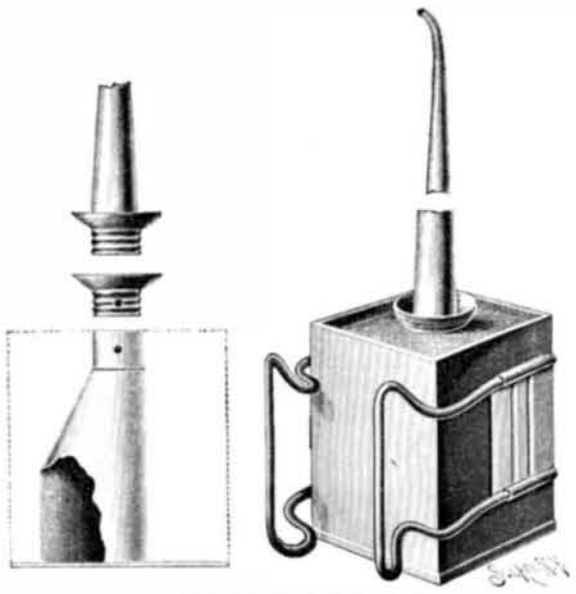
AN IMPROVED OIL CAN.

In the construction of the oil can shown in the illustration a saving of oil is designed to be effected, while the convenience of the user is promoted, as none of the oil put in the can need be wasted, and, when the can contains but a small quantity, the oil may be readily ejected, and conveniently directed to the place required. The can is formed with two of its sides slightly



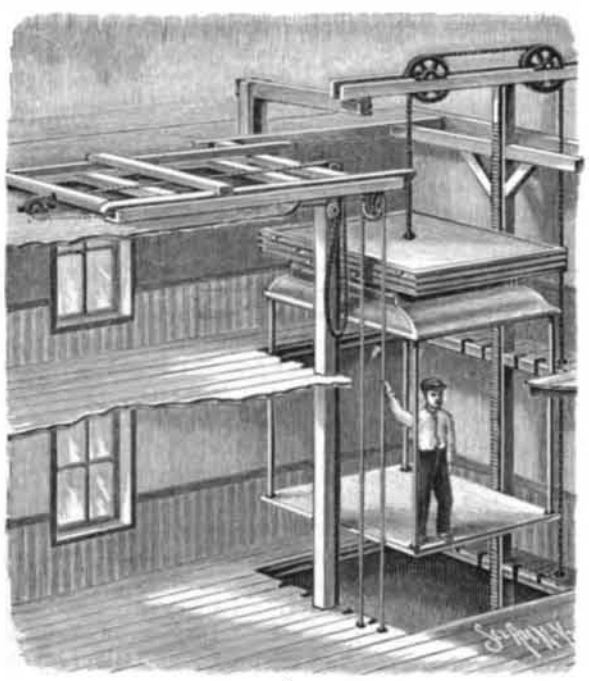
MARANVILLE'S OIL CAN.

bulged outwardly, and to these bulging portions are secured the handles, which may be of wire, the arrangement being such that by compressing the handles the pressing in of the bulged sides forces the oil out through the spout. On the interior of the can, and rigidly attached to its bottom, is a tubular conductor, as shown in the small view, one side being open part way up, and at the mouth of the conductor is a female screw capin which is a hole registering with a hole in the conductor, forming a vent when the can is filled, on the removal of the spout. The handles serve a double purpose, to hold the can and to compress its sides to discharge the oil through the nozzle.

Further information relative to this improvement may be obtained of the patentee, Mr. F. Maranville, Clinton, Ohio.

A DEVICE TO CLOSE ELEVATOR SHAFTS.

The rapidity with which fires are likely to be communicated from floor to floor of a burning building through open elevator shafts has suggested the improvement shown in the accompanying illustration, providing means for readily closing the shaft at each floor during the time the elevator is not running. It forms the subject of a patent recently issued to Mr. N. J. Blagen, of Portland, Oregon. On the top of the usual carriage or cage are hinged supports on which rest a series of platforms adapted to close the shaft openings at the different floors, the platforms having in their side edges pins adapted to engage corresponding recesses in the floors. The pins on the several platforms are arranged at different points, so that each platform will be engaged only at one particular floor.



