

J. L. JACKSON.

SOAP-MOLD.

No. 174,365.

Patented March 7, 1876.

Fig. 1.

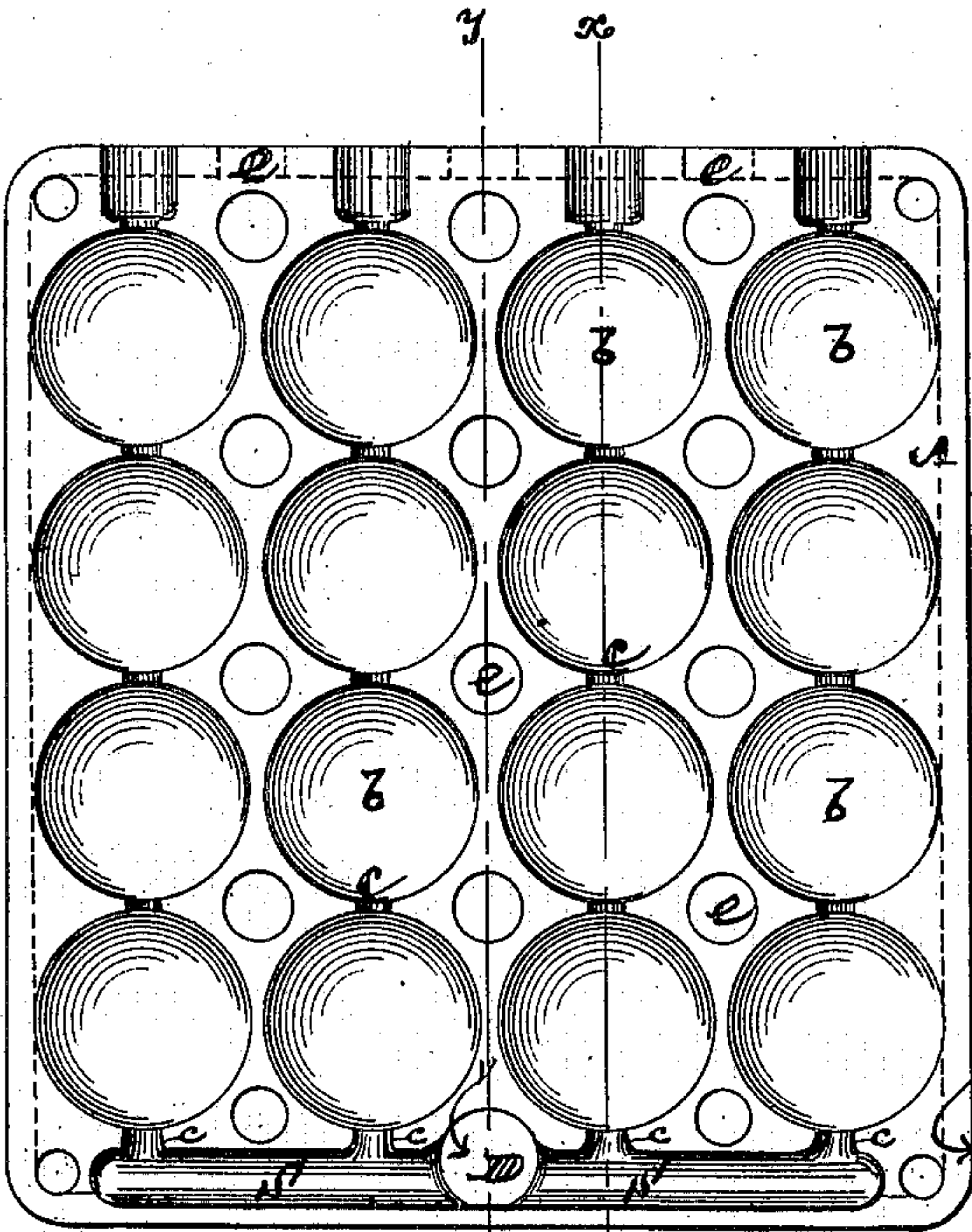


Fig. 2.

Fig. 3.

