The Megaphone in War.

The "megaphone," the modern speaking trumpet, has played an important part in the present war. The navy have been using the megaphone only about a year, and already it has been regarded as a necessary adjunct on every ship. The standard size is about 2½ feet long, and the large end is about 15 inches in diameter. It has a light handle and an aluminum mouthpiece. The smaller craft only carry one, but the larger vessels have a number. Thus, the flagship "New York" has one on the bridge, one on the signal bridge, and one on the quarter deck. In the old days, the officer of the deck used the speaking trumpet, and they were often as elaborate as those owned by volunteer firemen. On sailing vessels, in a storm, the voice will not carry from the quarter deck to the foremast head, nor can it be heard to windward of a large sail, so that a speaking trumpet is always kept at hand. They were small and convenient, but are inferior to the modern megaphone. Every inflection of the voice is magnified by the megaphone to wonderful degree, and the sounds may be heard at a great distance. The orders to the vessels of the fleet doing blockade duty off the Cuban coast have been issued through megaphones. Torpedo boats and the converted yachts and tugs assigned to special duties receive a large proportion of their orders from the flagship by megaphone, and turned in their first brief reports in the same way.

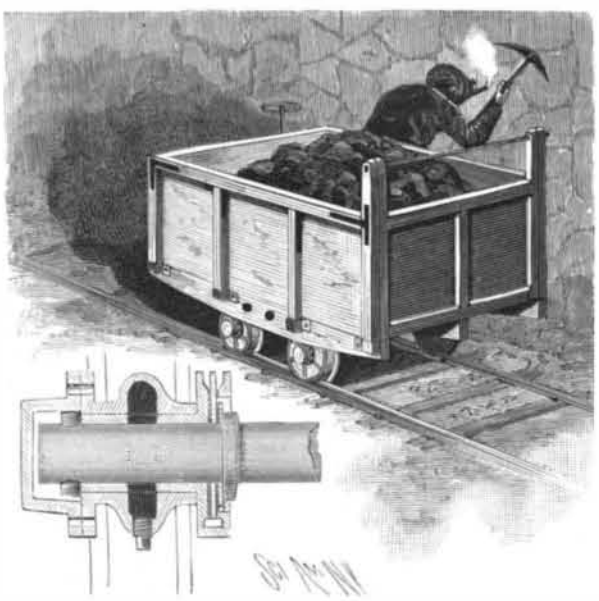
The Industrial Commission.

Under the provisions of the law creating an industrial commission Vice-President Hobart has appointed Senators Kyle, Penrose, Mantle, Daniel, and Mallory. Speaker Reed has appointed five representatives, Gardner, Lorimer, Lovering, Livingstone, and Bell. Nine members who shall fairly represent the various industries of the United States are yet to be appointed by the President. The idea of the commission is to investigate questions relating to immigration, to labor, to agriculture, to manufacture, and business. It will report to Congress and suggest such legislation as the commission may deem best upon these subjects and an attempt will be made to secure uniform legislation by the various States in the Union, in order to harmonize conflicting interests and which will be equitable to the laborer, producer, employer, and consumer. Hearings will be given and the commission has the power to send for witnesses and papers and administer oaths.

AN IMPROVED OIL-RETAINING BOX.

To provide an oil-retaining box arranged to keep the lubricant in good condition and always in position on the journal or bearing until it has been completely used up, Samuel Salmon, of Drifton, Pa., has invented and patented an arrangement by means of which the desired end in question is attained.

The device is applied to a mining car-wheel, the axle having its journal-bearing revolving in a box in the form of a bushing which is fitted in the hub of the wheel. On the inner end of the hub the enlarged end of the bushing fits and forms the guideway for a closing shield applied to the journal next to the shoulder on the axle. Openings are made in the bushing at the middle portion which register with an annular oil-chamber formed in the hub. The lubricant is thus enabled to pass from the chamber to the journal. On the outer end of the journal a linch-pin is secured, as shown in the sectional view, and lies against the end of the bushing so as to hold the bearing or journal in proper position. The collar or shoulder on the inner end of the axle, it is to be observed, lies against the outer face of the enlarged end of the bushing.