BLAGEN'S ELEVATOR SHAFT CLOSING DEVICE.

During the time the elevator is running, the platforms are supported upon a carriage at the top of the shaft, this carriage sliding under the lowermost platform when the car is at the top, and thus supporting all the platforms free from the car. A rope connected with this carriage passes over a pulley and extends down within convenient reach of the operator in the car, when the latter is at the top of the shaft. Previous to stopping the elevator for the night the car is run to its uppermost position, with the hinged platform supports on its top extended, the supports then lifting the series of platforms, and supporting them over the carriage, when the latter is, by means of the rope, drawn to one side of the shaft opening, as shown in the illustration. The platforms, resting on the supports on the top of the car, are carried down with it as it starts, the uppermost platform being first engaged by its pins and stopping at the uppermost floor, and the others being in succession deposited at their respective floors as the car moves downward, until the shaft openings are all closed. When the elevator is started the next day, the car in its first ascent picks up the several platforms, and carries them on its hinged supports above the level of the carriage at one side of the shaft at the top, when the operator, by means of the rope, moves the carriage outward under the platforms, the latter being then supported by the carriage, and the hinged supports being folded upon the top of the elevator car during the day's run.

An Inland Coast Waterway.

The proposal to establish an inland waterway between the Atlantic coast cities is once more under consideration. In its amplest form such a route would extend from Massachusetts Bay to Texas, making use of sounds and bayous as well as of existing canals as far as possible. This form of the enterprise contemplates the cutting of three new canals, through Cape Cod, Maryland, and the Florida peninsula; and as its expense would mount into the hundred millions, it is not likely to find favor at present. A modified plan would begin at New York and end at Charleston. As described by Capt. McCorkle, of the coast and geodetic survey, the line, passing through Raritan Bay and the Raritan River to New Brunswick, and thence through the existing canal to Bordentown, would proceed down the Delaware to Delaware City, thence through the canal to Chesapeake Bay, and so on to Norfolk. There it would take the Southern River and the Albemarle and Chesapeake Canal, North Landing River, Currituck Sound, and the North River to Albemarle and Pamlico Sounds, and so on to Moorehead City. A moderate amount of dredging and cutting would open a series of inlets to Cape Fear River, and from this latter point Charleston would be gained in the same manner, although at this final part of the route there might have to be a resort to the open sea unless at a very large expense.

Whatever the merits of this inland waterway on its commercial side, the proposition that the government should construct it on account of its advantages for coast defense can hardly be maintained. For the latter purpose the object apparently would be to transfer the war ships that happen to be in one port to the defense of another where the enemy had concentrated his fleet. The only vessels worth much consideration in such a case are armor-clads and torpedo boats. The former could not pass through the canals already described without a deepening and enlarging of them that would be enormously expensive; and the same is true of other waterways forming a part of the proposed route. It would doubtless be far cheaper to construct and lay up in ordinary monitors or other coast defense vessels for each principal port. Besides, vessels of that character ought to be able to put out to sea to the relief of a threatened port, and fight the enemy if encountered on the way.

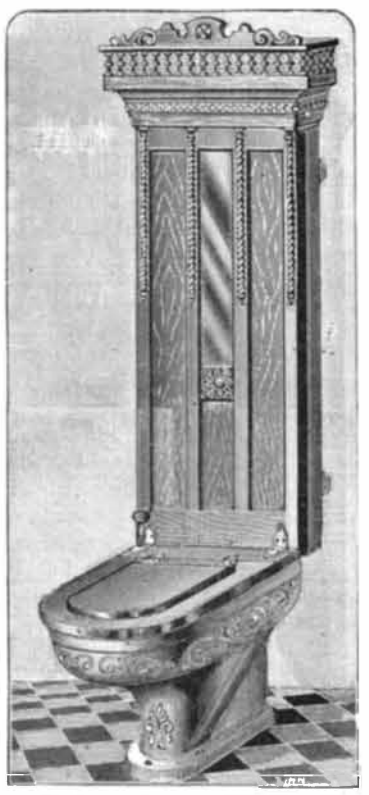
As to torpedo boats, while such an inland waterway would undoubtedly be favorable to their concentration at a threatened port, a still better and more expeditious plan is to transfer them by railroad. Every port that runs the slightest risk of attack by a hostile fleet is now connected with its neighbors by rail. The French years ago successfully experimented in the transfer of torpedo boats overland, and with suitable trucks the operation could be performed with great facility. Certainly it would be useless to resort to the expense of an inland waterway for the simple purpose of transferring light draught vessels of this class in time of war.

