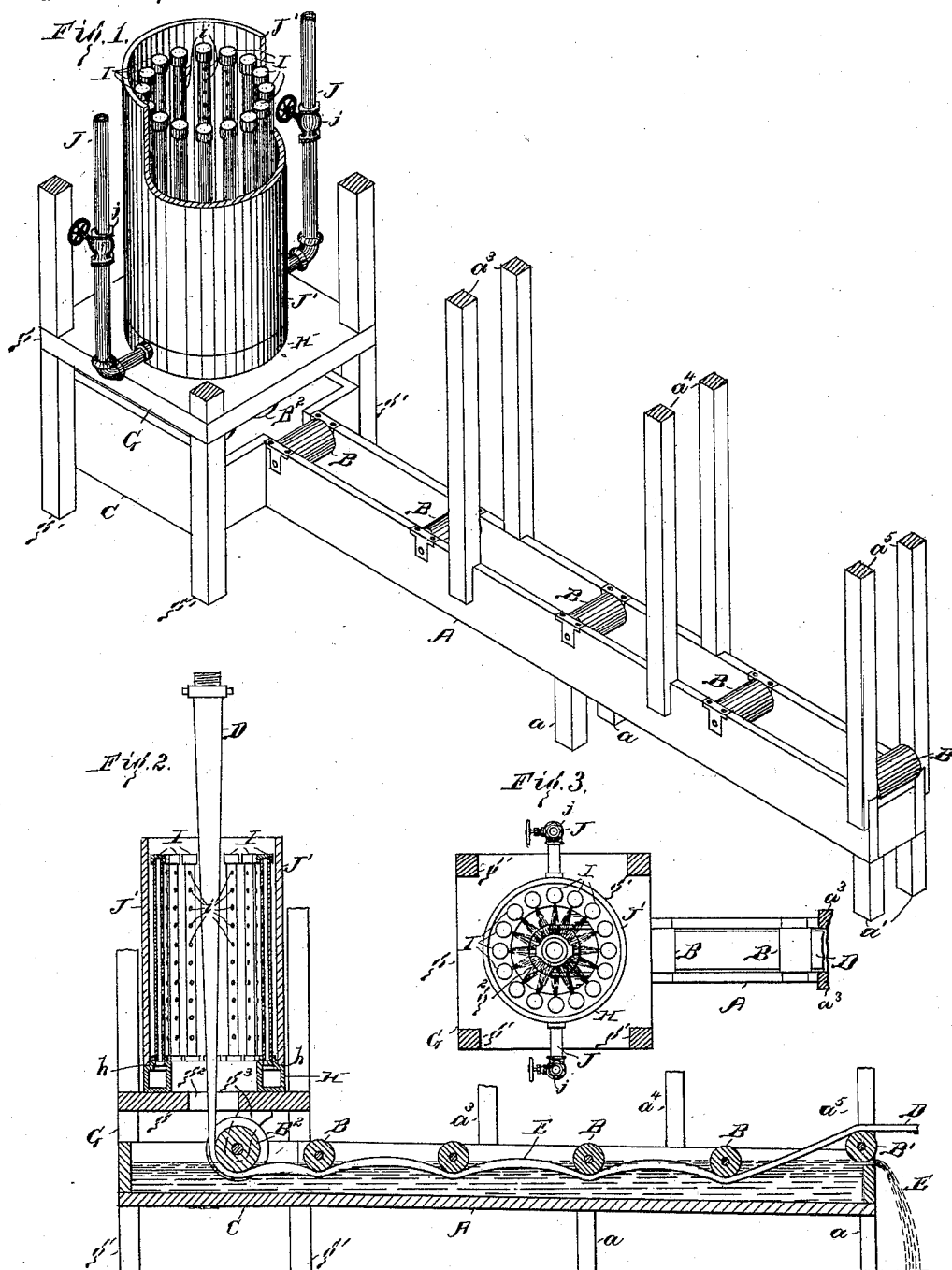


(No Model.)

H. BOYNTON, C. S. HIBBERT & A. C. STEARNS.
HOSE WASHING APPARATUS.

No. 415,935.

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Witnesses—
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UNITED STATES PATENT OFFICE.

HENRY BOYNTON, CHARLES S. HIBBERT, AND AUGUSTUS C. STEARNS, OF
LOWELL, MASSACHUSETTS.

