

(No Model.)

E. T. EVANS.

APPARATUS FOR LETTERING SOAP.

No. 386,740.

Patented July 24, 1888.

Fig. 2.

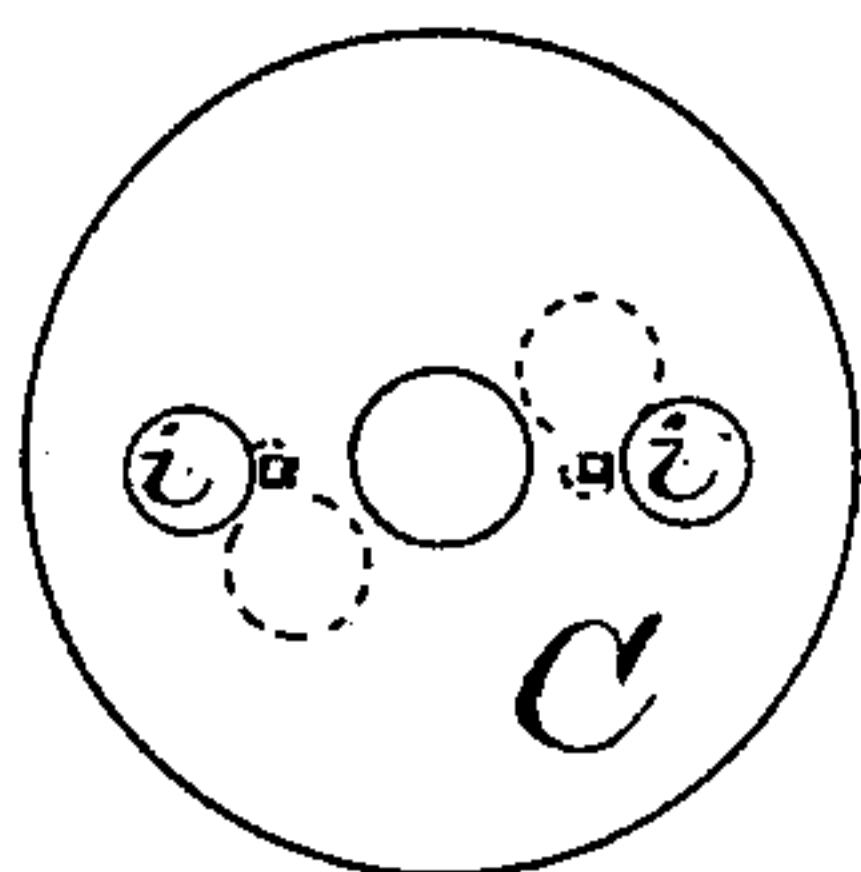
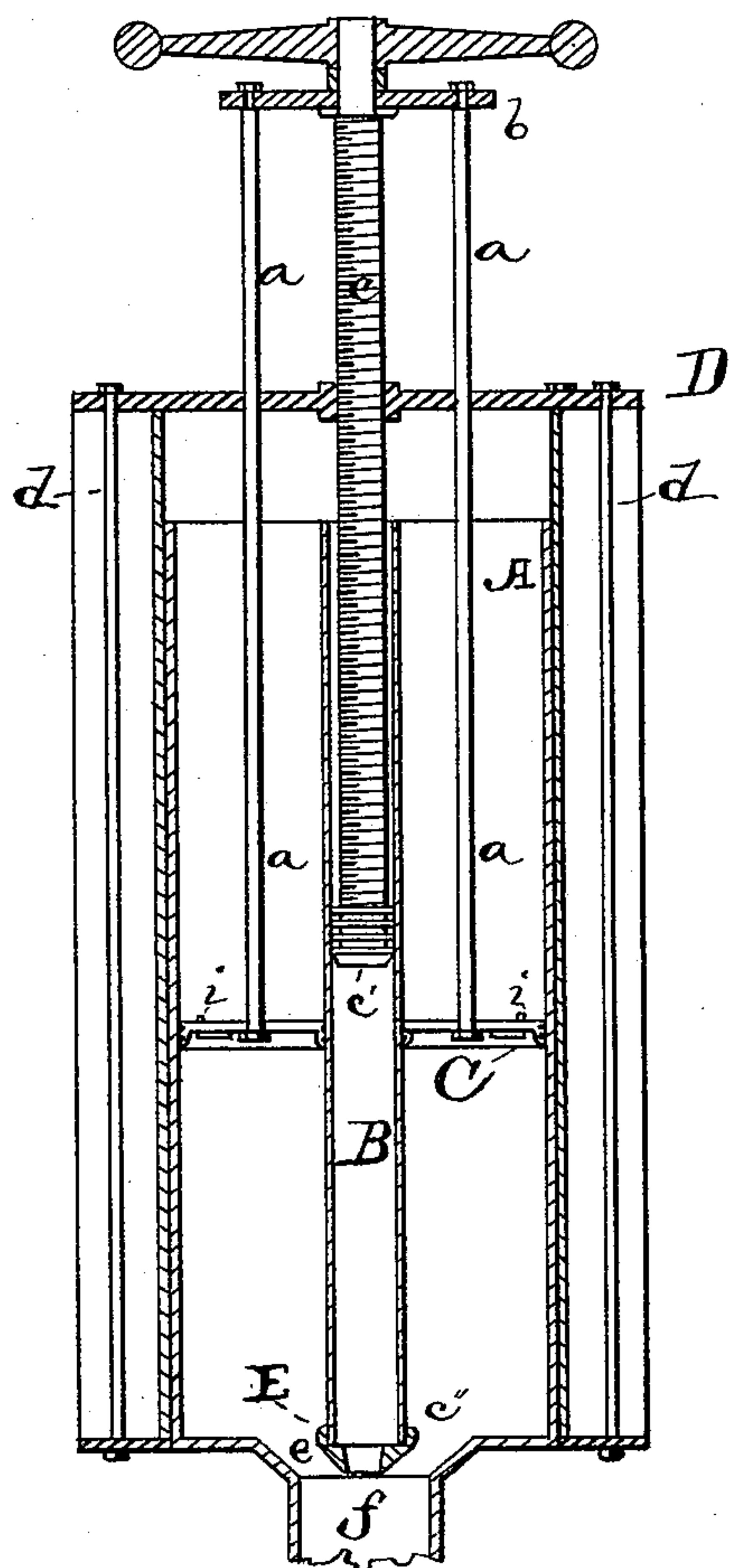


