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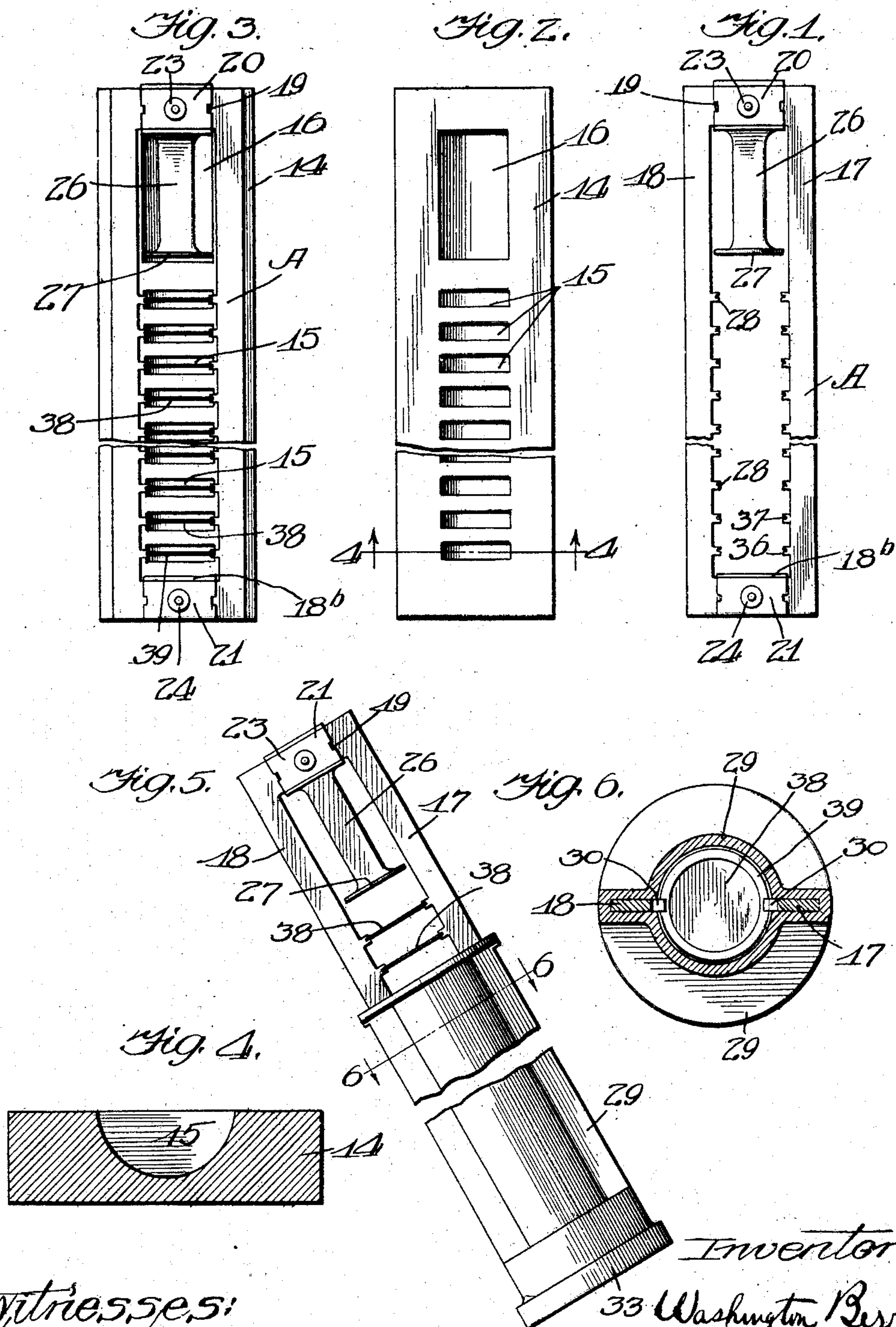
PATENTED SEPT. 3, 1907.

W. BERRY.

METHOD AND APPARATUS FOR PLACING INSERTS IN CAKES OF SOAP.

APPLICATION FILED MAY 21, 1906.