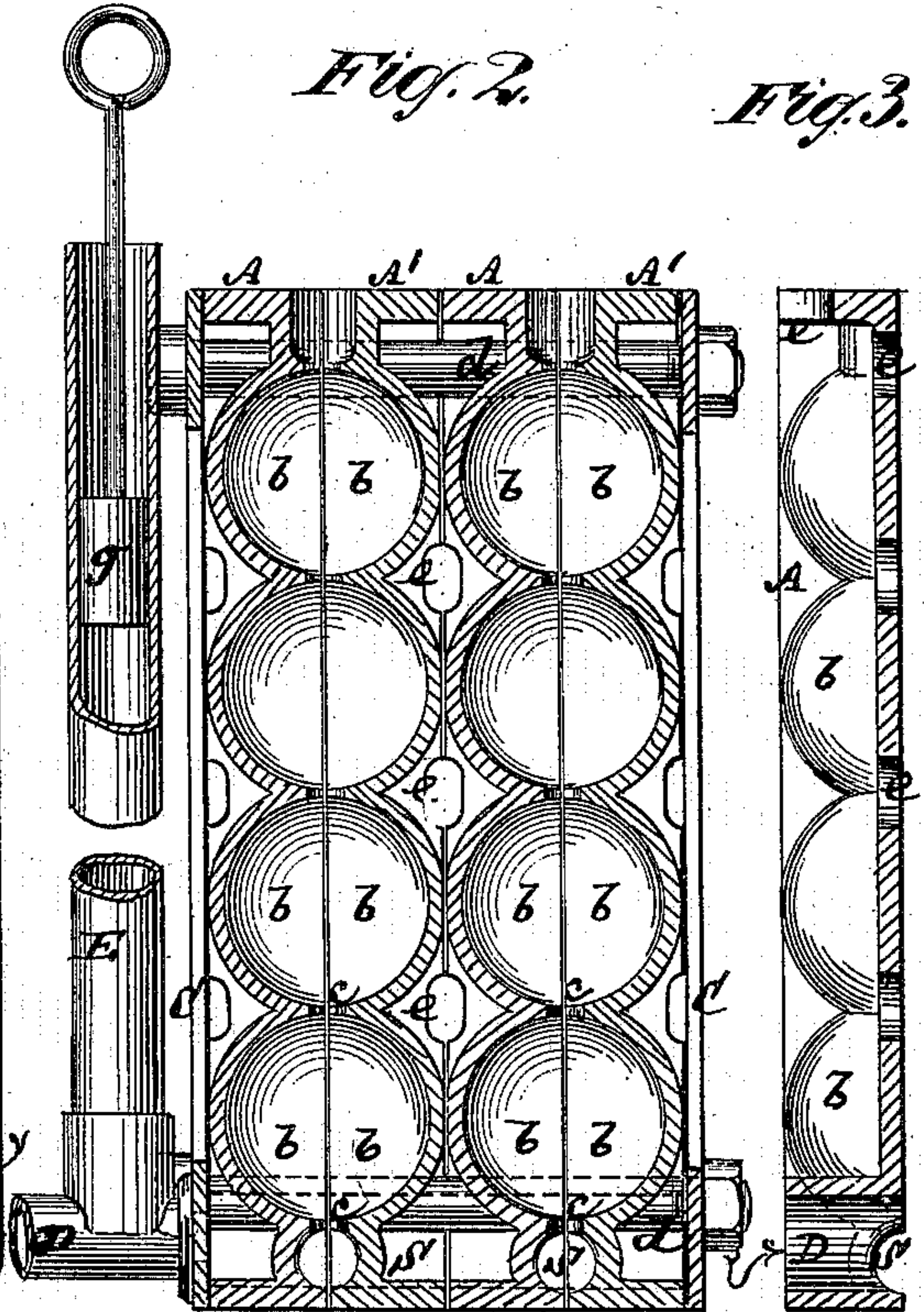


Fig. 4.

