(No Model.)

H. HERMANN.

APPARATUS FOR FILLING CANS.

No. 376,195. Patented Jan. 10, 1888.

Fig. 1.

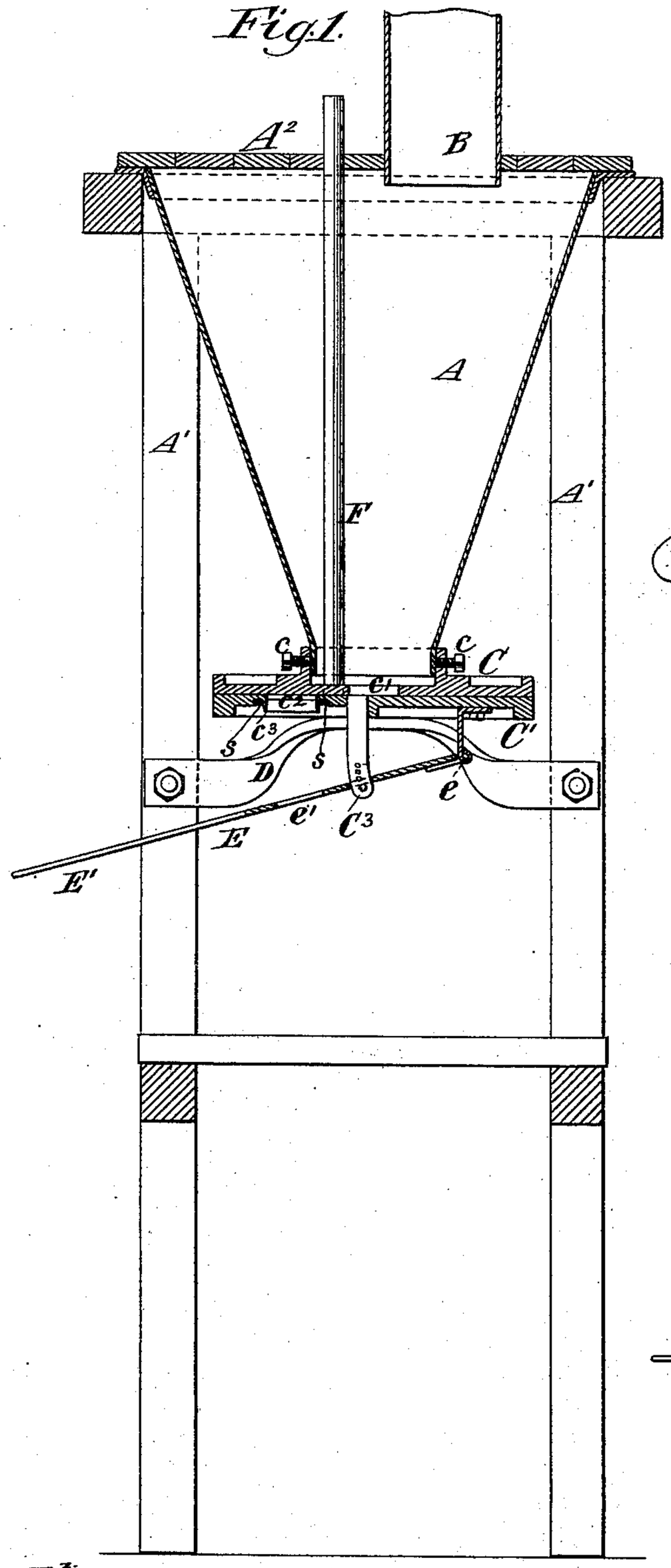


Fig. 2.