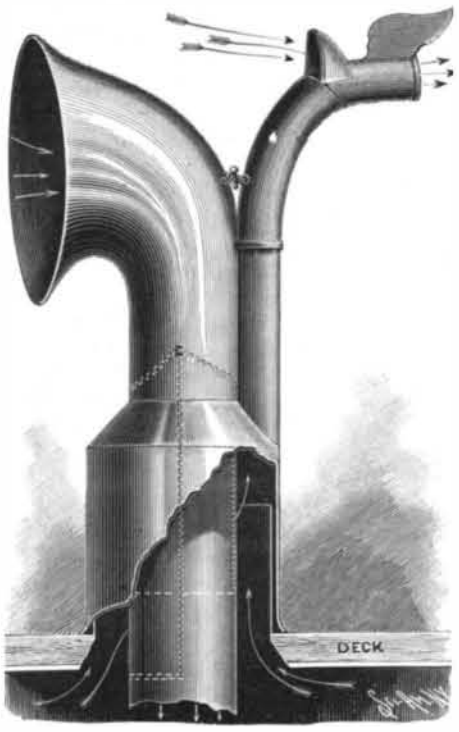
SALMON'S OIL-RETAINING BOX.

Since the closing shield lies snugly on the axle, the lubricant is prevented from leaking past the inner end of the journal and, it is claimed, is therefore enabled to be used without waste.

A NOVEL HOUSE-COOLER AND VENTILATOR.

A patent has recently been granted to James B. Slade, of Riverhead, N. Y., for a device by means of which buildings, ships, mines, and boiler rooms are constantly supplied with fresh air, a free-exit being provided for the foul and vitiated air.

The contrivance consists of a tubular casing adapted for insertion in a circular opening in the roof of a building or the deck of a vessel. Inside of the casing a sleeve is so supported as to leave an air-passage between the casing and the sleeve. Mounted in the sleeve is a tube provided internally with a spider or frame, and at its upper end with a rotatable ingress-tube. This ingress-tube likewise has a spider or frame on which a rod is centrally pivoted. The upper end of the casing is inclosed by a hood formed with a conical end, through which the ingress-tube passes. With the conical end of the hood an egress-tube is connected which communicates with the interior of the hood. These ingress and egress-tubes are curved in opposite directions, and are mounted to swing in such a manner that the ingress-tube shall constantly present its opening to the wind.



SLADE'S HOUSE-COOLER AND VENTILATOR.

The ingress-tube continually forces a column of air downward through the building, and the egress-tube permits all warm or vitiated air to escape. Any vacuum formed by ventilation, it is said, will be immediately filled by the air pressed into the cold tube entering a room at the bottom. The ventilator at the rear or leeward of the hood constitutes an air-passage, creating a vacuum below and drawing up the warm air.

A Railroad in the Philippines.

The Manila and Dagupan Railway, the only railway in the Philippine Islands, is running along smoothly as if peace prevailed throughout the land, says the Manila correspondent of The Railway Age. Ordinarily railroads suffer as much inconvenience and loss in business and damage as any other line of business at times when comparatively small countries are in a state of rebellion. This loss is not only because of demoralization in freight business and from common disinclination of people to travel where the existence of social disorder creates an additional element of risk in traveling on public carriers, but because of destruction of railroad property, as a matter of proper warfare and military strategy, as has been the case in Cuba. The Philippine railroad has been remarkably fortunate in the respect of enjoying immunity from inconvenience and violence at the hands of the insurgents—so fortunate, indeed, as to agreeably surprise and disappoint the management of that property.

The road is of 3 foot 6 inch gage, and runs from Manila, with a population of over 200,000, in an almost northerly direction, 125 miles, through several large municipalities to Dagupan, a reasonably prosperous seaport of about 30,000 souls. The island of Luzon, of which Manila is the capital, has a population of about 3,500,000, nearly half the entire population of the twenty-one islands that form the Philippine group, and with an area of nearly double that of Great Britain. The railroad, as might be expected, runs through the most populous section of Luzon.

