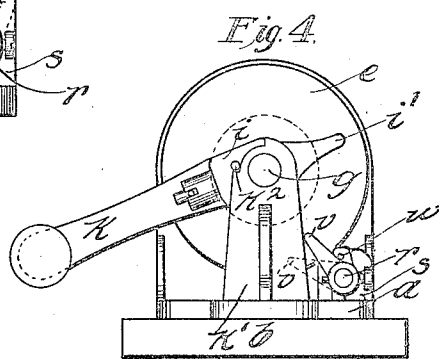
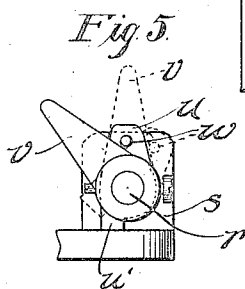
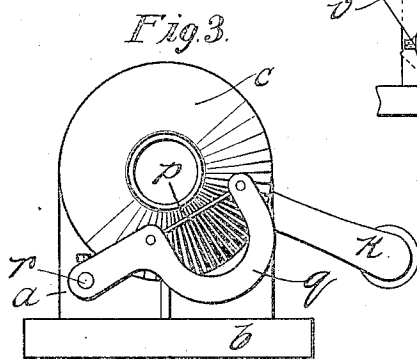
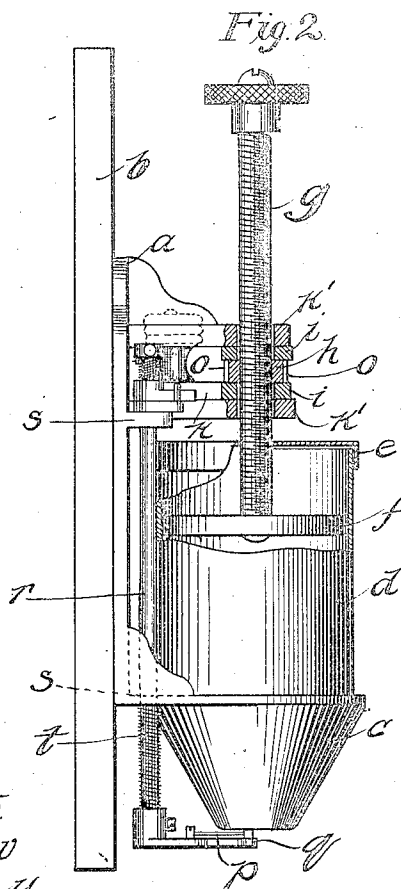
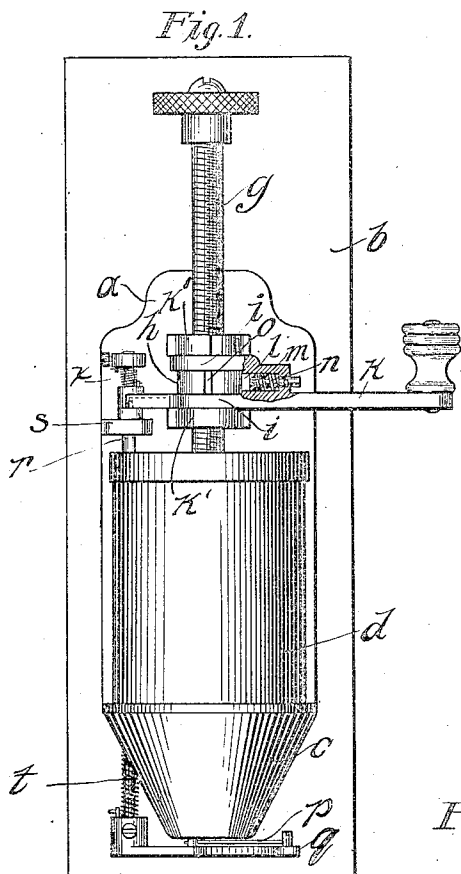


No. 821,300.

PATENTED MAY 22, 1906.

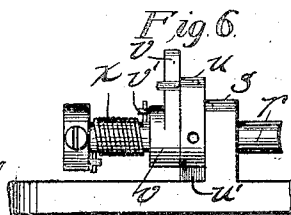
R. H. LITTLE.
SOAP FEEDING MACHINE.
APPLICATION FILED JUNE 3, 1905.



Witnesses:

C. F. Bassett.

Richard Kearney



Inventor
Robert H. Little

By *G. L. Cragg*
Atty.