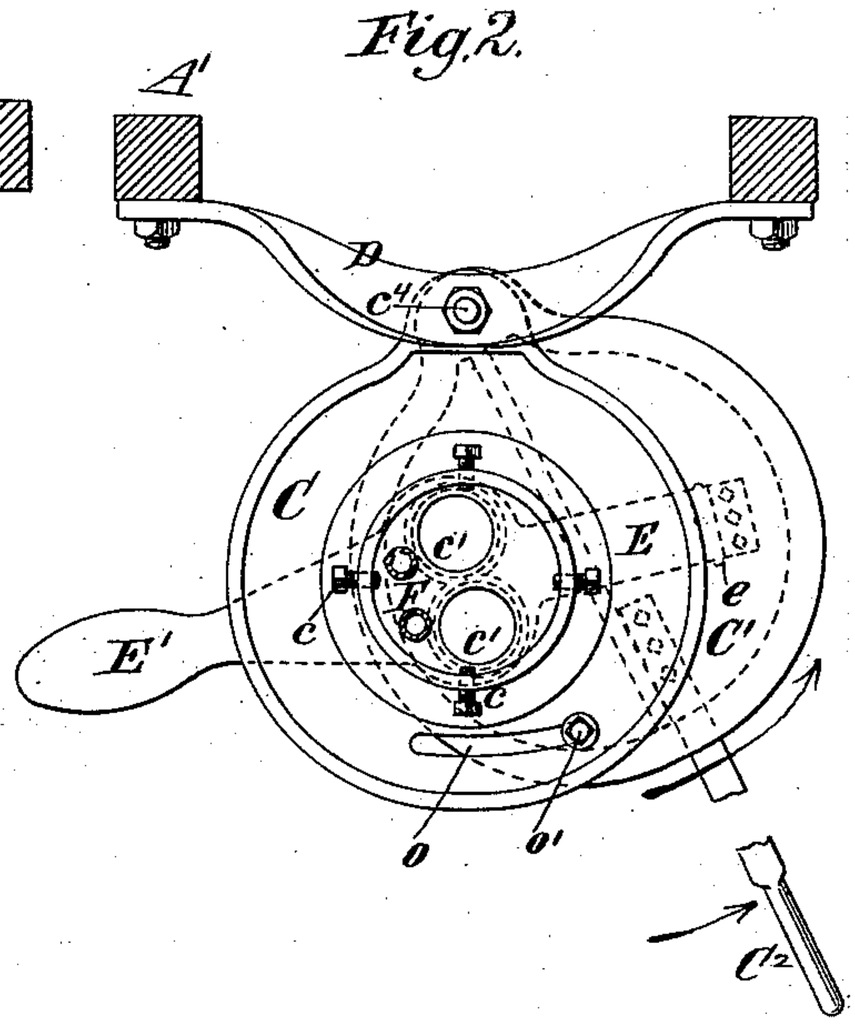
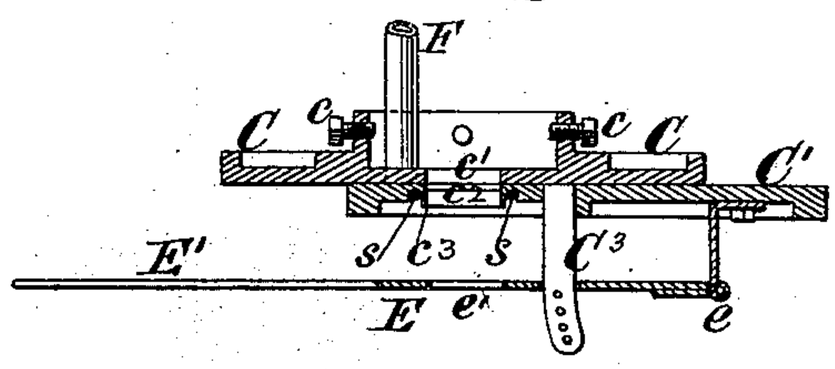


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY HERMANN, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO BENJAMIN T. BABBITT, OF SAME PLACE.

APPARATUS FOR FILLING CANS.

SPECIFICATION forming part of Letters Patent No. 376,195, dated January 10, 1888.

Application filed June 3, 1887. Serial No. 240,115. (No model.)

To all whom it may concern:

Be it known that I, HENRY HERMANN, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Apparatus for Filling Cans and other Receptacles with Potash and Analogous Powdered or Semi-Fluid Substances, of which the following is a specification.

The particular object of my invention is to provide a simple and effective apparatus for filling cans with potash or analogous substances which are destructive to the mucous membrane when present in the air, the desired result being to fill cans with such substances without permitting their escape to the atmosphere.

In carrying out my invention I employ a hopper which has an outlet at the bottom and a sliding plate swinging or moving as a sliding valve across said outlet and having an aperture corresponding to the outlet, and a holder or base to receive upon it a can, and which is hung from said sliding plate and is vertically movable to hold the can against the aperture in said plate.

In employing this invention one or more cans are placed upon the holder or base, which is below the sliding plate, and said holder is moved so as to force and hold the can or cans against one or more apertures in said plate, and when said plate is swung or moved across the outlet or outlets of the hopper the can or cans, tightly applied to an aperture or apertures in the plate, are brought to a position below the outlet or outlets of the hopper and the material in the hopper is permitted to descend to fill the cans. I also employ in connection with the outlet of the hopper a vent-pipe which extends upward to or near to the top of the hopper, and which is adjacent to the outlet of the hopper, so that as the aperture in the swinging plate comes beneath the hopper-outlet it also passes below the vent-pipe, and for an interval of time only sufficient to fill the can the aperture in the sliding plate to which the can is applied communicates both with the hopper-outlet and with the vent-pipe, so as to permit the free escape of air from the can as the substance passes from the hopper into it.