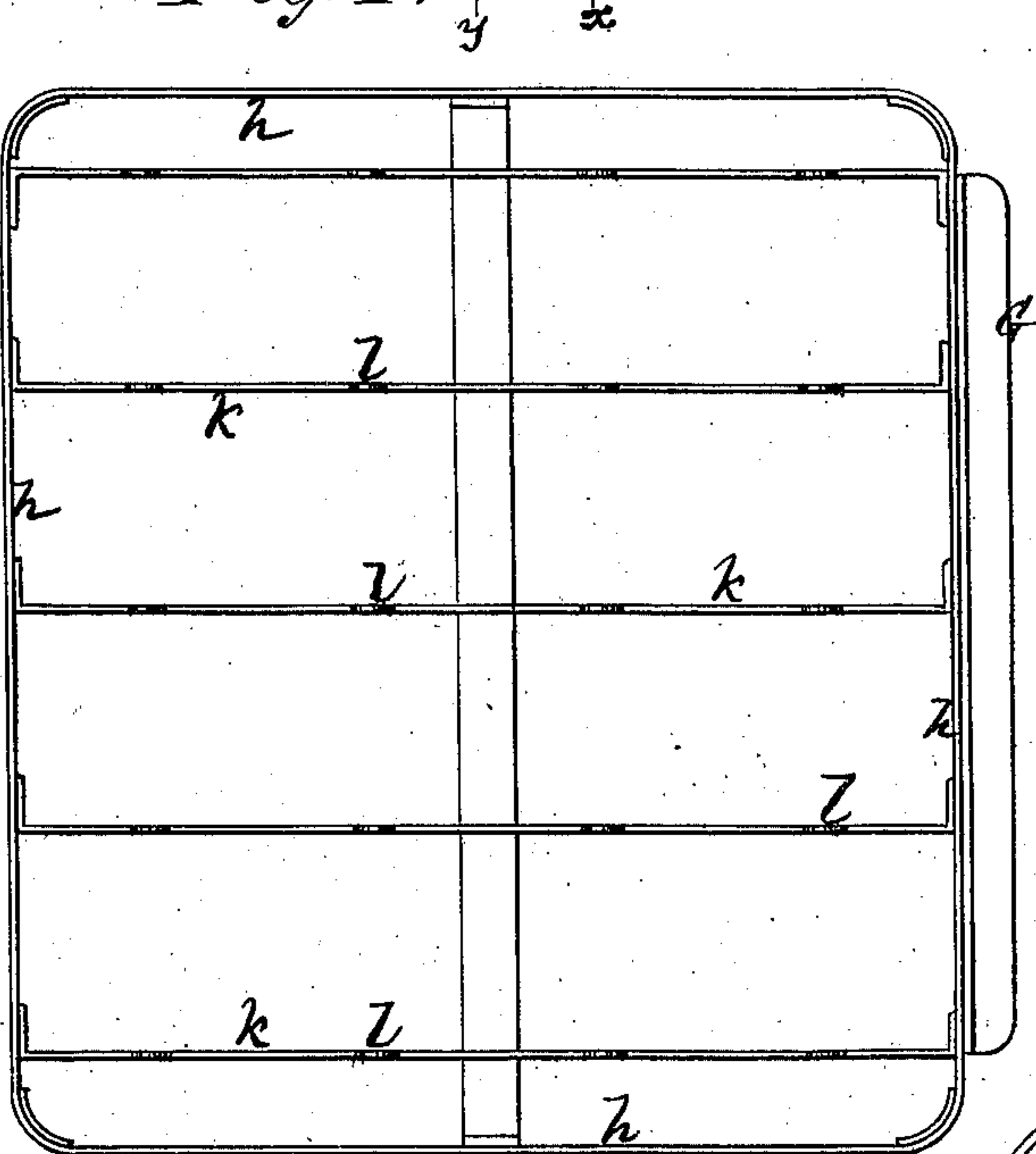
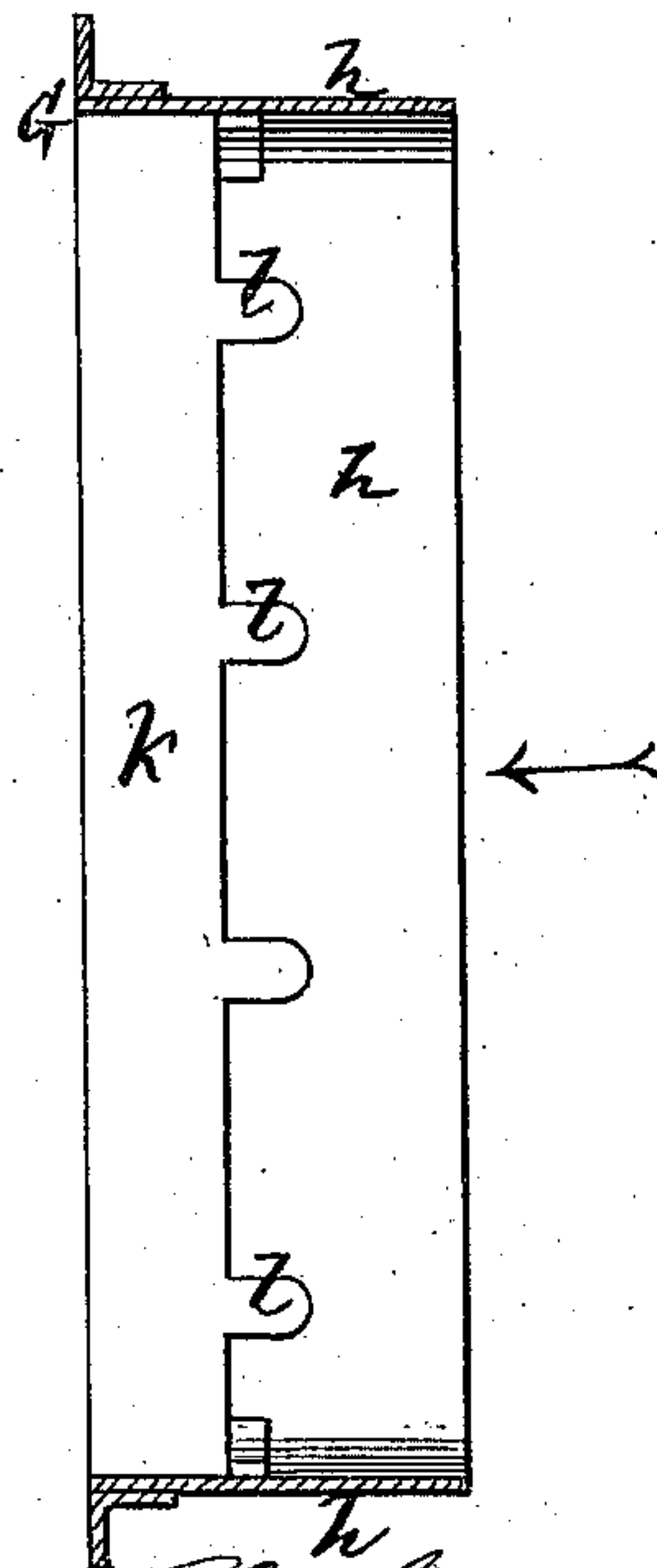