Fig. 3.

Fig. 1.

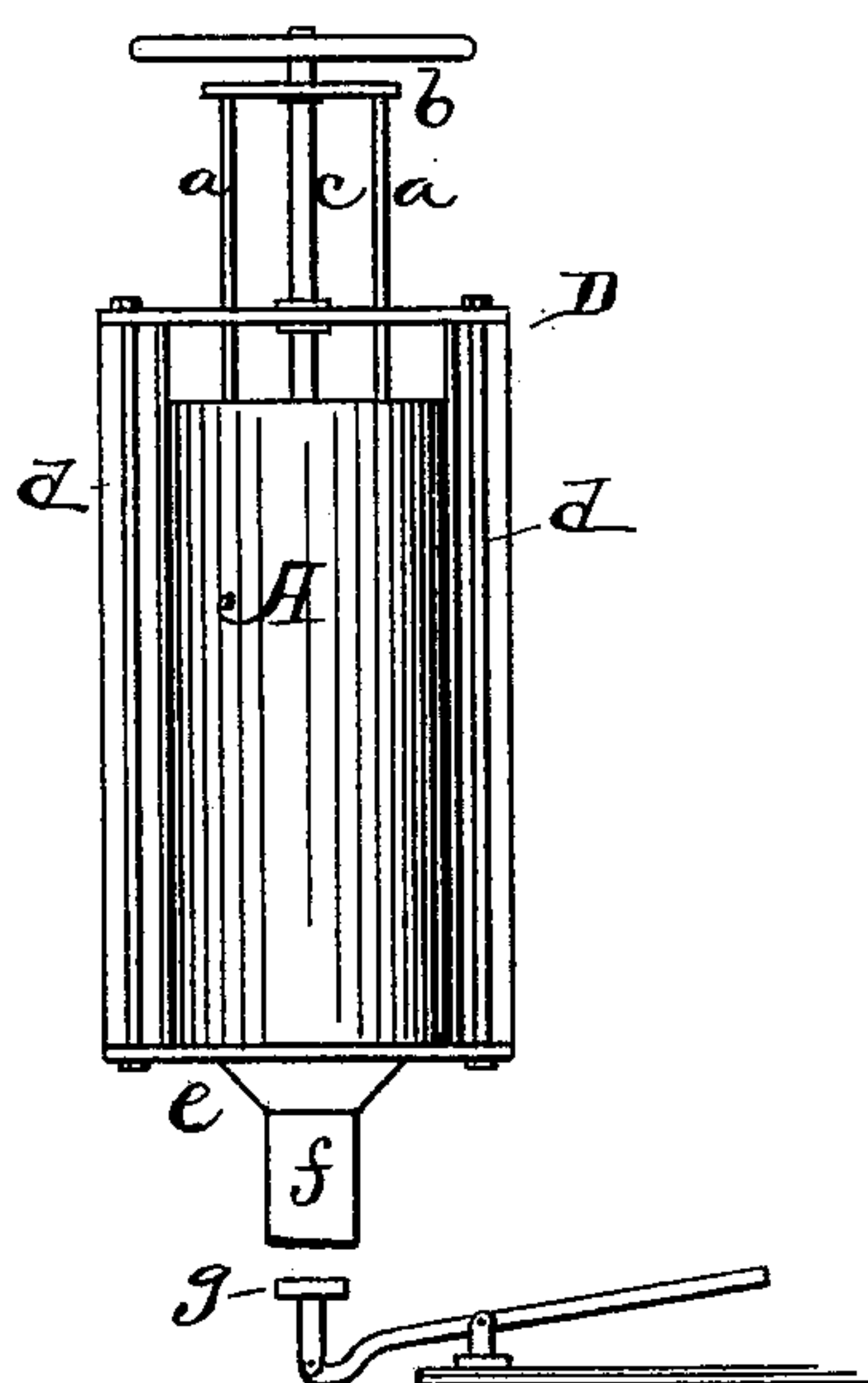
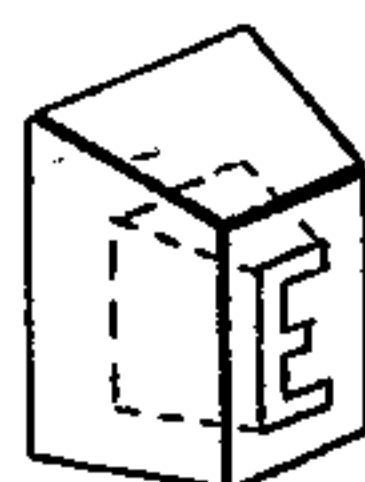


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR LETTERING SOAP.

SPECIFICATION forming part of Letters Patent No. 386,740, dated July 24, 1888.

Application filed January 18, 1888. Serial No. 261,082. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. EVANS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have
5 invented certain new and useful Improvements in Devices for Lettering Soap; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable
10 others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a
15 machine into which soap in a proper state is put and when it is forced out has an ineffaceable trade-mark incorporated therewith by an arrangement of letters, figures, words, emblems, or other designs in one or more colors
20 in the same cake or bar, so that a cross-section through will always show the trade-mark as long as the soap lasts. Its value to prevent theft from hotels, boats, and other places, and also to make known the brand, owner, or
25 maker, is apparent; and the invention consists in its construction as applied, and will be understood by reference to the following specification and claims.

In the drawings, Figure 1 is an elevation of
30 the whole device; Fig. 2, a vertical cross-section of same, enlarged; Fig. 3, a detail of piston-head removed from cylinder and showing valves, &c.; Fig. 4, a perspective of a die, showing only one open letter or trade-mark
35 formed so that the soap substance passes clear through the die.

A represents the outside cylinder or case, having a smaller cylinder, B, directly in the center thereof. Around this central cylinder,
40 B, is a piston, C, that by suitable packing works close to the cylinder B and to the inside walls of the cylinder A as well. It is operated by piston-rods *a a*, attached to an upper cross-head, *b*, and which go through a
45 second cross-head, D. Also attached to the cross head *b* and moving therein is a piston or plunger, *c*, that works in the central cylinder, B, the head *c'* of which fits closely the inner circumference of said cylinder. The rest of
50 the plunger *c* is screw-threaded up to the cross-head *b*, where it is smooth and merely turns therein, while the second cross-head, D,

just above the cylinders A B, is threaded, so that the screw when operated by power (only a hand-wheel is shown in Figs. 1 and 2) forces
55 down both pistons C *c* in the cylinders simultaneously. The cross-head D is held firmly in place by outside supports or rods, *d d*, and the cylinder A is properly braced and supported.