The invention consists in novel features of construction and combinations of parts, hereinabove briefly referred to, and hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of an apparatus embodying my invention. Fig. 2 is a plan of a plate which is applied to the lower end of the hopper and which contains the outlet, and a similar plate sliding as a valve upon the first to control the outlet; and Fig. 3 is a vertical section of the parts at the bottom of the hopper, showing the sliding plate as adjusted to open the hopper-outlet and permit the escape of material therefrom.

Similar letters of reference designate corresponding parts in the several figures.

In the accompanying drawings, A designates a hopper, which may be made of sheet metal, if desired, and which is supported by a suitable frame-work, A′. The hopper may have a temporary or other cover, A^2, composed of boards or other material, and it is also provided with an inlet-pipe, B, through which the substance to be distributed into cans enters the hopper. The hopper A may be advantageously made of sheet metal, and in this example of my invention has at the lower end a plate, C, the bottom surface of which is finished truly, so as to form a seat, against which may swing a second plate, C′. The plate C may be attached to the lower end of the hopper by screws *c* or other suitable devices, and has in it an outlet, *c*′.

The plate C′ may have in it an aperture, c^2, terminating in a cylindric neck, c^3, and around this cylindric neck may be placed an annular cover containing packing, *s*. In the position of parts shown in Fig. 1 the aperture c^2 is removed from coincidence with the hopper-outlet *c*′ and the hopper remains closed; but the plate C′ is pivoted at c^4 to a hanger or suitable support, D, and consequently may be swung freely to and fro, as may be desired.

In the present example of my invention the hopper, or, in other words, the plate C, is provided with two outlets, *c*′, and the sliding plate or valve C′ is similarly provided with two apertures, c^2, so as to fill two cans at one operation.

E designates a holder which is arranged below the plates C C′, and is pivoted at the end *e* to swing vertically, and is sustained in any vertical position it may be placed by a hanger, C³. As here represented, the holder E has holes *e′*, which receive and properly center two cans, and the holder E then being lifted the two cans are pressed tightly upon the rubber *s*, surrounding the delivery-aperture c^2.

Adjacent to the outlet *c′* from the hopper, and as near thereto as is possible, is a vent-pipe, F, which extends upward to or near the top of the hopper. The sliding plate C′ is, as here represented, provided with a handle, C^2, whereby it may be swung or slid under the surface of the plate C, and the holder E is also prolonged to form a handle, E′. When the parts of the machine are at rest, the plate C′ is coincident with the plate C and the filling-aperture c^2 is out of line with the outlet *c′* from the hopper.

When cans are to be filled, the first step is to place two of them upon the holder E and lift the holder to the position shown in Fig. 3, thereby holding the cans pressed tight over the circular projections around the filling-apertures c^2 and upon the rubber *s*. The holder E may be held in this position by one hand, while with the other hand grasping the handle C^2 the operator swings the plate C′ in the direction indicated by the arrows in Fig. 2, and as the filling-apertures c^2 on the plate C′ are brought into communication with the outlets *c′* from the hopper the contents of the hopper are permitted to escape into the cans, and at the same time the air contained in the cans escapes through the vent-pipe F. It will therefore be seen that my filling apparatus is simple and inexpensive, and yet effective in preventing the escape of dry powder to the atmosphere.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a filling-hopper having an outlet at the lower end, of a plate swinging as a slide-valve across said outlet and having a corresponding aperture, and a holder to receive upon it a can, and which is hung from said swinging plate and is vertically movable to hold the can to the swinging plate, substantially as herein described.

2. The combination, with a filling-hopper and the bottom plate, C, secured thereon and having an outlet-opening, *c′*, of a second plate, C′, also provided with an opening and sliding on the first to bring the openings into and out of coincidence, and a holder, E, supported by the sliding plate and pivoted to swing vertically in order to hold a can tightly pressed to the opening in said sliding plate, substantially as herein described.

3. The combination, with a filling-hopper having an outlet, and a vent-pipe adjacent to said outlet and rising to or near the top of the hopper, of a sliding plate, also having an outlet-opening and covering said outlet, and a holder attached to said sliding plate and movable vertically to hold a can pressed to the outlet-opening of said plate, the outlet-opening in said second plate being arranged so that by sliding said plate the outlet-opening in said second plate is open to the vent-pipe and laps upon the outlet from the hopper, substantially as herein described.

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