Wholly different, of course, are the commercial considerations involved in the proposed inland waterway. That it would stimulate local trade may be conceded. It might also have some value in allowing such trade to go on when the coast was infested by an enemy's cruisers. But it is hardly to be supposed that a coast like ours could long be blockaded, while railways would still be available for the transfer of freight which in times of peace goes by water as a cheaper form of transportation.

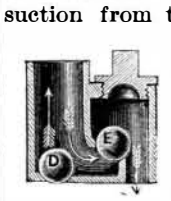
The conclusion must be that the commercial value of such a waterway is alone worth the attention of Congress. The primary source of defense for the Atlantic ports is that of fixed forts and submarine mines. A complete system for this purpose is now in course of development. In a few cases, like those of Portland, Boston, and New York, it is desirable, either from the openness of the roadstead or for other reasons, to supplement the fixed by floating defenses, including floating batteries, monitors, and torpedo boats. But these last should be provided as permanently belonging to the port. Certainly such a provision could be made more economically than by constructing an interior waterway for transferring battle ships for harbor defense from one port to another. All this, however, bears only on a single part of the subject, and leaves untouched the question of the value of the proposed waterway as a business enterprise.—*N. Y. Sun.*

NEW PRINCIPLE VENTILATING WATER CLOSET.

The improvement shown in the accompanying illustrations is designed to promote health and comfort to a degree not hitherto attained in efforts at sanitary plumbing. This ventilating siphon closet is comparatively noiseless, and swift in action, the disagreeable odors being positively carried away by the action of the closet. The construction is simple, and there are but few working parts liable to get out of order. The improvement comprises an inclosed water supply tank set back of the bowl and extending up but five feet from the floor. The bowl is formed with two traps, the lower one being much the deepest. The traps do not act on the principle of siphonage, as in other closets, but serve to facilitate the ventilation and afford double security against the return of foul air. The bowl is also arranged with ball valves fixed in the back—the opening, D, as shown in the sectional view, allowing air to pass up into the tank, and the valve, E, permitting air from the tank to flow down through the air opening formed on the side of the bowl, and connected with the soil pipe below the traps. By pressing the knob for a flush of water and for ventilation, the lowering of water in the tank causes a suction from the air space between the two traps drawing the water and excrement from the upper trap—with a continuous flow of air over the face of the bowl—and while the water and excrement fall into the waste pipe below, the foul air is drawn up through the valve into the upper part of the tank, as represented by the arrow at D. Then as the tank automatically refills, the water pressure forces the foul air down, lifts the ball, E, and passes down into the soil pipe below the lower trap, as represented by the arrow in opening D valve. This improvement was patented August 30, 1892, and further information relative thereto may be obtained of Mr. Smith E. Hughes, 27 Queen Street, Germantown, Philadelphia.



THE "QUEEN" WATER CLOSET.



SECTIONAL VIEW.

THE "QUEEN" WATER CLOSET.

Bacterial Disease of Sugar Beet.

Prof. Arthur and Miss Gordon have discovered a previously unrecorded plant disease in which bacteria play a prominent part. It occurs in the sugar beet, and a result of it is a considerable diminution in the amount of sugar produced, the loss in some instances being as much as 50 per cent. The disease does not break down the tissues of the beet, nor does it cause the death of the plant, in which no external marks indicate abnormal conditions until the leaves approach maturity. These organs then become puffed out between the veins in little blister-like areas, giving the appearance of Savoy cabbage leaves. Cross sections of the root show that the fibers forming the concentric rings are more prominent than usual, besides being darker in color, though in less conspicuous cases they may be merely yellowish. The bacteria occur most abundantly in the loose cellular tissues, in the cell sap, and in or attached to the protoplasm. The disease appears to be capable of transmission, but further experiments are necessary to prove whether it be actually so.—*Agric. Science.*