UNITED STATES PATENT OFFICE.

ROBERT H. LITTLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO HOFFHEIMER SOAP CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SOAP-FEEDING MACHINE.

No. 821,300.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed June 3, 1905. Serial No. 263,513.

To all whom it may concern:

Be it known that I, ROBERT H. LITTLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Soap-Feeding Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to mechanism for supplying measured or limited quantities of soap, and is of particular utility in public and other places where it is desired to maintain the soap in a perfectly sanitary condition, though the invention is also serviceable in effecting an economical use of soap.

Hitherto soap has been supplied by machines either in powdered form, or it has been grated or sliced from solid bars. A decided objection to these classes of apparatus for supplying soap resides in the fact that moisture is likely to interfere with the proper operation of the machine, so that the powder will solidify in masses and the knives or graters will become gummed to deprive them of their function.

I have constructed a machine that renders the presence of moisture unharmed, the machine being adapted to feed the soap when soft, the soap being preferably employed when in this soft condition. I employ a chamber for the soft soap and a piston or plunger within the chamber, which serves to force the soap through the opening in the chamber, whereafter a cutter removes the soap forced from the chamber, so that this portion may be used. In order that the soft soap will not be forced by gravity from the chamber, the mouth of the chamber through which the soap issues is of considerably smaller area than a cross-section of the main portion of the chamber, and in order that the pieces of soap may be of sufficient size and in order that the containing-chamber may not be of undue height the chamber is made of comparatively large diameter. The chamber is preferably in the form of a cylinder that is conically shaped at its lower end to form the discharge-mouth. The plunger is in the form of a piston that works within the cylindrical portion of the chamber. The stem of the piston is preferably a threaded shaft in engagement with a nut held from longitudi-

nal movement by two brackets, so that as the shaft is rotated it is moved longitudinally to bring the piston against the soap to force it through the discharge-opening. An oscillating handle is employed that engages this nut when the handle is moved in one direction to force the piston downward and which escapes the nut when the handle is restored to its initial position to prevent elevation of the piston. The pitch of the threads upon the piston-shaft is chosen to secure the proper feed of the soap upon each movement of the handle. In order that the cutting device may be operated by the same handle, the cutting mechanism has a tripping device associated with the handle, whereby when the handle is moved to feed the soap the cutting device is not operated and when the handle is restored the cutting device is operated to remove the protruding soap.

I will explain my invention more fully by reference to the accompanying drawings, in which—

Figure 1 is a front elevation, with one of the parts slightly broken away, of the preferred form of my invention. Fig. 2 is a side elevation, certain parts being shown in section. Fig. 3 is a bottom view of the device. Fig. 4 is a top view. Fig. 5 is a top view, on a larger scale, of the tripping mechanism employed in the operation of the cutter. Fig. 6 is a side view of the tripping device and associate parts.

Like parts are indicated by similar characters of reference throughout the different figures.

A casting or support *a* is mounted upon any suitable carrying-plate *b* and desirably includes as an integral part or extension thereof the hollow cone *c*, tapering toward the bottom and which constitutes a seat for the main cylindrical portion of a soap-containing chamber *d*, that is covered by a displaceable cap *e*. The cylinder *d* contains a piston *f*, that desirably snugly fits the cylinder and which is carried on a threaded shaft *g*, that is held in place by a nut *h* in threaded engagement therewith, which nut lies between the bifurcated portions *i*, carried by the handle *k*. These bifurcated portions of the handle are interposed between the brackets *k'*, that project forwardly from the back or support *a*, so that the handle, as well as the nut *h*, always moves in the same plane. The connec-

tion between the handle *k* and the nut *h* is effected by a pawl *l*, desirably carried upon a plunger *m*, which is disposed within a spring-barrel afforded by one of the portions *i* of the handle, the spring *n* within the barrel pressing the pawl toward the nut. This nut desirably has four equidistant notches *o* upon its periphery, the machine illustrated being designed to discharge enough soap upon the quarter-turn of the nut, said notches having interlocking engagement with the pawl when the handle is moved forward, the said notches escaping engagement with the pawl when the handle is restored to its initial position, which is that indicated. To limit the handle to a quarter-turn, it is provided with a pin *k*², that travels within a corresponding notch in one of the brackets *k'*. The flaring or conical end *c* of the chamber prevents the soap from issuing from the chamber by force of gravity, such feeding only occurring upon the downward movement of the piston, which in the construction illustrated has no rotary movement, but is confined purely to a straight-line travel.