Fig. 5.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES L. JACKSON, OF NEW YORK, N. Y.

## IMPROVEMENT IN SOAP-MOLDS.

Specification forming part of Letters Patent No. 174,365, dated March 7, 1876; application filed January 3, 1876.

*To all whom it may concern:*

Be it known that I, JAMES L. JACKSON, of the city, county, and State of New York, have invented certain new and useful Improvements in the Manufacture of Soap and other Substances in Molds; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention more particularly relates to the manufacture of transparent and other soap, which is run, while in a fluid state, into molds. These molds are usually of a globular construction, for producing the soap in balls.

The invention, in this relation, has for one of its objects the manufacture of such articles in large numbers, by a single running or filling from the kettle or furnace in which the saponaceous material is kept melted, and so that the balls or articles, as cast, are free from honey-comb, or being air-blown.

The invention consists in a combination of vertically-divided mold-boxes arranged back to back, and each composed of a group of molds in vertical rows, with the molds in each of such vertical rows connected by a small opening or neck, in combination with a base-filling gate common to the several molds, air-passages in between the molds, through the boxes, and an independent pressure-tube applied to the gate.

The invention likewise includes a peculiarly-constructed cutting-frame for simultaneously separating the connected molded balls or articles in each group or half-box.

Figure 1 is a side view of a series of molds or mold-boxes constructed in accordance with my invention, and Figs. 2 and 3 vertical sections of the same on the lines *x x* and *y y*, respectively. Fig. 4 is a face view of a cutting-frame used in separating the molded articles or balls of soap, and Fig. 5 a transverse section of the same.

