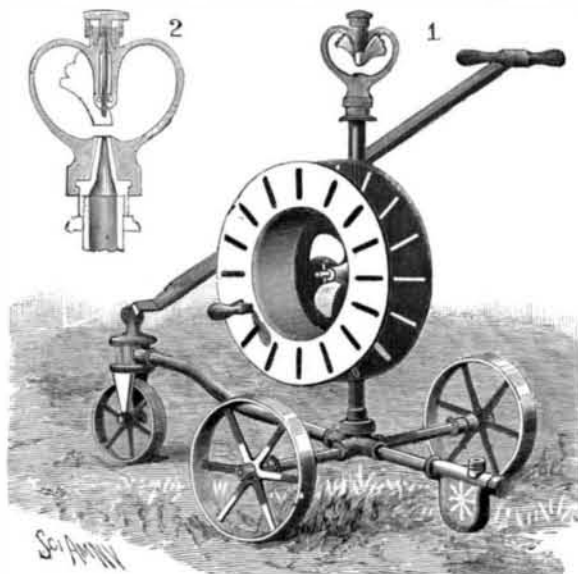


AN IMPROVED LAWN SPRINKLER.

The sprinkler shown in the illustration may, with its attached hose reel, be conveniently moved about as desired, and is designed to properly and uniformly sprinkle a large area of ground at one time. It has been patented by Enoch A. White, of Hailey, Idaho. Fig. 1 shows the sprinkler complete, and Fig. 2 is a sectional view of the sprinkling head. The carriage frame

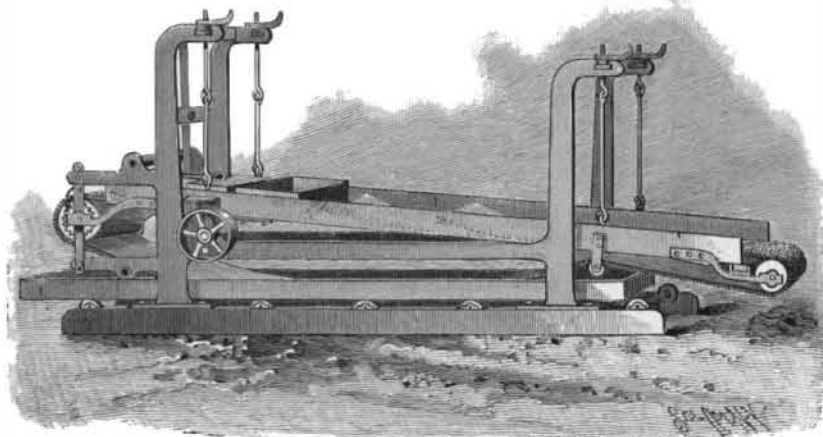


WHITE'S LAWN SPRINKLER.

is formed with a five-way casting, two transverse tubes therefrom supporting at their closed ends the main axles, while the rearwardly extending supply tube has near its outer end a trap, and a top and end nipple, to either of which the hose may be attached, a forwardly extending tube supporting at its closed end the steering head, the fork of the steering wheel being connected with a handle. The top of the five-way casting is connected by a ball and socket joint with a stand pipe, at whose upper end is a nozzle discharging on one or more propeller blades on the lower end of a pin turning in a central ball bearing or socket, formed in a yoke or bow, which turns by a coupling on the nozzle. The top of the bearing is closed by a cap, and in the top and around the body of the pin, as shown in Fig. 2, are spaces for lubricating oil. The water discharged from the nozzle rotates the propeller blades, and also causes the yoke to revolve at a comparatively low speed. As the water passes from the trap to the sprinkler, it enters the tubes extending horizontally from the central casting and compresses the air therein, which is thus made to act as a cushion and governor, and by means of the trap or seal the water is retained in the stand pipe after the supply is shut off, the seal acting as a check valve on the water in the sprinkler. On the stand pipe is a collar held in place by a set screw, and the collar carries a stud on which the hose reel is journaled.

A CONCENTRATOR FOR PLACER MINING OR STAMP MILL PRODUCTS.