In order that the cutting operation may have proper sequence with respect to the feeding operation and in order that the one handle may effect both the feeding and cutting operations, I prefer the construction illustrated, wherein the cutter *p* is mounted at the ends of a U-shaped support *q*, located below the chamber and carried by the shaft *r*, extending parallel with the chamber and terminating above the same, this shaft being journaled at *s s* upon the bracket *a*. The spring *t* normally removes the cutter *p*, which cutter is preferably of wire, from beneath the mouth of the cone *c*, the plate *u*, fast upon the shaft *r*, limiting the extent of the rearward movement of the cutter by the engagement of its extension *u'* with the back *a*. The forward movement of the cutter is accomplished by rotating the shaft *r* against the force of the spring *t*, which rotation is effected by the engagement effected by the elongation *i'* of the handle *i* with the projecting end of the plate *v*, which is loose upon the shaft *r*, but which actuates the same by engaging the pin *w*, fixed upon the plate *u*. The spring *x*, as indicated most clearly in Fig. 6, is connected at one end with a shaft *r* and at the other end with the pin *v'* upon the plate *v*, whereby said plate is normally engaged with the pin *w*. As hitherto stated, when the handle *k* is moved forward the piston or plunger is depressed. In this movement the nose *i'* engages the plate *v* and removes the same from engagement with the pin *w* against the force of the spring *x*, so that the shaft *r* is not at this time rotated. When the handle is returned to the position shown, the plunger *l* rides out of the engaging slot in the nut *h*, so as not to feed the soap; but the nose *i'* engages the free end of the plate *v* and forces

the same against the pin *w*, thereby effecting the rotation of the shaft *r* to cause the cutter *p* to slice off the protruding soap. After the handle has been about restored the plate *v* escapes the nose *i'*, whereupon the spring *t* restores the cutter to its initial position.

I have herein shown and particularly described the preferred embodiment of my invention; but I do not wish to be limited to the precise construction shown, as modifications may be made without departing from the spirit of my invention; but,

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

1. A device of the class described, including a chamber for containing soap or other material and having an outlet, a piston therein, a threaded stem for the piston, a nut having threaded engagement with said stem and provided with a stationary mounting, and an operating-handle provided with a pawl adapted to engage said nut and rotate the same when the handle is moved in one direction, the pawl escaping the said nut when the handle is reversed in its movement.

2. A device of the class described, including a chamber for containing soap or other material and having an outlet, a piston therein, a threaded stem for the piston, a nut having threaded engagement with said stem and provided with a stationary mounting, an operating-handle provided with a pawl adapted to engage said nut and rotate the same when the handle is moved in one direction, the pawl escaping the said nut when the handle is reversed in its movement, and cutting mechanism operated by said handle.

3. A device of the class described, including a chamber for containing soap or other material and having an outlet, a piston therein, a threaded stem for the piston, a nut having threaded engagement with said stem and provided with a stationary mounting, an operating-handle provided with a pawl adapted to engage said nut and rotate the same when the handle is moved in one direction, the pawl escaping the said nut when the handle is reversed in its movement, cutting mechanism and an escapement device interposed between the handle and cutting mechanism whereby the cutter will not be operated while the handle is moving to effect a feed of the soap.

4. A device of the class described, including a chamber for containing the soap or other material and having an outlet, a feeding device including a threaded stem, a nut having threaded engagement with said stem, an operating-handle provided with a pawl adapted to engage said nut and rotate the same when the handle is moved in one direction, the pawl escaping the said nut when the handle is reversed in its movement, and a cutting device operated by said handle.

5. A device of the class described, including a chamber for containing soap or other material and having an outlet, feeding mechanism for feeding the material from the chamber, cutting mechanism for cutting the fed material, an oscillating handle operating both the feeding and cutting mechanisms, and an escapement device interposed between the cutting mechanism and the oscillating handle, whereby the cutting mechanism will not operate when the handle is moving in one di-

rection to effect a feed of the soap, but which effects driving connection between the handle and cutting mechanism when the handle is operated in the reverse direction.

In witness whereof I hereunto subscribe my name this 31st day of May, A. D. 1905.

ROBERT H. LITTLE.

Witnesses:

G. L. CRAGG,
RICHARD KEARNEY.