(No Model.)

W. M. SHOEMAKER.

Machine for Filling Paint Cans.

No. 234,434. Patented Nov. 16, 1880.

FIG. 1.

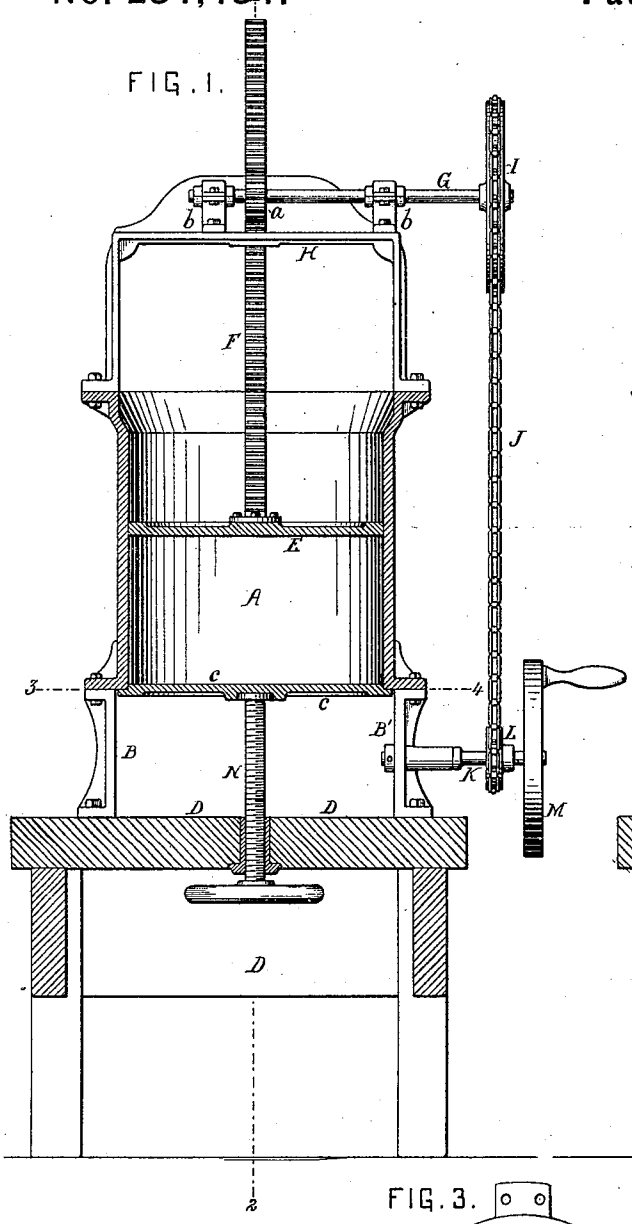


FIG. 2.

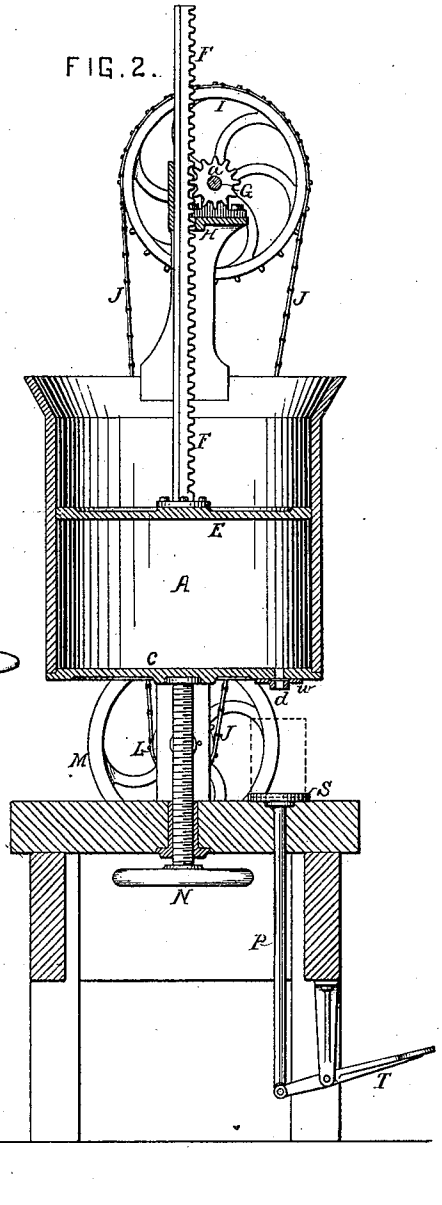
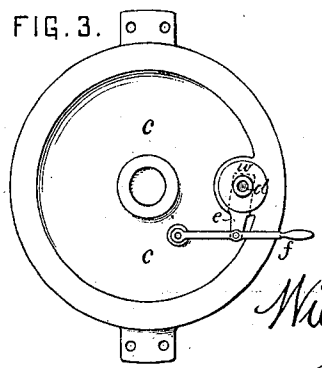


FIG. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM M. SHOEMAKER, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR FILLING PAINT-CANS.

SPECIFICATION forming part of Letters Patent No. 234,434, dated November 16, 1880.