The concentrator represented in the accompanying illustration is designed to facilitate the separation of the valuable particles of precious metals from the lighter materials and gangue, in the treatment of placer mining and stamp mill material. It has been patented by William M. Moore, of Empire, Col. On a suitable base is a framework from which a table is suspended by links at an adjustable inclination, the under side of the table near its upper end being adapted for engagement by a cam on a transverse shaft, imparting motion to the table in one direction, while a quick opposite movement is given to it by a spring whose tension may be increased or diminished, the



MOORE'S CONCENTRATOR.

return movement being interrupted by projections which abut against fixed parts of the framework. Over the table, and between its side flanges, a belt with a heavy pile on one face, such as a carpet, travels intermittently over rollers journaled at each end of the table, the lower run of the belt passing through and depositing the concentrates in a wash box removably

supported on rollers journaled in the base of the machine. The material to be treated is fed to a receptacle having a perforated bottom secured to the top of the table, so that it readily passes through onto the belt; and across the upper end of the table is a perforated pipe from which issues a spray designed to wash the lighter materials and gangue down the belt, against the direction of movement of the latter, while the valuable particles settle in the pile of the belt and are carried by it over the pulley down to the wash box. Previous to entering the water in the wash box, the spray from another perforated pipe is directed upward against the pile of the belt fabric to assist in washing out the particles. To further prevent the passing down of valuable particles, two aprons of similar fabric to that of the belt, and with the pile on their under side, are attached to the side flanges of the table, the contact of the piles of the two fabrics being designed to loosen the particles being washed down on the belt, and cause them to more readily settle in the pile of the upwardly moving belt. The water and other material passing through to the bottom of the table is discharged from a transverse trough at its lower end, the gangue carried down being dumped over on the ground.

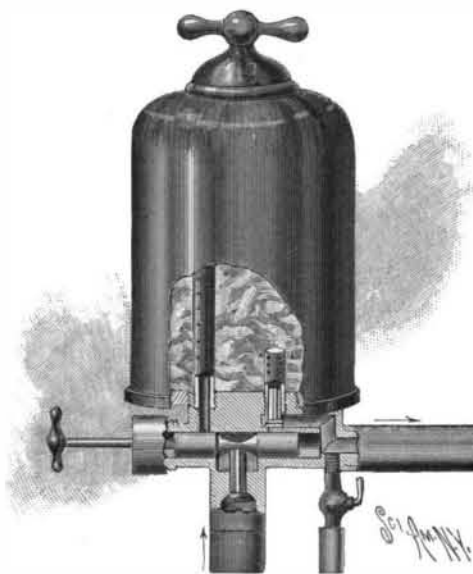
Panama Canal's Condition.

The British consular officers at Panama and Santa Martha describe in their last reports the present condition of the work on the canal across the isthmus and of the railway connecting the Atlantic with the Pacific. The New Canal Company, formed in Paris in 1894, to continue and complete a ten lock canal rising to a maximum altitude of 133 feet 8 inches, in place of the original sea level scheme of M. De Lesseps, has made good progress with the small capital at its disposal, and the reduced canal trough, or cunette, in the Emperador and Culebra sections is now assuming definite proportions. Although the end in view was the final completion of the canal, it could hardly have been supposed that this great undertaking could have terminated and the canal be opened for maritime traffic with only £2,500,000, of which only about half was to be spent on the canal proper. The work is of a purely experimental character, in order to demonstrate that a lock canal is feasible. It consists of a watercourse 98½ feet wide at the surface, with half that width of bed. About £60,000,000 have been raised since the inception of the scheme, sixteen years ago, for the purpose of the canal, and have been spent in one way or another.—The London Times.

AN APPARATUS FOR CLEANING PIPES.