HOSE-WASHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 415,935, dated November 26, 1889.

Application filed November 21, 1888. Serial No. 291,491. (No model.)

To all whom it may concern:

Be it known that we, HENRY BOYNTON, CHARLES S. HIBBERT, and AUGUSTUS C. STEARNS, all citizens of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Hose-Washing Apparatus, of which the following is a specification.

Our invention relates to a hose-washing apparatus; and it consists in the devices and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an isometric view of the hose-washing trough and its legs and hangers, the guide-rolls or submerging-rolls, the carrier-rolls, the spray-pipe and supply-pipes, the stand supporting the same, and the jacket which surrounds the spray-pipe, (a part of said jacket being broken away to show the arrangement of the spray-pipes,) and the catch-basin supported by said stand and discharging into said trough; Fig. 2, a vertical central longitudinal section of the apparatus shown in Fig. 1, showing also water in the catch-basin and trough and a length of hose being operated upon by the apparatus; Fig. 3, a plan of the stand, pipes, and jacket and of a part of the trough.

After using the fire-hose it is necessary to wash from its outer surface the mud and dirt with which it is usually covered from contact with the ground, and sometimes it is not possible or convenient to do this until sufficient time has elapsed to allow the mud to form a hard crust upon the hose. It is customary to place the hose thus covered with mud in a long tank or trough partly filled with water to allow the mud to be softened, and then to remove the mud from said hose by moving the hose quickly up and down in the water at intervals and by scrubbing the hose with brushes and brooms. After the hose is cleaned as nearly as it is possible to clean it by these means the hose is hung up by one end in a tower, such as fire-engine houses are commonly provided with, and allowed to drain and dry. It will be found that hose thus washed is only partially cleansed, and

that after being dried it will be covered by fine dirt or sand. This operation of washing hose, as generally performed, requires the labor of several men. The tank is usually about fifty feet long where the cellar of the engine-house is long enough to allow of it; but sometimes, where shorter tanks are used, the hose must be doubled in the tank.

In our improved apparatus described below, A is a trough of any suitable length, preferably about twenty-five feet in length, and supported upon legs *a a'* at intervals, or by means of hangers *a³ a⁴ a⁵*, secured to the floor-timbers of the floor above the same. Journaled in the trough A are transverse guide-rolls or submerging-rolls B, arranged to turn freely. The bottom of the trough is inclined downward from the catch-basin C, the top of the trough being level, so that water flowing into the trough from the catch-basin will be discharged from the other end of the trough, the top of the end last named being lower than the sides of the trough, as shown in Fig. 2. The carrier-roll B', journaled in the trough A at the lower end of the trough, projects beyond said lower end outside of the trough to keep the hose from rubbing against the trough. The length of hose D to be washed is passed over the carrier-roll B' and under all the submerging-rolls B, said submerging-rolls holding the hose beneath the surface of the water E, with which the trough is nearly filled. The upper end of the trough opens into the catch-basin C, said catch-basin being supported upon the stand G beneath the table *g* of said stand, said catch-basin being merely a receptacle of rectangular or other convenient shape. The stand G consists of a table *g*, supported by legs *g'* or hangers, substantially like the hangers *a³ a⁴ a⁵*, or by both, or in any convenient manner. Upon the top of the table *g* rests an annular water-chamber H around a central orifice *g²* in said table. Secured in the top of the chamber H are spray-pipes I, connecting at their lower ends with the interior of said chamber H, and closed at their upper ends and provided on their inner sides each with a series of fine holes *i*, through which

water may be driven in fine streams or sprays. One or more supply-pipes J connect the chamber H with the city water-mains or other water-supply, these supply-pipes being
 5 each provided with a valve *j*, (of ordinary construction,) by turning which water may be admitted to or shut off from the chamber H. When the water is allowed to run through the supply-pipes J, the water runs up into the
 10 spray-pipes, and is discharged through the fine openings *i* toward the center of the circle in which said spray-pipes are arranged, but is prevented from extending beyond the sides of the table *g* by a jacket J', cylindrical
 15 in form and surrounding all of said spray-pipes, and resting upon a shoulder *h* at the circumference of the chamber H.

