A NOVEL ENGINE REGULATOR.

The accompanying engraving represents two different styles of regulator, invented by Mr. Stenberg, in which the effect of centrifugal force is utilized. In a vessel, A, of parabolic shape is placed a disk, C, which floats on glycerine contained by the vessel, and is attached to the walls of the vessel by an annular membrane, so that it may rise and fall in a vertical direction as the glycerine is carried with more or less force toward the edge of the vessel by centrifugal action. The inner surface of the vessel, A, is provided with radial grooves, by which the rotary motion of the vessel is communicated to the glycerine. To the center of the disk, C, is attached a vertical rod, which extends downward through the hollow shaft and is connected with governor valve. An increase of speed throws the glycerine toward the periphery of the valve, and, raising the disk, C, closes the steam valve; a diminution of speed permits the glycerine to fall back, when the disk descends and the valve opens.

The disk, C, has a small aperture for the admission and escape of air, and the apparatus is adjusted by pouring lead into the groove in the disk.

The regulator shown in Fig. 2 operates upon the same principle, but it is adjusted by means of a spring.

This apparatus is manufactured by Blancke Bros., Magdeburg.—*Musée de l'Industrie.*

A Strange People.

Botel Tobago is an island in the South Seas which has lately been visited by a party of United States naval officers. They were surveying a rock east of the South Cape of Formosa, and called at this island. They found a curious race of Malay stock. These aborigines did not know what money was good for. Nor had they ever used tobacco or rum. They gave the officers goats and pigs for tin pots and brass buttons, and hung around the vessel all day in their canoes waiting for a chance to dive for something which might be thrown overboard. They wore clouts only, ate taro and yams, and had axes, spears, and knives made of common iron. Their canoes were made without nails, and were ornamented with geometrical lines. They wore the beards of goats and small shells as ornaments.

Such is the account of these strange people given by Dr. Siegfried, in a letter read at the last meeting of the Philadelphia Academy of Natural Sciences.

REMEDY FOR THE NEW CARPET BEETLE.

Noticing a statement made by Mr. J. A. Lintner, to the effect that the Persian insect powder would probably prove unavailing as a remedy against the ravages of the new carpet beetle (*Anthrenus*), W. L. Carpenter, of the U.S.A., was led to institute some experiments with this well known insecticide, the results of which he communicates to the current number of the *Naturalist.* A small quantity of the powder was introduced, on the point of a penknife, under a tumbler beneath which various insects were consecutively confined. The movements of the insects brought them in contact with the poison, which readily adhered to their body; in endeavoring to remove it from their appendages a few particles would be carried to the mouth and thence to the stomach, with fatal effect. The results were briefly thus: A honey bee became helpless in 15 minutes; a mad wasp in 8 minutes; a small ant in 5 minutes; a large butterfly resisted the effects for over an hour, and apparently recovered, but died the next day; a house-fly became helpless in 10 minutes; a mosquito in 15; and a flea in 3 minutes. In experimenting on beetles, an insect was secured as nearly the size of the carpet beetle as could be found. It was easily affected, and became helpless in 12 minutes.

In these, and experiments with various other insects, the scent from the powder did not produce any bad effect on those subjected to its odor where actual contact was not possible; but when carried to the mandibles the effect was to produce complete paralysis of the motor nerves. The experiments prove that all insects having open mouth parts are peculiarly susceptible to this popular insecticide. As a result, the writer does not hesitate to recommend the powder to housekeepers as an infallible agent in destroying the carpet beetle and preventing its ravages. The Persian insect powder liberally sprinkled upon the floor before putting down a carpet, and afterward freely placed around the edges, and never swept away, will suffice to preserve a large sized carpet. No ill effects from its use need be feared by the householder, since the drug is poisonous to no kinds of animals except insects.

Banana Flour.

The banana has recently found a new use in Venezuela. It has the property of keeping the soil moist round it, in a country where sometimes no rain falls for months; so it has been employed to give freshness, as well as shade, to the coffee plant, whose cultivation has been greatly extended (Venezuela produced 38,000,000 kilogrammes of coffee in 1876). The Venezuelans can consume but little of the banana fruit thus furnished, so that attention is being given to increasing its value as an export. At the Paris Exhibition were samples of banana flour (got by drying and pulverizing the fruit before maturity) and brandy (from the ripe fruit) The flour has been analyzed by MM. Marcano and Muntz. It contains 66·1 per cent of starch, and only 2·9 of azotized matter.

NEW STENCIL PEN.

