

(No Model.)

R. SMITH.

APPARATUS FOR CLEANSING SHOWER PIPES.

No. 362,672.

Patented May 10, 1887.

Fig. 1.

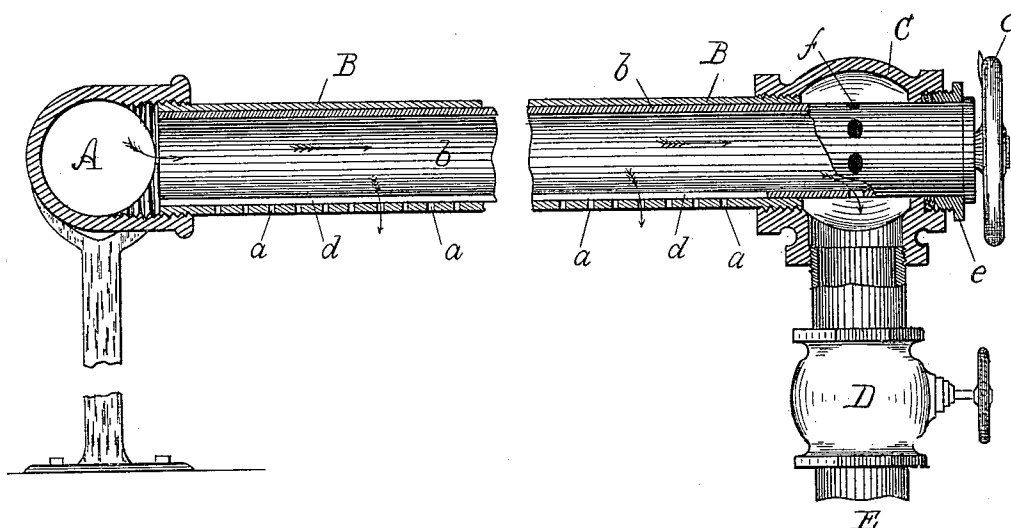


Fig. 2.

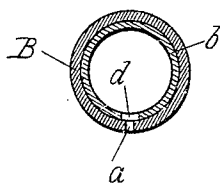
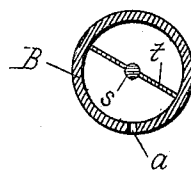


Fig. 3.



Witnesses.
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR CLEANSING SHOWER-PIPES.

SPECIFICATION forming part of Letters Patent No. 362,672, dated May 10, 1887.

Application filed November 5, 1886. Serial No. 212,029. (No model.)

To all whom it may concern:

Be it known that I, RICHARD SMITH, a citizen of the Dominion of Canada, residing at Sherbrooke, in the county of Sherbrooke and Province of Quebec, Canada, have invented certain new and useful Improvements in Apparatus for Cleansing Shower-Pipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to "shower-pipes," so called, composed of a hollow metallic tube or pipe pierced with a series of small apertures or orifices adapted to supply a fine stream of liquid, which is discharged under pressure.

The drawings represent, in Figure 1, a longitudinal sectional elevation of a shower-pipe provided with a device embodying my improvements. Fig. 2 is a vertical cross-section, while Fig. 3 is a modification.

The object of my invention is to provide a device to be contained within a shower-pipe, as above premised, whereby a speedy and effective way may be obtained of clearing such pipes from obstructions, which prevent a free flow of the liquid emerging therefrom.

In Fig. 1 is represented at A the main supply-pipe, suitably supported, and to be connected with a source from which water or other liquid is obtained under pressure, while to this pipe is removably secured the shower-pipe B. The latter consists of a hollow metallic pipe or tube provided with, in the present instance, a series of small apertures, *b b*, through which the liquid is to pass. As will be seen upon reference to the drawings, this shower-pipe B is connected at one end to the main supply-pipe A, while its opposite extremity rests in and is united with an elbow or hollow casting, C, of any desired shape, which is provided with a valve, D, leading to a discharge-pipe, E.

