to be muzzled during the hot months, state that hydrophobia is imparted only by inoculation and that a rabid animal may give the disease through a metallic muzzle as easily as if the obstruction did not exist. Hydrophobia occurs in the coldest as well as in the hottest weather, and with perhaps greatest frequency during the spring months. Male dogs are more apt to be affected than females, and the condition of the animal, whether household pet or vagrant, has no influence on the taking of the malady. Owing to a portion of the deadly saliva being retained by the clothes of the person bitten, it is found that only five to twenty per cent of those thus injured become inoculated. An eminent veterinary surgeon, of this city, gives the following symptoms by which the approach of rabies in the dog may be recognized. When the period of inoculation is passed (three to seven weeks), the animal becomes restless and watchful. It shuns the light and its bark changes to a kind of a howl. The skin shrinks and tightens, the head is depressed, and mucus appears at the mouth and nostrils. Nervous symptoms are very prominent, and the whole aspect of the animal denotes an unusual condition. Dogs or cats thus suffering should be immediately destroyed.

In the wholesale crusade against the dogs which has just begun in this city, carbonic acid gas is for the first time used as a means of destruction. The old plan was to place the unclaimed animals in a huge vat and pump in water until they were drowned. The present idea is a large chamber, into which forty curs at once are placed, and there kept until a plentiful supply of the deadly gas ensures their death.

Evaporation instead of Ice.

Ice threatens to be an expensive luxury this summer, and many persons will doubtless be obliged to dispense with its use. In the country, where water may be drawn cold from the well or the spring, and a clean cool cellar or dairy preserves the food fresh, it is not so much missed, but even there water and butter cannot remain many minutes, in the temperature of the eating room, without losing their agreeable qualities. Several thicknesses of wet cloths, wrapped about the pitcher, will, by evaporation, keep the water tolerable. A common flower pot, inverted over a plate of butter, and kept covered in the same way, with wet cloths, will keep butter in that state of solidity which is essential to its attractiveness.

If proper provision is made for expansion, portable engines can be made quite as durable as stationary engines.