(No Model.)

E. S. LEAYCRAFT.

PNEUMATIC SWEEPING APPARATUS.

No. 279,572. Patented June 19, 1883.

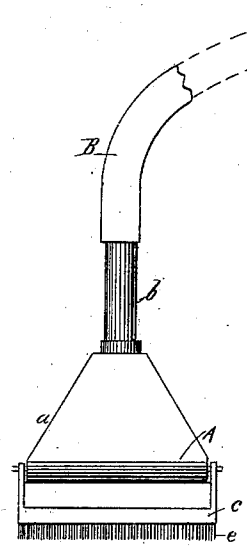


Fig. 1.

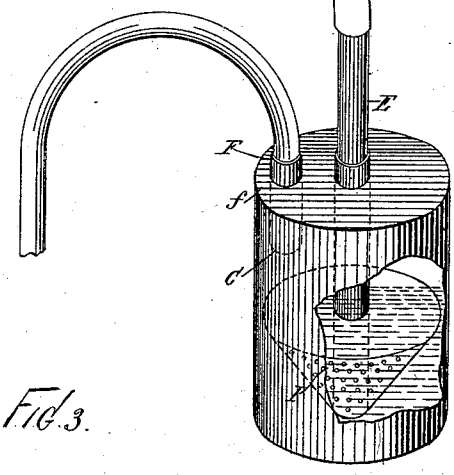


Fig. 2.

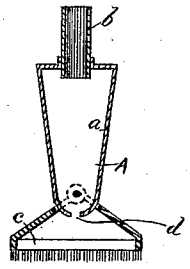
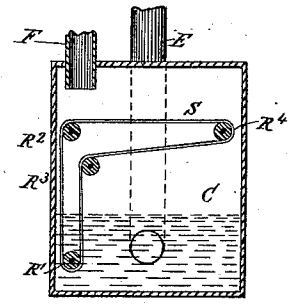


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWIN S. LEAYCRAFT, OF JERSEY CITY, NEW JERSEY.

PNEUMATIC SWEEPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 279,572, dated June 19, 1883.

Application filed January 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWIN S. LEAYCRAFT, a citizen of the United States, residing in Jersey City, in the State of New Jersey, have invented a new and useful Improvement in Pneumatic Sweeping Apparatus, of which the following, taken in connection with the accompanying drawings, is a full, clear, and accurate description.

The object of my improvement is to apply for use, in sweeping and removing dirt or dust, a pneumatic system operated upon the suction plan, whereby the dirt and dust can be conveniently removed from any place desired—such as floors of stores and buildings—without causing the dust to rise, as is the case where brooms are used, or with the sweepers now ordinarily in use.

In the drawings, Figure 1 represents my improved sweeping apparatus; Fig. 2, a sectional view of the sweeper. Fig. 3 represents a modification of the tank or dirt-receptacle to be used in connection therewith.

A represents the sweeping part of my improvement, consisting, preferably, of a triangular-shaped case, of tin, *a*, provided at its upper end with a tube, *b*, and pivoted to a rectangular frame, *c*, the lower portion of the case *a* being provided with a slot, *d*, extending through its bottom. The frame *c* is preferably provided with a brush or broom or other suitable means to facilitate the operation of sweeping. The sweeper A is detachably connected by the flexible tube B with the dust and dirt receptacle C. This receptacle C is a tank or can of any desired size, provided with a tightly-fitting cover, *f*, through which extends a tube, E, nearly to the bottom of said tank C. The tank C is also provided with a tube, F, extending only a short distance into said tank and connecting it with a suitable exhaust. (Not shown in drawings.)

In the tank C may be placed the strainer I, provided with perforations.

The tank C may be made in the form shown in Fig. 3, where C represents a box or tank, with the tube E attached to the outside of said tank, and passing into it near the bottom, and the tube F attached to the top of said tank, and passing a small distance through it. In the tank C, near the bottom, is placed the roller R′, and above said roller, at one side of the tank, are placed the rollers R^2 R^3, and at the other side is placed the roller R^4. Around these rollers is passed an endless apron or band, S, of any textile material.

The mode of operation is as follows: The cover *f* of the tank being removed, the strainer I is placed in the bottom of the said tank, and enough water is placed therein to reach above the opening of the tube E when in proper position. The cover *f* being then replaced, and the tube E being then connected with the sweeper A, and tube F connected with the exhaust, which is set in operation, there is immediately established a current of air passing through the slot *d* of the case *a*, thence through the pipe *b*, flexible tube B, and tube E into the receptacle C, below the surface of the water, thence through the water and the strainer I and pipe F to the exhaust, where it is discharged. If, now, while the current of air thus established is passing through the apparatus, the sweeper A is passed over the floor or surface to be swept, all the dirt and dust thereon will be carried by said current of air until it reaches the water in the tank C, whence it will be held, and the air, free from such dirt and dust, will pass on through the pipe F to the exhaust, where it will be discharged.

When the modification shown in Fig. 3 is used, sufficient water is placed in the tank to come above the level of the opening of the tube E and roller R′, and the apron or band S becoming wet by capillary attraction, the air containing dirt and dust is drawn through the tube E into the water, where the heavier particles are held, and the lighter particles passing through the water are caught in the apron or band S, and the clean air passing through said band S is drawn into the exhaust through the tube F.

When desired the dirty and dusty water may be removed and clean water substituted therefor. The brushes *e*, by their sweeping motion, serve to loosen any dirt or dust which may be sticking to the surface to be swept. If it is desired to remove the dirt or dust from moldings, recesses, or corners, the sweeper A can be detached and the end of the flexible tube B

passed along such places, and the dirt and dust thus sucked through the tube B into the receptacle C. By making the exhaust portable the apparatus can also be applied with advantage to the sweeping of streets.

Having thus described my improvement, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a pneumatic sweeping apparatus, of a slotted hand-case carrying a sweeping-broom, a dirt-receptacle containing water, a flexible tube connecting said hand-case and receptacle, and a pipe leading from the dirt-receptacle to a suitable exhaust, substantially as shown and specified.

2. The combination of the hand-case A, pivoted swinging broom *e*, metal tube *b*, flexible tube B, metal tube E, tank C, and strainer I, with the exhaust-pipe F, substantially as shown and specified.

In testimony whereof I have hereunto set my hand this 30th day of December, 1882.

E. S. LEAYCRAFT.

In presence of—

CHARLES G. COE,

R. F. VAN BOSKERCK.