Hitherto in shower-pipes, more especially those employed on or about paper-making

machines, much difficulty has been experienced in keeping the many small apertures through which the liquid is forced free from dirt and other obstructions, which continually tend to clog them up and impair the general efficiency of the shower-pipe. Furthermore, it has been customary to remove the pipe and then free it from dirt; but this method was necessarily slow, and no liquid was employed to aid the operation of clearing; moreover, the pipe was rendered inoperative for the time being.

The essential feature of my invention consists in a clearing apparatus contained within the shower-pipe, by means of which the pipe-apertures can be readily and effectually cleansed at a moment's notice without either removing the pipe or stopping the flow of the liquid through it. This apparatus consists, primarily, of a tube, *b*, open at the supply-pipe end, but closed at its opposite extremity, which projects beyond the hollow elbow or support C. and is furnished with a hand-wheel, *c*. This pipe is adapted to fit snugly within the shower-pipe B, and is provided with a continuous longitudinal slot, *d*, of a length equal to or slightly longer than that occupied by the series of apertures *a a* in the shower-pipe. Escape of liquid about the clearer at the point where it emerges from the support C is prevented by means of a packing-gland, *e*.

The operation of this clearer is as follows: Premising that the water is passing through some of the numerous small orifices *a a*, but that the majority are partially obstructed, the operator now grasps the hand-wheel *c* and gives it semi-rotary movement back and forth, which causes the sharp edges forming the slot *d* to wipe successively across the faces of the apertures *a a*, abrading and cutting the obstructions lodged in or upon them. Prior to this movement, or at the same time, the valve D is opened and an increased flow of liquid through the bore of the clearer *b* is now produced, said liquid passing through the discharge-openings *f f*, provided for this especial purpose during the activity of the clearer. This current, temporarily created during the

operation of clearing the shower-pipe, tends to remove and instantly carry away all the dirt dislodged or broken by the oscillating action of the clearer *b*. When said apertures *a a* are entirely free from obstructions, the valve *D* is closed, while the hand-wheel *C*, which controls the clearer and is provided with an index-pointer, *g*, is brought into its normal position by aid of the latter—that is, with the slot *d* vertically aligned above the apertures *a a*, thus insuring proper supply of liquid to the latter. In this way the shower-pipe may be cleared at a moment's notice, or as often as occasion requires.

15 In lieu of the clearer *b*, a shaft, *s*, axially disposed within the bore of the shower-pipe, and further provided with clearers *t t*, extending longitudinally thereof, may be employed, (see Fig. 3;) but I prefer the former, since the edges of the slot being in close proximity to the apertures *a a*, but slight movement of the clearer and hand-wheel is required to pass said edges across the apertures, and thus more rapidly cut or abrade the dirt in the act of re-

25 moving it.

I claim—

1. In combination with the pipes for supply and discharge and the perforated shower-pipe

connecting the two, a movable clearer contained within the shower-pipe and adapted to wipe across the perforations, substantially as set forth. 30

2. The combination, with the supply-pipe *A* and the shower-pipe *B*, containing the clearer *b*, of the hollow casting *C*, which supports said clearer and is provided with the valve *D*, substantially as specified. 35

3. In clearing apparatus for shower-pipes, the supply-pipe *A*, discharge *C*, with the valve *D*, the shower-pipe *B*, uniting the two and provided with the apertures *a a*, in combination with the clearer *b*, contained within the shower-pipe and furnished with the slot *d* and the openings *f f*, substantially as herein described. 40

4. The combination, with the shower-pipe *B*, with its apertures *a a*, of the clearer *b*, constructed with the slot *d* and discharge-openings *f f*, and capable of semi-rotation within the shower-pipe, substantially as stated. 45

In testimony whereof I affix my signature in presence of two witnesses. 50

RICHARD SMITH.

Witnesses:

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