Another submerging-roll B², having a horizontal axis parallel with the axes of the rolls B B', is journaled in a bracket *g*³, secured to the under side of the table *g*, the delivery side of the roll B², or side farthest from the trough, being under the middle of the orifice *g*². The roll B² is substantially like the rolls
 25 B B', except that it is provided with flanges *b* to keep the hose from slipping over the ends of said roll B², the other rolls not requiring any flanges, the sides of the trough preventing the hose from slipping off from said rolls.

In using the above-described apparatus a length of hose D is arranged in the trough over the roll B' and under the rolls B and under the roll B², and drawn by the usual means (a rope and pulley) up into the tower,
 30 passing through the orifice *g*² in the table and through the center of the circle of spray-pipes I, the water meantime issuing from the fine openings *i* of the spray-pipes and thoroughly washing the hose on all sides, and
 40 subsequently running down into the orifice *g*² into the catch-basin, and thence into and through the trough and discharging from the lower end of the trough, which should be arranged above a cesspool or catch-basin connected with a sewer or drain.
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The apparatus above described may be most conveniently placed in the cellar of the engine-house, with the stand and pipes immediately below or within the lower end of
 50 the hose shaft or tower.

The apparatus above described can be operated by three men, one to place the hose in the apparatus and the other two to draw the hose up into the hose-tower, and the hose, rising out of the jacket J, will be seen to be thoroughly cleaned. Ordinarily, the different lengths of hose of a line require to be uncoupled from each other before being washed; but with our apparatus this is unnecessary.
 55 It is only required that after each length is drawn to its place in the hose-tower the following length should be uncoupled therefrom and connected to a lifting-rope, and this can be done by the two men who draw up the
 60 hose and who usually occupy a position on

the first floor of the engine-house at the bottom of the hose-tower, thus drawing up one length, bringing its lower end to a convenient height above the floor for uncoupling from the following length.

The trough is not absolutely necessary to be used with our apparatus, although the operation is facilitated by drawing the hose through the trough, and thus softening and partially removing the mud on the hose; but
 70 the hose may be cleaned simply by drawing it through the opening of the annular chamber H and up between the spray-pipes; but this would require the hose to be drawn more slowly, and thus consume more time and
 75 water.

We claim as our invention—

1. The combination of an annular chamber, water-supply pipes entering said chamber, and spray-pipes leading out of said chamber
 85 and provided with spraying-orifices arranged to discharge toward the central opening of said chamber to wash a hose drawn through said central opening, as and for the purpose specified.

2. The combination of a suitable stand, an annular water-chamber supported thereby, water-supply pipes entering said chamber, spray-pipes leading out of said chamber and provided with spraying-orifices arranged to
 90 discharge toward the central opening of said chamber, a catch-basin arranged beneath said chamber to receive the water discharged by said spray-pipes, and a trough leading out of said catch-basin and adapted to be partly
 95 filled with water from said catch-basin, as and for the purpose specified.

3. The combination of a suitable stand, an annular water-chamber supported thereby, water-supply pipes entering said chamber, spray-pipes leading out of said chamber and provided with spraying-orifices arranged to
 100 discharge toward the central opening of said chamber, a catch-basin arranged beneath said chamber to receive the water discharged by said spray-pipes, a trough leading out of said catch-basin and adapted to be partly filled with water from said catch-basin, and guide
 105 or submerging rolls to hold a hose drawn through said trough or catch-basin below the surface of the water within said trough, as and for the purpose specified.

4. The combination of a suitable stand, an annular water-chamber supported thereby, water-supply pipes entering said chamber, spray-pipes leading out of said chamber and provided with spraying-orifices arranged to
 110 discharge toward the central opening of said chamber, a catch-basin arranged beneath said chamber to receive the water discharged by said spray-pipes, and a trough leading out of said catch-basin and adapted to be partly filled with water from said catch-basin, said
 115 trough being inclined downward from said catch-basin to produce a constant current of
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water flowing from said catch-basin, whereby
the mud and dirt on a hose drawn through said
trough and catch-basin in the opposite direc-
tion to said current will be softened and
5 partially removed and the remainder thereof
more readily removed by the water from said
spray-pipes, as and for the purpose specified.

In witness whereof we have signed this
specification, in the presence of two attesting

witnesses, this 15th day of November, A. D. 1888.

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Witnesses:

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