2 SHEETS—SHEET 1.



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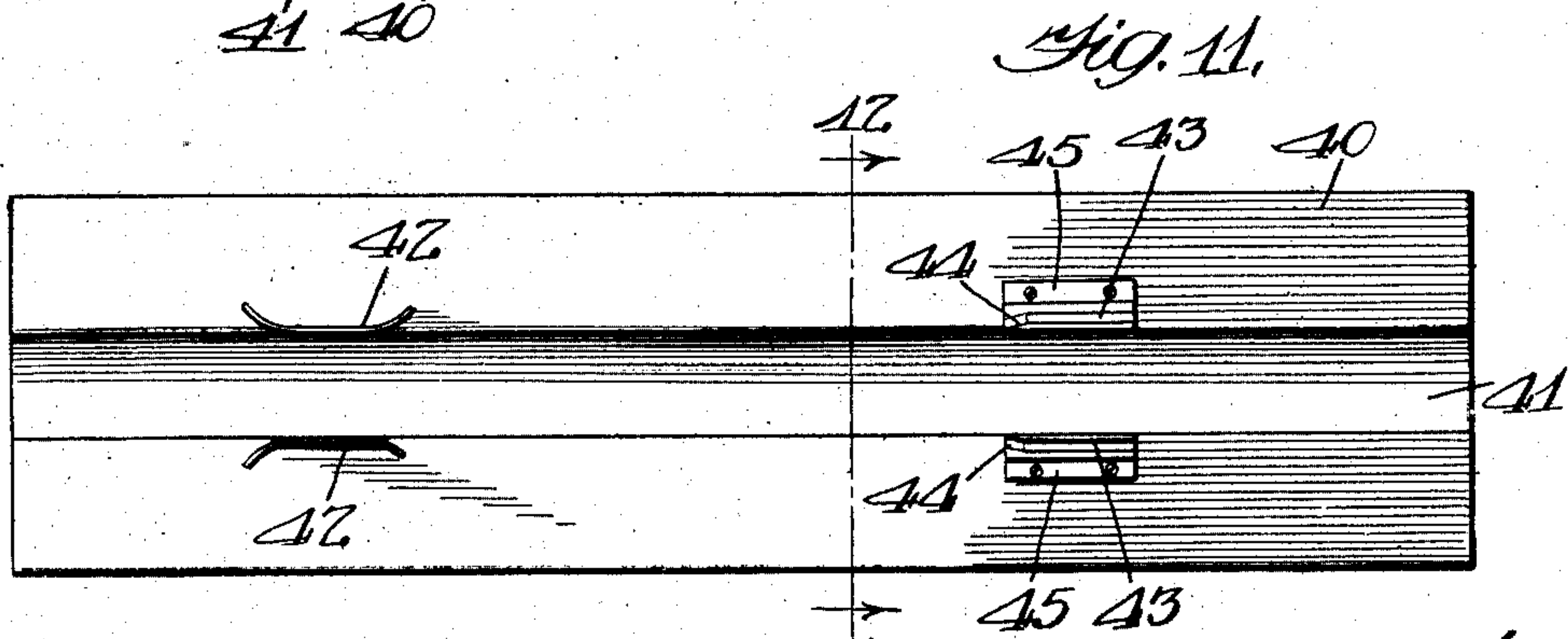
