

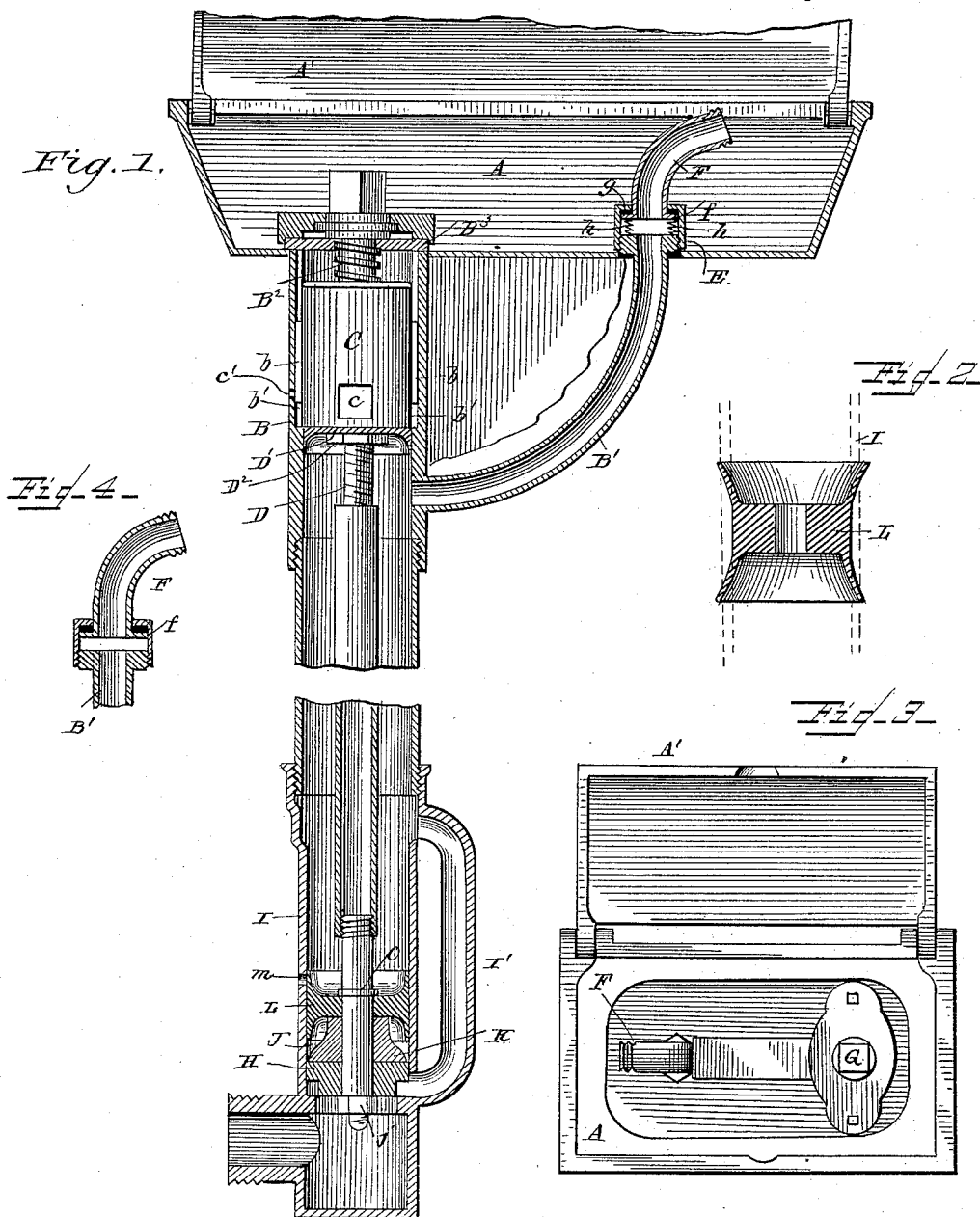
(No Model.)

C. G. ETTE.

NON FREEZING STREET WASHER.