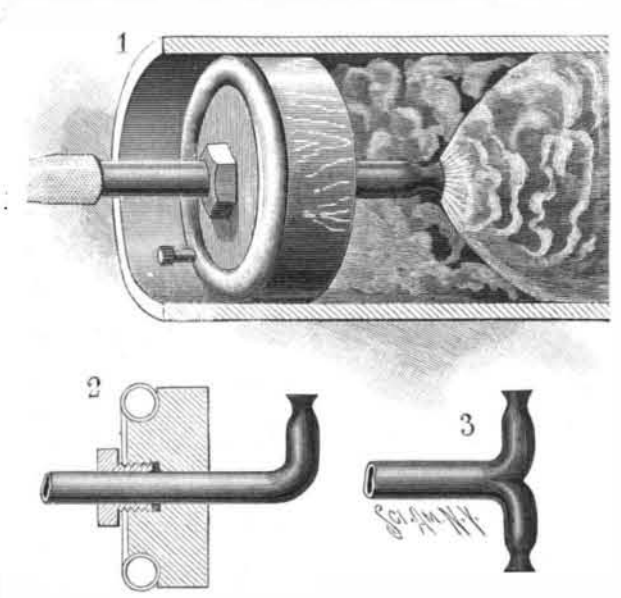
While the railroad is private property and owned and managed by Europeans other than Spaniards, it was thought the insurgents would nevertheless try and prevent its operation, at least spasmodically, inasmuch as it was proving of so great advantage to the government in the effort to quell the revolt. There has, however, been no trouble with the road as yet. The forbearance of the rebels has caused no little surprise among Spanish officials. The insurgents derailed a passenger train several months ago. Since that time there has been absolutely no violence. The rebel leaders were very much displeased when they learned that some of their subordinates had molested a train, and at once gave orders that the personal and property rights of foreigners other than Spaniards should be respected and that this order was intended to apply particularly to the railroad, which they well understood was the property of English capitalists. The fact that the railroad company has not since been subjected to the slightest trouble or inconvenience, while the immediate country is involved in very serious and formidable revolution, demonstrates these facts: 1. That the Filippinos are not savages, warring just for the excitement of the thing. 2. That they are a peaceful and easily governed people, and are regarding with respect the wishes of their recognized leaders. 3. That they value the good will and sympathy of Europeans who live in the Philippines and will unquestionably see to it that these foreigners are protected to the fullest possible extent.

Gold Extraction with Potassium Permanganate.

A new process for the extraction of gold has been tried with success in the gold districts of New Zealand. The finely powdered auriferous ore is first mixed with common salt and sulphuric acid, and potassium permanganate is then added in solution. Hydrochloric acid is formed by the action of the sulphuric acid on the salt, and from this chlorine is liberated by the permanganate. The chlorine then combines in the nascent state with the gold, forming soluble gold chloride. The new method is said to have many advantages over the cyanide and amalgamation processes. The chemicals used are harmless, non-poisonous, and cheap, and the extraction of gold from the ore is nearly complete. A particular advantage lies in the fact that the process can be applied to ores containing copper for which the cyanide process cannot be used. A gold mine at Mount Morgan, New Queensland, obtained by the permanganate process 95 per cent of the gold present from ore yielding only 20 per cent by the cyanide process. The ore contained also copper, iron, antimony, and manganese.—Sūdd. Ap. Ztg.

A NEW FLUE-CLEANER.

In an invention patented by Charles H. Carrico, of Salt Lake City, Utah, novel means are provided for blowing out chimneys, smokestacks and other flues, the device employed being of that type in which a steam-pipe is passed into the flue and held by a stopper which closes the flue and prevents the reaction of the steam while cleaning out the soot or other foreign matter. Of the accompanying illustrations, Fig. 1 shows the flue-cleaner in operation; Figs. 2 and 3 are modifications of the steam-pipe used. The stopper is circular in form, is made preferably of wood, and is adapted to fit in one end of a flue, as shown in Fig. 1. Through the central portion of the stopper an opening is made into which the steam-pipe is inserted. A rubber gasket encircles the pipe and bears against a shoulder formed on the body-portion of the stopper. A hollow screw-plug embraces the pipe and presses against the gasket to hold the steam-pipe in place and to effect an hermetic connection between the pipe and the stopper. On the periphery of the stopper near the inner end, a groove is formed, into which is fitted an elastic expansible tube. When by means of a valve this tube is inflated, the opening of the flue is hermetically sealed. When the jet of steam is exerting its utmost force in blowing out the flue, the stopper will still be held in position by the elastic expansible tube. The modifications shown in Figs. 2 and 3 are designed to produce a lateral jet of steam in flues when other forms of nozzles would not be serviceable.



CARRICO'S FLUE-CLEANER.