The accompanying engraving shows new form of stencil pen invented by Mr. J. W. Brickenridge, of La Fayette, Ind. In Fig. 1 the entire apparatus is shown in perspective; Fig.

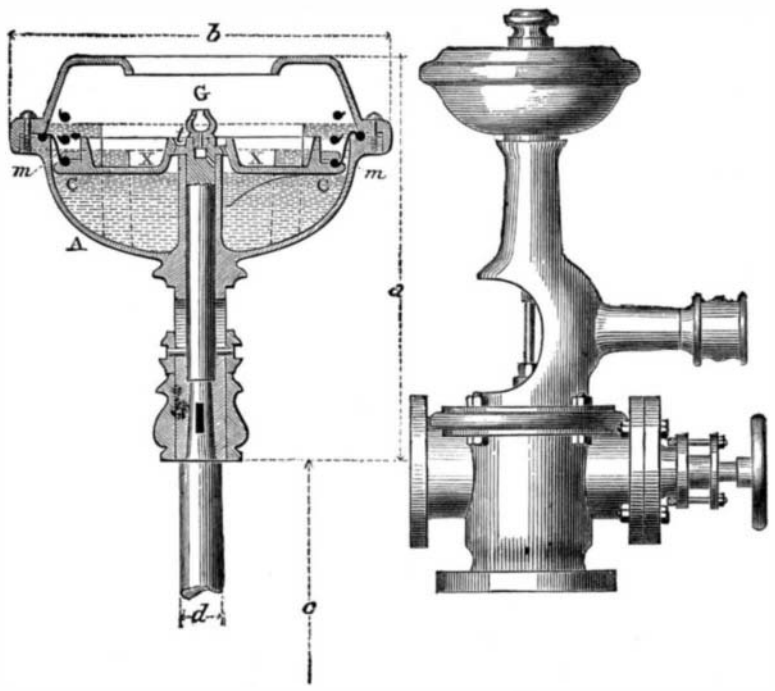
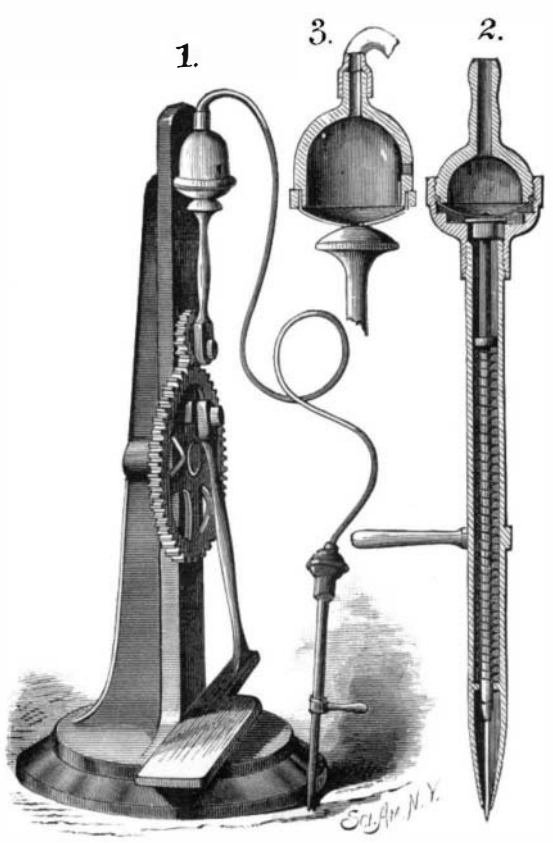


Fig. 1 Fig. 2.

STENBERG REGULATOR.

2 is a longitudinal section of the pen; and Fig. 3 is a vertical section of a portion of the driving apparatus. In this instrument compressed air is used as a motive force for driving the perforating needle. The inverted cup, shown in detail in Fig. 3, has its mouth closed with a flexible diaphragm, which is vibrated rapidly by a pitman having a convex end attached by its center to the middle of the diaphragm. The pitman is reciprocated by a simple treadle motion, which will be readily understood by reference to Fig. 1.

The cup has a small aperture covered by a valve to admit of the entrance of air when the diaphragm is drawn down. The pen, shown in detail in Fig. 2, has a cup and flexible diaphragm similar to the one already described. The diaphragm rests upon the enlarged end of a bar which carries at its lower end a perforating needle. The pen is connected with



BRICKENRIDGE'S PNEUMATIC STENCIL PEN.

the driving mechanism by a flexible tube. The needle bar is pressed lightly against the diaphragm by a spiral spring.