Application filed May 7, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. SHOEMAKER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented an Improved Machine for Filling Paint-Cans, of which the following is a specification.

My invention relates to apparatus for filling cans with paints and analogous substances; and one object of my invention is to so construct mechanism for this purpose that the filling operation can be accomplished with readiness and exactitude, a further object being to so construct the apparatus that it can be readily cleansed.

In the accompanying drawings, Figure 1 is a vertical section of my machine for filling paint-cans; Fig. 2, a vertical section on the line 1 2, Fig. 1; and Fig. 3, an inverted sectional plan on the line 3 4.

A cylinder, A, rests on and is secured to stands or frames B B′, attached to a suitable table or base, D, and to this cylinder is adapted a piston, E, to which is secured a rack, F, into the teeth of which gears a pinion, *a*, on a shaft, G, the latter having its bearings *b b* on a frame, H, which is secured to the flange at the upper edge of the cylinder, the distance between the legs of this frame, as well as that between the stands B, being greater than the diameter of the piston, so that the latter can either be depressed below the cylinder or raised above the same.

Round a pulley, I, passes a chain, J, which also passes round a smaller pulley, L, on a shaft, K, the latter being provided with a hand-wheel, M, and having its bearing in one of the stands, B′.

The cylinder is provided with a tight-fitting detachable base, *c*, which is so controlled by a screw, N, adapted to a nut in the table that by turning the screw the said base can be lowered or raised and held tight to the cylinder.

On the under side of the base *c*, near the front of the machine, is a nipple, *d*, communicating through an opening with the interior of the cylinder; and this nipple is provided with a gate, *e*, connected to a lever, *f*, which is pivoted to the base, and by manipulating which the opening in the nipple and base can be closed or exposed at pleasure.

A rod, P, is arranged to slide vertically on the table D, the center of the rod and that of the nipple being in the same vertical line; and the top of the rod is furnished with a plate, S, which is recessed to receive the paint-can, (shown by dotted lines in Fig. 2,) the plate being removable, so that other recessed plates adapted to cans of different sizes may be attached to the spindle, which is controlled by a treadle, T.

Supposing that the above-described apparatus has been used for filling cans with paint, and that its use for operating on paint of another color is required, the first thing to be done is to thoroughly cleanse the interior of the cylinder, the base *c*, and the piston E. In order to afford facilities for cleansing these parts of the machine, the piston may be lowered to a point below the cylinder, in doing which the interior of the latter will be partially cleansed by the piston itself, and the latter may then be raised above the cylinder, when all of the parts requiring to be cleansed will be exposed.

After the cleansing has been accomplished the base is raised and held tight against the under side of the cylinder by the screw N, a supply of mixed paint is placed in the cylinder, and the piston E is lowered to the surface of the paint.

The operator, stationed in front of the machine, places an empty can on the plate S, and by depressing the treadle T raises the can so that a portion of the nipple shall enter the central opening of the can, while the top of said can bears against the flange *w* of the nipple. No time is lost in completing the above operation, for the center of the nipple and of the spindle being in the same vertical line, and the recessed plate S, in which the base of the can fits snugly, being concentric with the nipple, the proper adjustment of the can to the same is assured by the simple depression of the treadle. After the can has been thus raised and the gate *e* opened the operator, by turning the wheel M, the handle of which is within easy reach, depresses the piston to the limited extent necessary for insuring the instant discharge through the nipple into the can of sufficient paint to fill the

latter, after which the operator closes the gate and removes his foot from the treadle, when the spindle P and filled can will descend by their own gravity; or, if desired, a spring or weight may be used to facilitate the descent, when the said filled can may be removed to make way for an empty one, preparatory to a repetition of the above-described operations.

Instead of depressing the piston E by means of the gearing shown and described, the said piston may be weighted so as to effect the discharge of the paint, the gearing in this case being employed for elevating the piston when it becomes necessary to replenish or cleanse the cylinder A.

I claim as my invention—

1. The combination, in apparatus for filling paint-cans, of a vertical cylinder, A, a piston, E, and mechanism for operating the said piston by the hand of an attendant, with the spindle P and its can-holder, situated below a discharge-orifice of the cylinder, and with a treadle for operating the said spindle, all substantially as set forth.

2. The combination of the cylinder and its piston with the detachable base *c* and a device for operating the same, and with supports B B, which permit the lowering of the said base below the cylinder, all substantially as specified.

3. The combination of the cylinder A, piston E, its rack F, and shaft and pinion for operating the same, with the frame H, secured to the cylinder and constructed for carrying the said shaft and for permitting the raising of the piston above the cylinder, substantially as described.

4. The combination of the vertically-sliding spindle P and its can-supporting plate S with the cylinder, its base, and the nipple *d*, provided with a gate and with mechanism for operating the same, substantially as described.

5. The combination of the can-supporting spindle and its treadle, the cylinder and its piston, and mechanism for operating the same, with a shaft, L, situated below the cylinder and geared to the said piston-operating mechanism, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

W. M. SHOEMAKER.

Witnesses:
JAMES F. TOBIN,
HARRY SMITH.