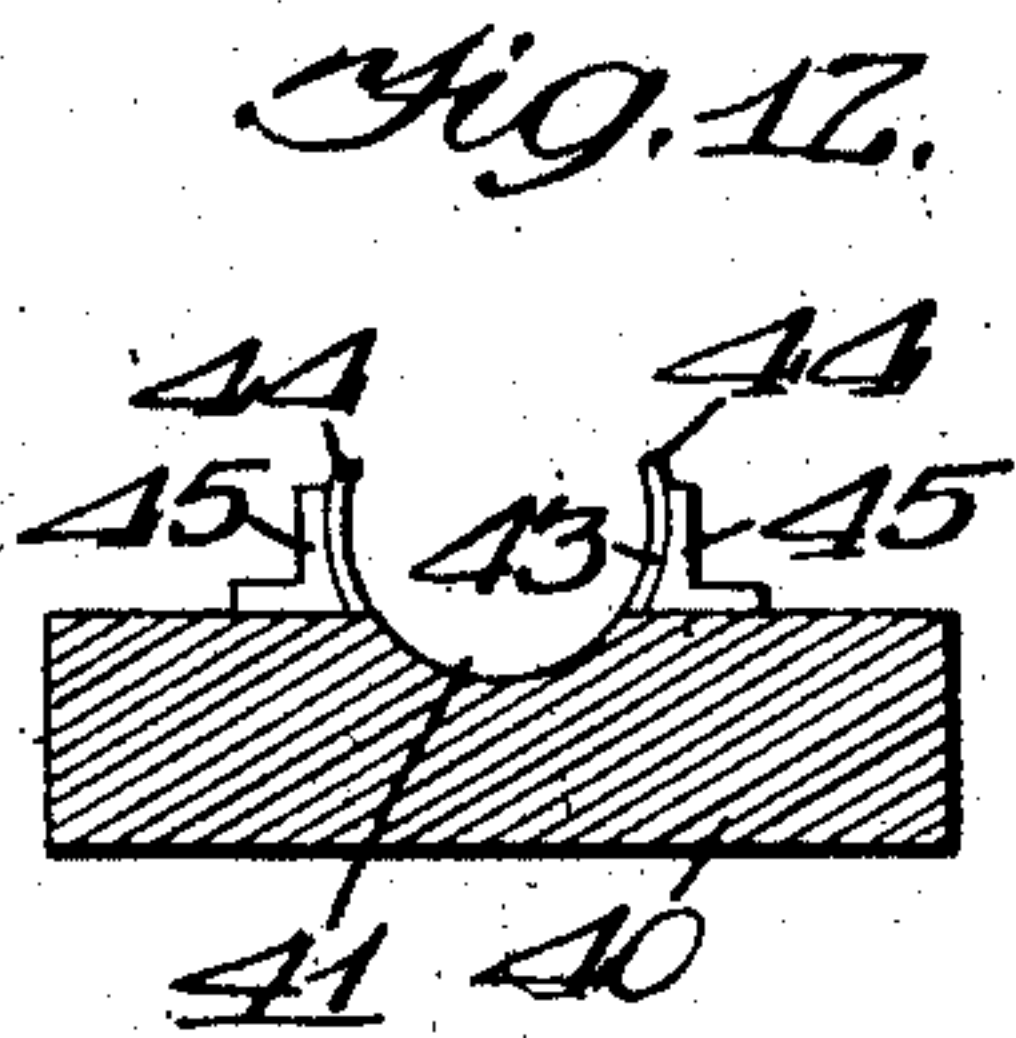
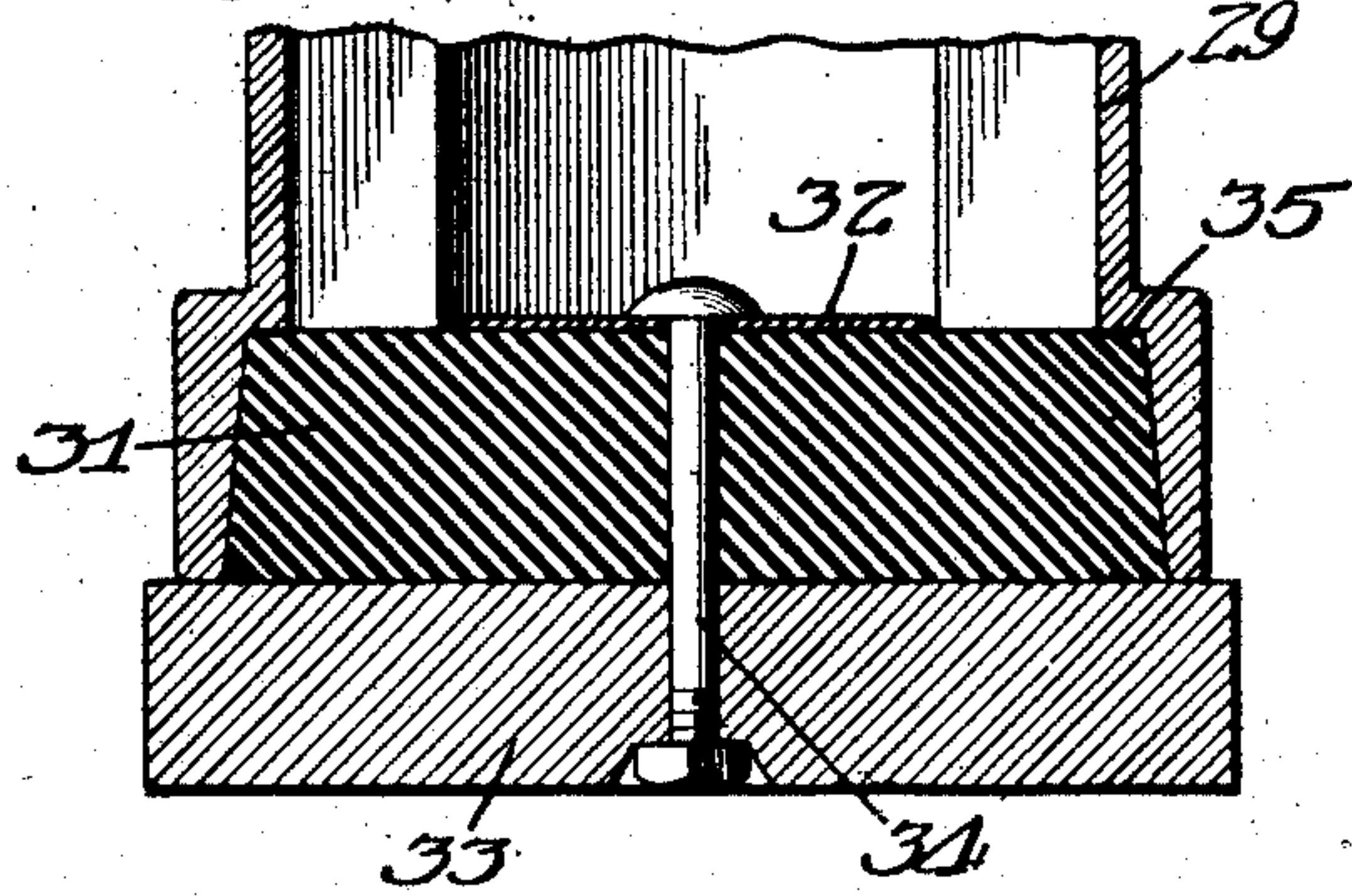