When the treadle motion is operated the impelling diaphragm is rapidly vibrated, and through the medium of the air contained in the flexible tube it communicates motion to the pen diaphragm and consequently to the needle bar and needle. If, while the needle is reciprocated in this way, the pen is moved over the surface of the paper, a line of fine perforations will be made. With this instrument stencils may be made for making multiplied copies of maps, drawings, and manuscripts.

Origin and Progress of Ocean Telegraphy.

At the celebration in this city of the twenty-fifth anniversary of the formation of the company for laying the first Atlantic cable, Monday, March 10, the projector of the enterprise, Mr. Cyrus W. Field, spoke as follows:

NEIGHBORS AND FRIENDS: Twenty-five years ago this evening, in this house, in this room, and on this table, and at this very hour, was signed the agreement to form the New York, Newfoundland and London Telegraph Company—the first company ever formed to lay an ocean cable. It was signed by five persons, four of whom —Peter Cooper, Moses Taylor, Marshall O. Roberts, and myself—are here to-night. The fifth, Mr. Chandler White, died two years after, and his place was taken by Mr. Wilson G. Hunt, who is also present. Of my associates, it is to be said to their honor—as might have been expected from men of their high position and character—that they stood by the undertaking manfully for twelve long years, through discouragements such as nobody knows but themselves. Those who applaud our success know little through what struggles it was obtained. One disappointment followed another, till "hope deferred made the heart sick." We had little help from outside, for few had any faith in our enterprise. But not a man deserted the ship: all stood by it to the end. My brother Dudley is also here, who, as the counsel of the company, was present at the signing of the agreement, and went with Mr. White and myself the week after to Newfoundland, to obtain the charter, and was our legal adviser through those anxious and troubled years, when success seemed very doubtful. At St. John's the first man to give us a hearty welcome, and who aided us in obtaining our charter, was Mr. Edward M. Archibald, then Prime Minister of Newfoundland, and now for more than twenty years the honored representative of Her Majesty's Government at this port, who is also here to-night. It is a matter for grateful acknowledgment that we were spared to see accomplished the work that we began; and that we meet now, at the end of a quarter of a century, to look with wonder at what has been wrought since in other parts of the world.

Our little company came into existence only a few weeks before the Western Union Telegraph Company, which is entitled to share in our congratulations, and has kindly brought a connecting wire into this room, by which we can this evening communicate with every town and village from the Atlantic to the Pacific; and by our sea cables, with Europe, Asia, Africa, Australia, New Zealand, the West Indies, and South America. While our small circle has been broken by death but once, very different has it been with the Atlantic Telegraph Company, which was formed in London in 1855, to extend our line across the ocean. At its beginning there were eighteen English and twelve American directors, thirty in all, of whom twenty-nine have either died or retired from the board. I alone still remain one of the directors.

Many of the great men of science on both sides of the Atlantic, who inspired us by their knowledge and their enthusiasm, have passed away. We have lost Bache, whose Coast Survey mapped out the whole line of the American shores; and Maury, who first taught us to find a path through the depths of the seas; and Berryman, who sounded across the Atlantic; and Morse; and last, but not least, Henry. Across the water we miss some who did as much as any men in their generation to make the name of England great—Faraday and Wheatstone, Stephenson and Brunel—all of whom gave us freely of their invaluable counsel, refusing all compensation, because of the interest which they felt in the solution of a great problem of science and engineering skill. It is a proud satisfaction to remember that while the two Governments aided us so generously with their ships, making surveys of the ocean, and even carrying our cables in the first expeditions, such men as these gave their support to an enterprise which was to unite the two countries, and in the end to bring the whole world together.

Others there are, among the living and the dead, to whom we are under great obligations. But I cannot repeat the long roll of illustrious names. Yet I must pay a passing tribute to one who was my friend, as he was the steadfast friend of my country—Richard Cobden. He was one of the first to look forward with the eye of faith to what has since come to pass. As long ago as 1851 he had a sort of prophet's dream that the ocean might yet be crossed, and advised Prince Albert to devote the profits of the great London Exhibition of that year to an attempt thus to unite England with America. He did not live to see his dream fulfilled.

But though men die, their works, their discoveries, and their inventions live. From that small beginning under this roof, arose an art till then scarcely known, that of telegraphing through the depths of the sea. Twenty-five years ago there was not an ocean cable in the world. A few short lines had been laid across the channel from England to the Continent, but all were in shallow water. Even science hardly dared to conceive of the possibility of sending human intelligence through the abysses of the ocean. But when we struck out to cross the Atlantic, we had to lay a cable over 2,000 miles long, in water over 2 miles deep. That great success gave an immense impulse to submarine telegraphy