

## LABOR-SAVING MACHINES FOR RESTAURANTS.

In the accompanying engravings (for which we are indebted to *La Nature*) are represented two labor-saving machines, invented by Mr. Eugene Daguin, and used in one of the largest restaurants in Paris. The first (Fig. 1) is a machine for washing dishes automatically. It consists of a circular tank divided into two compartments, so as to form on one side a vessel of boiling hot water, and, on the other, one of running cold water. The machine is provided with eight supports or artificial hands for holding the dishes to be washed. These supports revolve around a central axis, and, through the intermedium of wheels, run over an undulating track. By this means the dirty dish, as it passes through the hot water, is given a motion that helps to remove the melted grease. The plate is finally thoroughly cleaned by the action of two brushes, between which it passes, and which rub it vigorously upon the top, bottom, and edges. After this it emerges from the hot water, and dips into cold water which is continuously renewed. Here it is given the same motions as in the hot water, and finally emerges and presents itself to the right hand of the operator, who has only to remove it and place it in a drainer, from whence it is taken by the wiper.

One of the features of this machine is its compact and simple construction.

It contains not a gearing through which an inexperienced person could be harmed. It is easily cleaned, and the supports can be turned up when the machine is not in use, so that the vessels of boiling and cold water can be used for other purposes.

The other machine (Fig. 2) is designed for washing bottles. The city water is led into the reservoirs, A and B (Fig. 3). The former of these supplies the water for the outside, and the latter for the inside of the bottles. The engine gives the bottle a rotary speed of 300 revolutions per minute. Every part of the bottle passes 180 times over fixed brushes, which clean it externally and internally with cold water. The waste water falls into the receptacle, C, whence it flows out through the aperture, D.

The motive power that actuates the machine, which is very distant from the gas motor, is a small Gramme dynamo of type No. 3.

The machine is easily taken apart, and when the brushes are worn out they can be replaced without difficulty. The internal brushes which rub the bottle on every part—the sides as well as the bottom—are mounted upon a semi-flexible rubber rod. The external brushes are held vertically against the bottle.

## A Chance for American Sugar Machinery.

A New Orleans correspondent, long a resident of one of the Antilles, writes us as to the want of energy of American houses in improving what he considers most excellent opportunities for extending trade among these small but extremely fertile islands. He states that in Martinique alone there are thirty-two sugar refineries, using French and English machinery, one built at a cost of \$1,200,000, and the others at prices varying from \$600,000 to \$1,000,000, the largest with a capacity of forty tons of sugar and sixteen barrels of molasses per day. Our correspondent compares this efficiency with that of American machinery in use in Louisiana, where he states that one plant recently put in operation yields 40 tons of sugar and 52 barrels of molasses per day, while its

whole cost was only \$62,000. The comparative excess of molasses is due to the less ripe and rich sugar cane here as compared with that of the West Indies. It would certainly seem that here was an opportunity for American manufacturers of sugar making machinery.

## Alaska.

Four expeditions have been sent to Alaska within two years, and have succeeded in giving us a knowledge of

Inlet, south of the Yukon. With two men and a dingy and ten days' provisions he explored it fifty miles, and found it could be navigated by large steamers for that distance. Last year he explored the river—named Putnam River, in honor of the young officer of the Rodgers who was lost on the ice near Siberia—for nearly 400 miles, and the present expedition is to continue the work. The river, he thinks, will rank among the great rivers of the world; numerous streams flow into it, and it is surrounded by dense forests of spruce and pine and birch, and by a general richness of vegetation unlooked for in so high a latitude.

The Putnam is not so great a river, however, as the Yukon, which Lieut. Schwatka explored in 1883 for 1,800 miles. He crossed the country 150 miles from Sitka in May, to the headwaters of the Yukon, where he built a raft and floated down the stream, through marshes, deep lakes, and great canons, where the water sometimes rushed for five miles between huge basaltic cliffs. The Yukon "is so long," says Lieut. Schwatka, "that if its source were at Salt Lake, its waters might empty into New York Bay, and its mouth is so wide that New York would be on one side and Philadelphia on the other." Another expedition, under Lieut. Abercrombie, attempted last summer to explore the Copper River, which is from 400 to 500 miles long, but did not penetrate it far.