The illustration represents a pipe cleaner with which the operator may at will send through the pipes a solution of a suitable chemical, such as sal soda, or a stream of pure water, the arrangement of parts being such that the apparatus will be held in closed or inactive position by the pressure of the water, while it may be readily adjusted by the operator to the several positions used in practice. The improvement has been patented by Peter F. Gaynor, of No. 18 William Street, Albany, N. Y. As shown in the engraving, the apparatus is adjusted to close the water inlet, indicated by the arrow at the side of the lower vertical pipe, and above is a bell-shaped receptacle having in its top a screw plug to afford ready access to the interior when required. In the receptacle is an inlet port and an outlet port, both formed in the valve casing, there being over the inlet port a perforated tube and above the outlet port a shorter perforated tube, the latter connected by a channel to a discharge passage, a port from this channel leading to the longitudinal bore of the casing, and being controlled by a piston valve whose stem passes through a stuffing box and terminates in an operating handle. The main inlet port is controlled by an inwardly seating check valve, this port being adapted for connection with a tube or hose through which water is supplied, and a nipple adjacent to the outlet, at the end of the valve casing, is adapted to receive a hose leading to the pipes to be cleaned. In the outlet port of the receptacle is also a valve which may close the port leading to the longitudinal bore of the casing, and this bore at its outer end connects with a cock whereby compressed air may, if desired, be admitted into the apparatus. The piston valve, as will be seen, has a section of reduced diameter, forming a seat for the check valve, which is held against its seat by the pressure in the supply hose, thus practically locking the piston valve. The desired chemical solution having been placed in the receptacle, and the outlet end connected by a hose with the pipes to be cleaned, the operator pulls the piston valve out, thus unseating the check valve and admitting water through the casing and through one of the perforated tubes into the receptacle, as indicated by the arrows, the watertak-

ing up some of the chemicals and passing out through the other tube, and the outlet channel and hose, to the pipes to be cleaned. When the piston valve is moved inward to its limit in the other direction, the water passes directly through from the inlet port to the hose, without passing through the receptacle, thus removing the chemical solution and washing out the pipes. The water may now be expelled from the pipes by opening

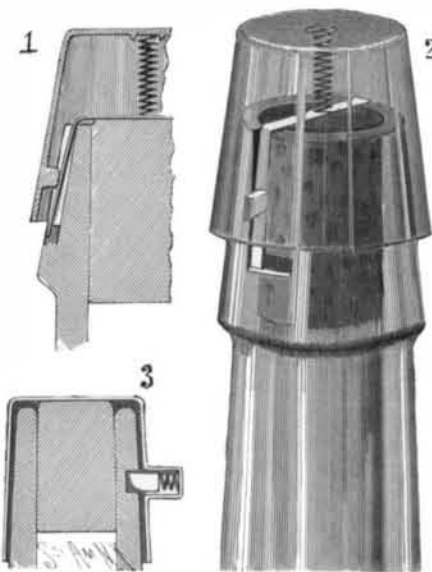


GAYNOR'S BEER PIPE CLEANER.

the cock connecting the valve casing with the compressed air pipe, in which connection it may be mentioned that the air hose itself may be cleaned in the same manner as the beer pipes are cleaned.

A NON-REFILLABLE BOTTLE.

A bottle which, after having once been sealed, cannot be opened to remove some of its contents and again refilled to represent an original package, is shown in the accompanying illustration, and has been patented by James H. Springfield, of Platteville, Col. Fig. 2 represents the bottle with the stopper partially applied, Fig. 1 being the same view in section, and Fig. 3 showing a modified form of the device. The bottle neck has opposite L-shaped slots on its outer face, in the vertical portions of which extend the terminal members of a yoke whose bow member extends over the cork, across the top or mouth of the bottle neck. A cap, preferably of glass or other frangible material, is then placed in position as shown, the cap having in its opposite sides



SPRINGFIELD'S NON-REFILLABLE BOTTLE.

lugs which press inward the terminal members of the yoke, the cap being thus moved downward until its lugs may be made to enter the horizontal members of the L-shaped slots on the exterior of the bottle neck. A spring has a bearing on the top of the yoke and against the upper face of the cap, and the pendent members of the yoke, being of spring material, fly outward when the cap is fully applied, forming locks preventing the backward turning of the cap, so that the cap must be broken or destroyed before the contents of the bottle can be poured out. As shown in Fig. 3, a recess is made instead of the slots in the bottle neck, and the cap has in one of its sides a tubular offset containing a pawl and a spring, enabling the cap to be readily placed in position over a cork, but preventing its removal except by breaking, as in the former case.

The Paris Bazar Fire.

The operators of the cinematograph were declared responsible for the fire and sentenced respectively to one year in prison and 300 francs fine and eight months' imprisonment and a fine of 200 francs, Baron Mackau, who was one of the principal promoters of the bazar, was found guilty of "imprudence," and was sentenced to pay a fine of 500 francs.