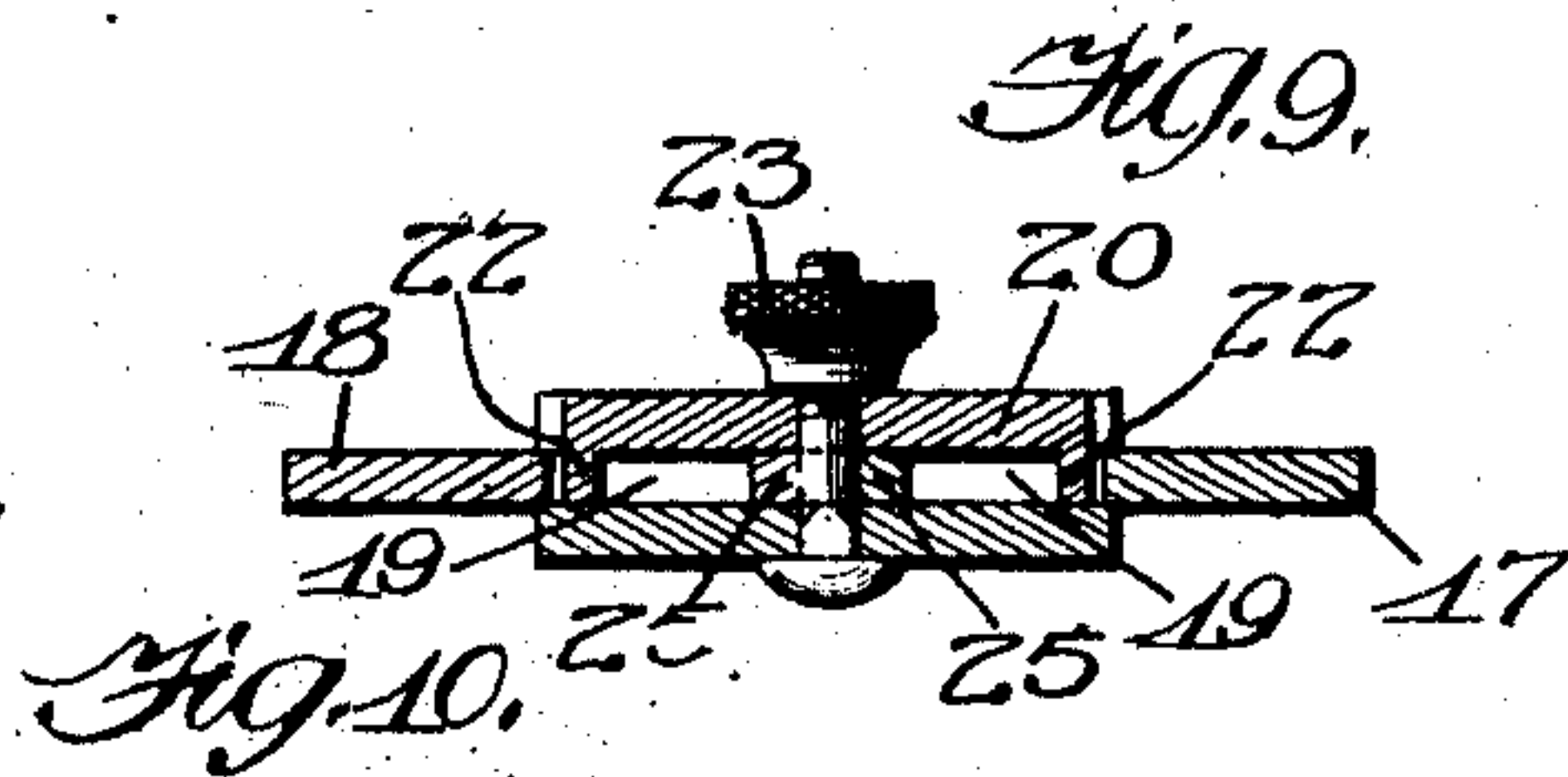
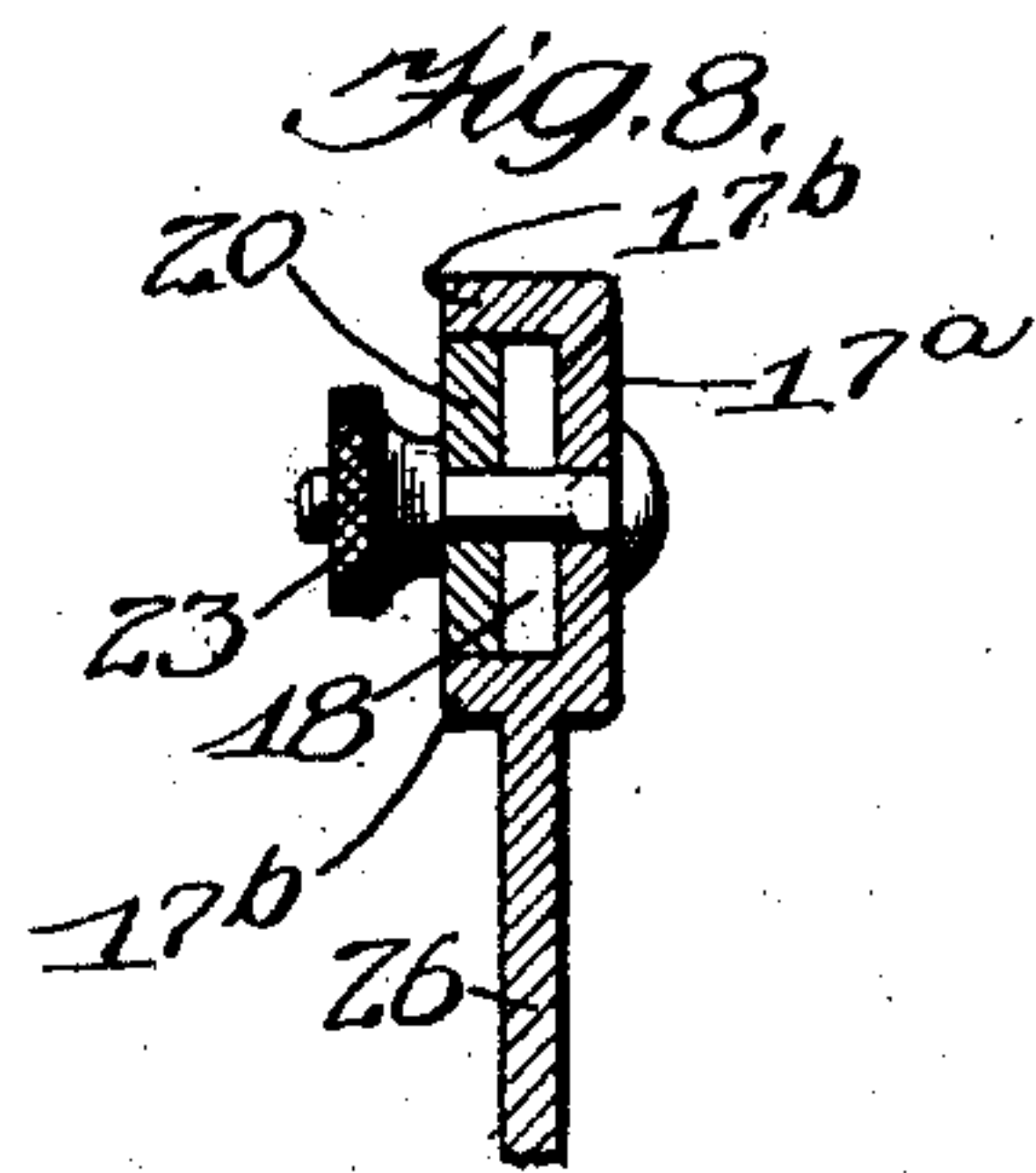