Of the wisdom and utility of these explorations there can be no question. Alaska is not ice-bound the year through; steamers can get to Point Barrow, the northernmost land, at almost any time, and sailing vessels can reach it in ordinary summer weather. We know the country almost for its fisheries alone; its immense and almost inexhaustible tracts of timber are scarcely touched, and its mineral wealth is almost a matter of speculation. The research should be exhaustive and more distinctly scientific than it has been; and it is pre-eminently a government work—*Globe-Democrat*.

## Underground Electrical Conduits.

The Electric Underground Conduit Company have recently exhibited a new system of conduits in which each wire passes through a separate paper tube, a quarter of an inch in diameter. This tubing is surrounded by double layers of silvered paper to prevent interference from induction, and supported by perforated partitions in wooden boxes. The surrounding space is filled with an insulating asphaltum compound. Each wire terminates at the stations in a separate binding screw, thus forming an independent connection throughout the entire system. This construction presents a decided advantage in case of accident, or where several companies use the same conduit.

An experienced foreman, who has an eye for philosophy, says that tools apparently partake of the temper of those who use them. A short grained man has nicked bits; the impetuous man, broken ones; the lazy man, dull ones; the careless man, badly dressed ones; the man with one idea, one dress for all kinds of work; the soft man can rarely keep the edge of a tool from turning, while the

good natured and even tempered man has the best tools in the shop, and is pestered continually by ill-tempered workmen who come to borrow from him whenever they have a particular piece of work to do. It is quite interesting to note the similarity in the temper of workmen and their tools.

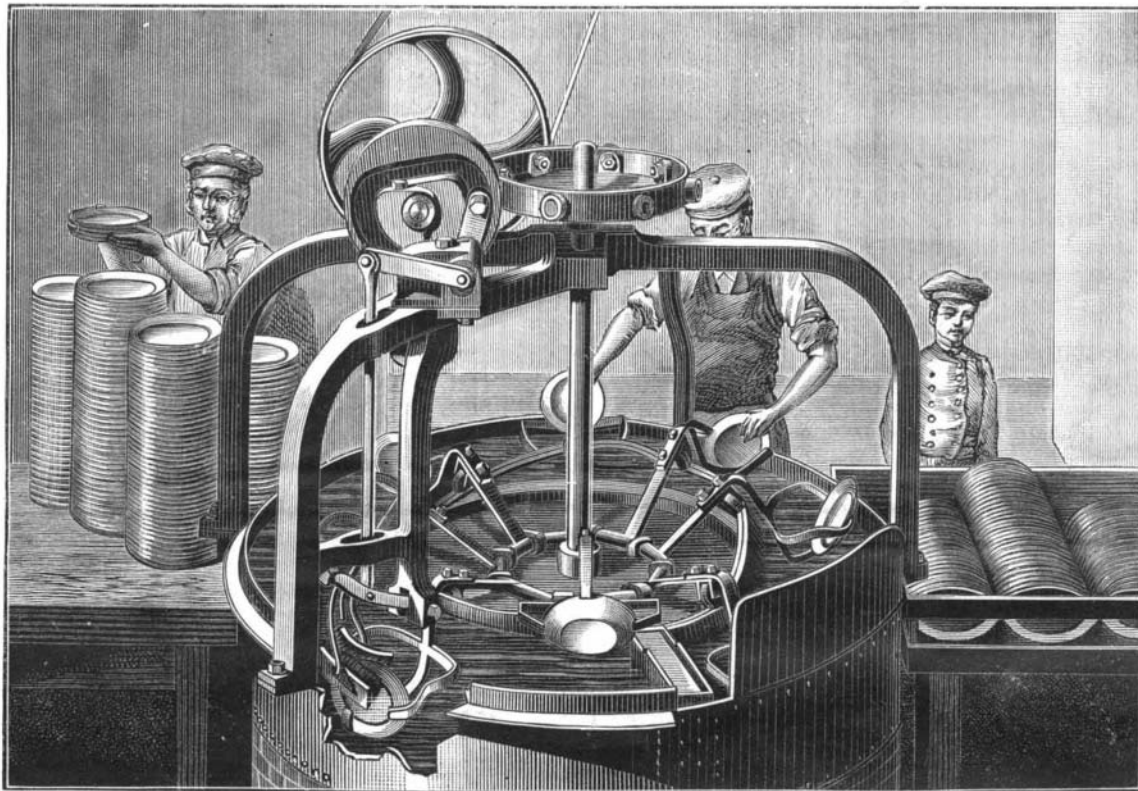


Fig. 1.—MACHINE FOR WASHING DISHES.