No. 385,602.

Patented July 3, 1888.



WITNESSES
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NON-FREEZING STREET-WASHER.

SPECIFICATION forming part of Letters Patent No. 385,602, dated July 3, 1888.

Application filed March 16, 1887. Serial No. 231,102. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. ETTE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Non-Freezing Street-Washers, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of my improved street-washer, showing the same broken in the center in order that the top and bottom working parts may be shown more clearly. Fig. 2 is a detail view of the recessed double-ended washer. Fig. 3 is a top plan view of the street-washer box. Fig. 4 is a detail of the swiveled spout, showing the same constructed and operated without a coil-spring to hold it up.

The object of my invention is to provide a street-washer which will not freeze, and one in which the waste will escape when the hydrant is closed, and in which the waste will be closed when the main water-way is open in the hydrant.

Another object of my invention is to construct a street-washer which shall be simple in construction and at the same time which will be complete in every respect.

Another object of my invention is to construct a street-washer with a swiveled top extending at an angle to the vertical pipe and at an angle to the horizontal line of the box to prevent the breaking and twisting of the hose as the street-washer is being operated.

Another object of my invention is to construct a street-washer and provide the same with valves which will not have to be water-soaked before they will render efficient service.

Another object of my invention is to construct a street-washer the valve-stem and inner working parts of which may be readily and easily removed by simply taking off the cap which encircles the valve-stem.

In the accompanying drawings, A designates a boxing for the street-washer, and A' is a cover for the same. The upper portion of the working part of the street-washer is composed of an upper valve and valve-rod casing, B, and a secondary water-way, B', cast in a single piece. The upper end of the valve-stem is

provided with a quick screw, B², which works through a correspondingly screw-threaded plate, B³. The valve-rod and valve-casing B are provided with guides *b b*, through which slide the projections *b' b'* on the outer edges of the upper cylinder, C, which forms a part of the valve stem. This is perforated at *c*, and the outer casing, B, is perforated also at *c'*. The valve-stem below the cylinder C is screw-threaded at D, and the washer D' is screwed onto this rod up against the lower portion of the cylinder C and is held in place by a nut, D². This washer D' is adapted to move up and down within the casing B to prevent the escape of water up into the top of the valve and valve-stem casing B; but should any small quantity of water ooze through the washer D' it will escape through the opening *c'*.

The arm or water-way B' is screw-threaded at its upper end and is adapted to extend up through the bottom of the casing, which is secured in place in the street. I then provide a hollow nut or screw-cap, E, which is internally screw-threaded at its bottom and perforated at its top. I then take a short piece of curved pipe, which forms a nozzle, F, and which is provided at its bottom with a flange, *f*. This is inserted through the opening in the screw-cap E, and is provided with suitable packing, *g*, in the upper portion of the screw-cap E.

Underneath the bottom portion of the nozzle and between it and the upper end of the water-way B', I insert a spring, *h*, which tends to always keep the nozzle up in position within the box. The outer end of this nozzle is screw-threaded and extends at an angle of about fifteen degrees. The object of forming this nozzle F curved, as shown, is to facilitate its being rotated when desired, as, obviously, the pressure will be exerted on a line with the said nozzle, instead of at right angles thereto, as heretofore; and, further, the hose will not be bent at the point of attachment, which often results in a weakening and breakage of the hose at this point.

It is quite obvious that the nozzle may be made as shown, and may be inserted within the pipe and secured in place in the screw-cap and the spring *h* dispensed with without departing from the spirit of my invention, as the pressure of the water will tend to keep the nozzle in position in the upper part of the screw-cap.

The upper end of the valve-rod is provided with a nut, G, which comes entirely within the boxing, as does the nozzle F. The boxing is made large enough to permit of the turning of the nozzle F entirely around in its pivotal bearing, so that the hose may be pulled in any direction and the strain will be in a direct line with the center of the coupling, and in no instance will injure or bend the hose proper to any appreciable extent.