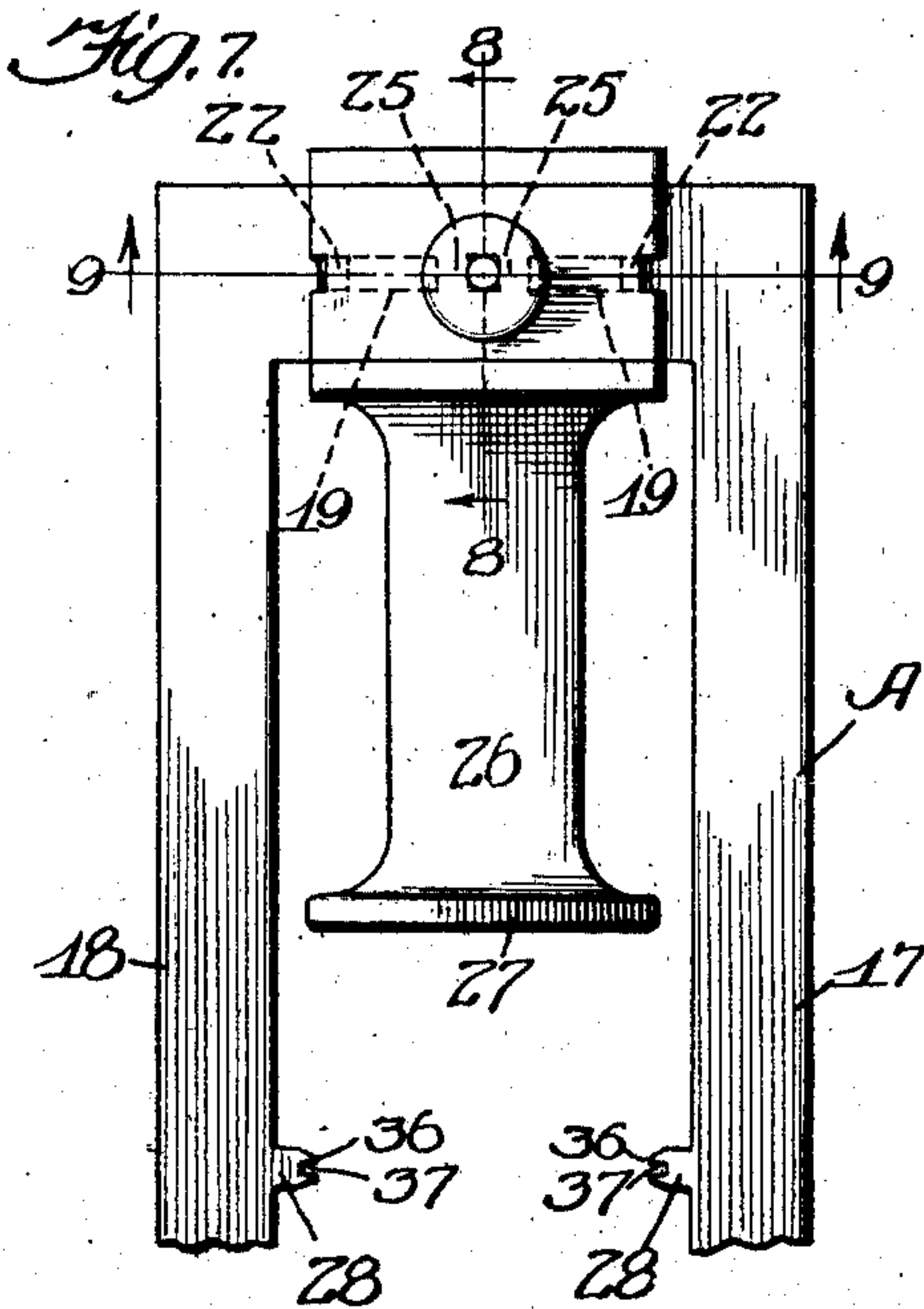
W. BERRY.