the magnitude and possibilities of that once despised possession, which is inspiring lofty dreams of national and private wealth. Its fisheries have returned the government an interest of nearly five per cent a year on the \$7,200,000 which Secretary Seward paid Russia for Alaska in 1867, as a delicate acknowledgment of our gratitude for that nation's firm friendship during the rebellion, and now it is found that the possession which we then did not want especially contains vast rivers, mountains, forests, and mines of undreamed of riches. Private companies are contemplating the exploration of the country; there are rumors that they are already being carried on in secret and for dishonest purposes; while a fifth government expedition is nearly ready to sail from San Francisco under the command of Lieut. George M. Stoney.

This young officer has already headed two expedi-

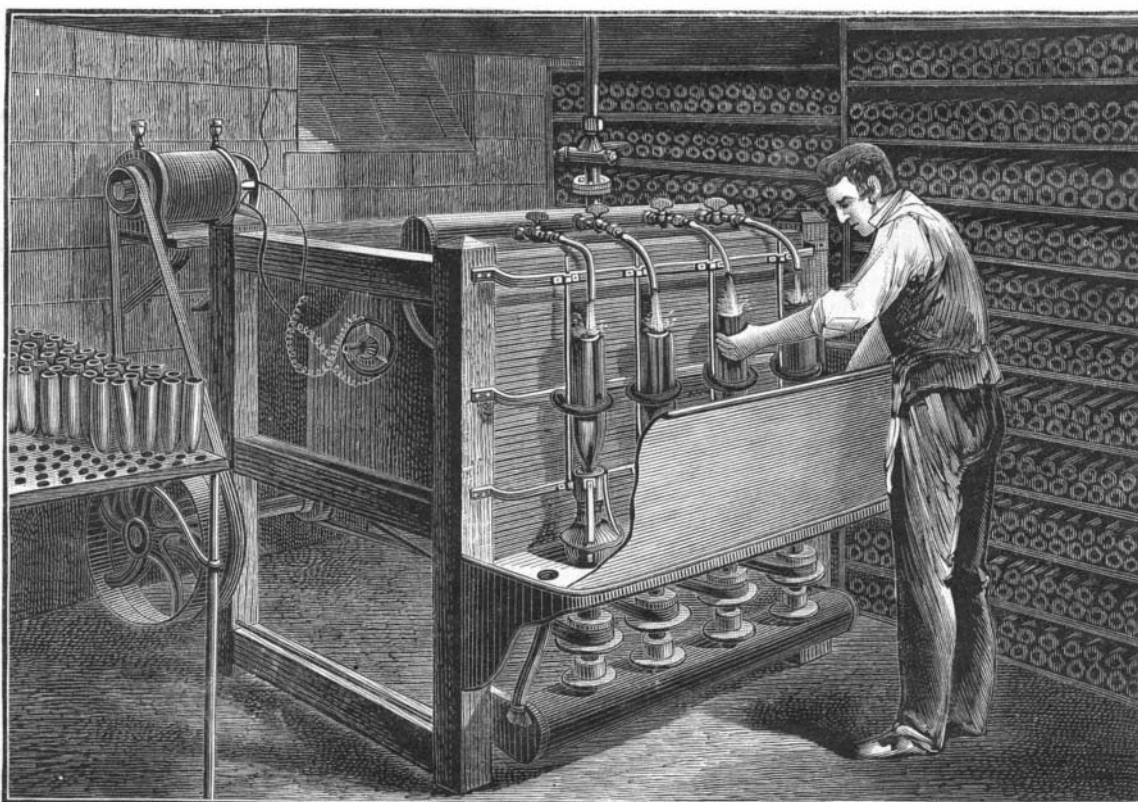


Fig. 2.—MACHINE FOR WASHING BOTTLES.

tions to Alaska. He was one of the Rodgers party, who after the burning of that steamer were greatly aided in their retreat southward by the Tschoutche Indians of Alaska. The government sent him back in 1883 with presents for these Indians, and while with them he heard of a great river that emptied itself into Hotham