The lower end of the valve-stem is provided with a T-shaped washer, H, which washer is adapted to close the main water-way through the bottom of the valve-casing I. The valve-casing I is provided with the ordinary flat seat, the top of which is in direct alignment with the bottom of the side water-way, I', in this casing, thus leaving a clear uninterrupted passage-way for the water which offers no resistance to its passage through the pipe, thus preventing the accumulation of grit and sand at this point.

The lower end of the washer H is made smaller than the main portion, which makes the washer T-shaped in cross-section. The lower smaller part of the washer fits snugly within the circular opening J, and the length of the smaller portion of the washer H is about equal to the width of the metal through which extends the perforation J.

The valve-stem is provided with a washer, K, and above this washer is secured a solid recessed double ended washer, L, which should be made of any elastic water-proof material, and preferably of rubber. This washer is held in place by a lug, o, on the lower portion of the valve-stem, which prevents the upward movement of the washer L, while it is held against movement downward by the nut j, which holds the other washers in position at the bottom of the valve-stem. This lower valve-casing is also provided with an opening, m, for the escape of waste when the flow of water is cut off.

The distance between the lower end of the T-shaped washer H and the upper or enlarged portion is equal to the distance between the bottom of the hole m and the top of the recessed double-ended washer L, so that the instant the valve-stem and valves are raised the upper edge of the recessed double-ended washer L will move up over the perforation m in the lower valve-casing, and when the valve has been raised a sufficient distance to allow the escape of water from the water-main up through the opening in the bottom of the valve-casing I the hole m in this casing will be entirely closed by the upper edge of the recessed double-ended washer L.

By reference to Fig. 2 it will be observed that the recessed double-ended washer L is smaller at its central portion than at its two extremities. It will also be observed that a portion of the casing I is shown in this figure to show that the recessed double-ended washer L must be depressed or compressed at its extremities to insert it within the casing, and it

will follow that because of its construction it will be practically air-tight and will be ready for instant use without the necessity of waiting for the washers to water-soak, as is necessary where washers made of leather are used.

By the use of a device of this character a hose may be secured to the nozzle of the street-washer and the operator may turn around in any direction and pull the hose to him without liability of breaking or cracking it.

Another advantage of the use of my invention is that the device is simple and light, and therefore cheap, and it may be left in the boxing, which is covered up and left; and by the use of a hydrant of this kind a swiveled coupling is always in operation and ready for use within the street-washer whenever it is required.

Having now described my invention, what I desire to secure by Letters Patent, and what I therefore claim, is—

1. In a street-washer, the combination of a box having a cover with a swiveled hose coupling and the upper end of the valve-stem, both extending up into the box and permanently located entirely within the box, where the swiveled hose-coupling is free to turn in any direction with the hose without liability of injury to hose or coupling, substantially as described.

2. In a street-washer, the combination of the upper portion of the main valve-casing and the branch or arm forming a water-outlet, all cast in a single piece, said water-outlet being provided with a bent swiveled coupling, a perforated cap through which said curved swiveled coupling extends and which is secured to the main water-outlet, with a box entirely within which is located the swiveled coupling and the upper end of the valve-stem, substantially as and for the purposes specified.

3. In a street-washer of the character described, the combination of the main valve-stem casing provided with an ordinary flat seat at its lower portion and side water-way in direct alignment with said valve-seat, with a T-washer which extends down into the main opening through the bottom of the valve-stem casing, and a waste-opening in the casing, and a second washer secured to the piston-rod above the T-washer, all constructed and combined to operate substantially as described, whereby all deposit in the valve-seat is avoided and the raising of the valve-rod and valves effectually closes the escape or waste opening in the lower portion of the casing before the water is allowed to escape from the main up through the water-way in the main casing, substantially as and for the purposes specified.

In testimony that I claim the above as my invention I hereunto set my hand in the presence of two witnesses.

CHAS. G. ETTE.

Witnesses:

CHAS. E. BARBER,
W. L. BOYDEN.