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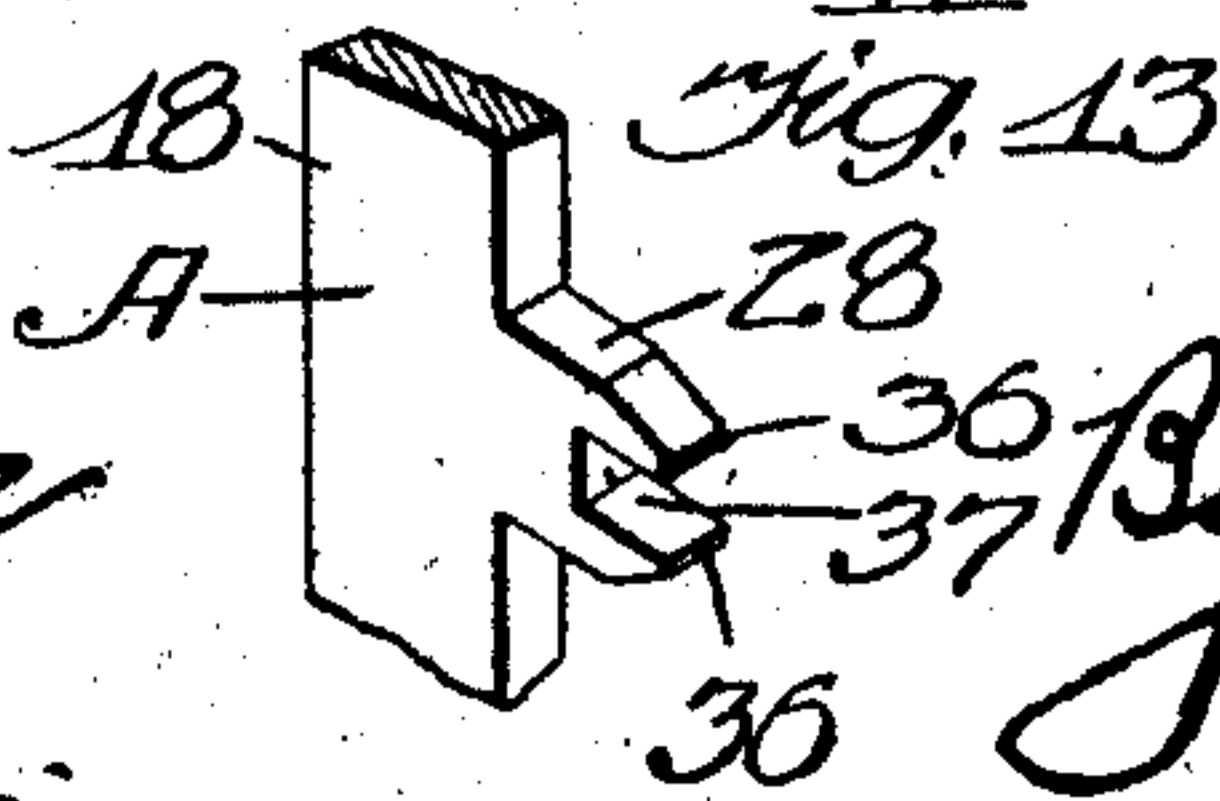
METHOD AND APPARATUS FOR PLACING INSERTS IN CAKES OF SOAP.