A A' represent a series of vertically-divided mold-boxes. Each of these mold-boxes contain a group of molds, *b b*, cast with or constructed in halves in common with the boxes to which they belong, and of which they form a part. The half-boxes A A' are made to register, so as to bring the halves of each mold

*b b* together. Each group of molds—that is, the molds in each box—is provided with, and connected by, upright apertures *c c*, to provide for the filling of the molds from beneath and expulsion of the air from above. Any number of these mold-boxes are arranged back to back, one against the other, and bolted together by means of cross-bolts *d d* passing through the molds and through side plates C C. There are also air-circulating apertures *ee* between the several mold-boxes, through which cooling currents of air are passed to cool the molds after the filling of them with soap.

Prior to filling the molds, the several mold-boxes thus bolted or clamped together, as described, may be placed on a truck for the conveyance of them to and from the filling kettle or furnace, and a fan or other blower may be mounted on the truck, for forcing a current or currents of cooling-air, when the truck is in motion, through the air-passages between the molds.

The molds in the several mold-boxes are filled by introducing the melted or fluid soap under hydrostatic or other pressure by a lower filling-tube, D, into a base-gate, S, constructed to communicate with the lower series of molds *b b*, through their bottom necks or apertures *c c*, said gate being composed of longitudinal and transverse passages, so as to connect with all the lower molds throughout the several boxes.

The filling-tube D should be provided with a cock for opening or closing its communication with the filling kettle or furnace, to control the filling of the molds, and to shut off the direct supply from the kettle after the molds are filled. Each upper series of molds is filled from the series immediately beneath it, by or through the connecting apertures or necks *c c*, the soap rising throughout the several molds and forcing out the contained air through the upper necks or apertures *c c*. This in a measure provides for the soap-balls being made free from honey-comb or being air-blown; but to provide for the shrinkage of the balls in the molds, and to give them increased solidity, I mount on the tube D, between its cock and the several mold-boxes, an upright tube, E, into which the melted soap is forced from



below, at the same time that the several molds are filled, and which may either be extended sufficiently above the mold-boxes, to give an adequate hydrostatic pressure, or have fitted within it a weighted plunger, *g*, or piston which may be loaded with weights, so that after the molds have been filled, as described, they will be kept charged under pressure by the soap in the tube *E*. To prevent, however, such pressure from forcibly expelling the soap through the apertures *c c* in the upper series of molds, said apertures should be closed by a frame or grating placed on the tops of the several molds, and constructed to close such apertures, but leaving the air-passages up between the mold-boxes open, to expedite the cooling of the molds and settling of the thoroughly compacted balls of soap in the molds.

After the soap has been thus molded and compacted, the several mold-boxes are run off or removed from the furnace, the bolts *d d* removed, and the mold-boxes separated one from the other, and each box, which may then be placed horizontally, opened, by removing its one-half, *A* or *A'*, leaving the connected balls of soap of each group in the other half of the box or of its semi-spherical molds.

A cutting-frame, *G*, formed with sides *h*, which fit over the sides of the filled mold-boxes, and provided with thin metal blades *k* having projecting cutters *l*, is then placed in proper register, by means of the sides *h*, or otherwise,

on or over each half mold-box, in succession, containing the balls of soap, and so that the cutters *l*, which, together with the blades *k*, are suitably spaced for the purpose, are brought down upon the thin necks of soap in the connecting-apertures *c* of the molds. This separates the several balls of soap in each group of molds, and leaves little or nothing to be done afterward in the way of trimming the balls, by reason of the molds being integral parts of the boxes, and the thin films of soap in the connecting-apertures *c c* being little or no thicker than the thin cutters *l* which divide the balls.

I claim—

1. The combination of the vertically-divided mold-boxes *A A'*, their lower distributing-gate *S*, the upright through and connecting apertures *c c*, the molds *b b*, air-passages *e e* through the mold-boxes, and the independent pressure-tube *E*, connected with the gate *S*, essentially as described.

2. The cutting-frame *G*, with its cutters *l l*, in combination with either half mold-box *A* or *A'*, constructed to form molds *b b*, having through or connecting apertures *c c*, substantially as and for the purpose herein set forth.

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Witnesses:

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FRED HAYNES.