In the central cylinder, B, at its eduction end
60 *c'*, is arranged a stationary die, E, of open-work design, either a letter, letters, names, emblems, or any distinguishing-mark, and just below is an opening, *e*, in the bottom of the cylinder A. The aperture is tunnel-shaped
65 for a short distance and ending in a forming-tube, *f*, either square, oblong, round, or other shape, as may be desired, for the outside of the cake or bar.

Below the eduction end of this tube *f* is a
70 vertical plunger, *g*, that by a treadle or other pressure is forced into the tube *f* while the soap is therein. In the piston C valves *i i* on the under side cover openings in the piston, the object to be presently explained. 75

The operation of the machine is as follows: The piston C is drawn up to the top of the cylinder A and the valves *i i* opened. Through them is put into the cylinder A the substance of which the bar or cake is to be formed, while
80 the substance of another color or colors of which the trade-mark, &c., is to be formed is put into the smaller cylinder, B, the plunger *c* having been drawn up above the opening to its cylinder, it being shorter than the piston-
85 rods *a a*, the same movement of this screw-plunger *c* operating the rods *a a* and the piston C, the bottom of the plunger always remaining at the same distance above the piston C, as indicated in Fig. 2. The valves *i i* are
90 closed when the cylinders are filled and the two substances forced out by the two pistons C and *c*—that in the large cylinder through the tunnel aperture *e* into tube *f*, and that in the small cylinder *c* through the die E into
95 tube *f*—both substances coming together at the same velocity, the bar or cake and the trade-mark fitting each other perfectly; but to do this properly the large cylinder must bear the same relative proportion to the cake or bar as
100 the small cylinder does to the letter or trade-mark which it makes, the position of the plunger *c'* above the piston C and the tunnel-opening *e* all being important. The two sub-

stances that form the cake or bar are soft enough to unite in a semi-hardened condition as they are simultaneously forced through the two cylinders; but that in the small cylinder is solely for making the letters or emblem, and is colored differently from that in the cylinder A, so as to show clear through the center of the bar or cake when it exits from the tube *f*. The letter or emblem is formed by this colored portion passing entirely through the die E, its openings being in the shape or shapes of letters or emblems, as before stated. The simultaneous pressure of the pistons C *c* and the relative proportions of the cylinders A and B cause the soap substance to unite in perfect accord in the tube *f*, and this can be kept up as long as the substance is fed into the cylinders A and B. As the united substances pass into the forming-tube *f* they are met by the piston *g* therein, on which a reactionary pressure is put for the purpose of keeping the substances in one solid mass. This pressure can be increased to suit the substance forming the cake.

The designs formed by this device extend entirely through the cakes or bars of soap and remain distinct until used up, and may be applicable to other substances. I do not claim the cakes or bars thus marked or ornamented; but

I claim--

1. In a device for lettering soap, the combination of the cylinder A, having a contracted

neck at its lower end and provided with a piston, C, having a central aperture, the cylinder B, concentric with said cylinder A and provided with a piston, and having a stationary die in its lower end, and means for simultaneously operating said pistons, substantially as specified.

2. In a device for lettering soap, the cylinder A, having a contracted neck at its lower end and tube *f* extending therefrom, the cylinder B, concentric with the cylinder A, having an open stationary die at its lower end, the stationary cross-head D, and the piston C, surrounding cylinder B and having rods *a a* attached to cross-head *b* and passing through cross-head D, all combined and operating substantially as specified.

3. In a device for lettering soap, the combination of the cylinder A, having a contracted neck at its lower end and provided with a piston, C, having a central aperture, the cylinder B, concentric with said cylinder A and provided with a piston, and having a stationary die in its lower end, and means for simultaneously operating said piston, the tube *f*, and vertical plunger *g*, working therein, all substantially as specified.

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

EDWIN T. EVANS.

Witnesses:

ROBERT LEARMOUTH,
HENRY E. NAVAGH.