APPLICATION FILED MAY 21, 1906.

2 SHEETS—SHEET 2.



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Inventor:
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UNITED STATES PATENT OFFICE.

WASHINGTON BERRY, OF CHICAGO, ILLINOIS.

METHOD AND APPARATUS FOR PLACING INSERTS IN CAKES OF SOAP.

No. 865,074.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed May 21, 1906. Serial No. 317,926.

To all whom it may concern:

Be it known that I, WASHINGTON BERRY, a citizen of the United States of America, and a resident of Chicago, Illinois, have invented a certain new and useful Improvement in Method and Apparatus for Placing Inserts in Cakes of Soap, of which the following is a specification.

My invention relates to improvements in the method and apparatus for placing inserts in cakes of soap, and more particularly to the methods and apparatus in which the inserts consist of thin plates or disks provided with metallic edges.

The object of my invention is to provide an apparatus by the use of which inserts may be quickly and securely placed within a mold and the finished product obtained with the least expenditure of labor.

A further object is the production of a device adapted for use with thin metallic edged inserts.

A further object is the production of a product which may be cheaply manufactured and used for advertising purposes.

These and such other objects as may hereinafter appear are attained by my devices and methods, embodiments of which are illustrated in the accompanying drawings, in which

Figure 1 represents a plan view of my improved insert-supporting frame. Fig. 2 represents a plan view of my improved spacing block. Fig. 3 represents a plan view showing my frame in position on the spacing block with disks inserted therein. Fig. 4 represents a sectional view on line 4—4 of Fig. 2, looking in the direction indicated by the arrows. Fig. 5 represents a perspective view showing my frame with inserts therein partially inserted in a mold. Fig. 6 represents a sectional view on line 6—6 of Fig. 5, looking in the direction indicated by the arrows. Fig. 7 represents an enlarged plan view of one end of Fig. 1. Fig. 8 represents a vertical sectional view on line 8—8 of Fig. 7, looking in the direction indicated by the arrows. Fig. 9 represents a horizontal cross-section on line 9—9 of Fig. 7, looking in the direction indicated by the arrows. Fig. 10 represents an enlarged sectional view of the bottom of the mold. Fig. 11 represents a plan view of the table on which the soap core is forced after removal from the mold. Fig. 12 represents a cross-section on line 12—12 of Fig. 11, looking in the direction indicated by the arrows. Fig. 13 represents an enlarged perspective view showing one of the metallic lugs or clasps used to hold the insert in the frame.

Like figures of reference indicate like parts in the several figures of the drawing.

Referring by figure to the accompanying drawings, 14 represents a spacing-block provided with a series of equi-distant cavities 15—15 therein, and with a large cavity 16 in the upper portion thereof. The frame A is formed in two parts 17 and 18 resting in channel-shaped

pieces 17^a and 18^a. In the upper and lower portion of these pieces are slots 19, and resting on the ends and covering same are plates 20 and 21 abutting upturned flanges 17^b and 18^b. A small portion of these plates are cut out and forced downwardly forming lugs or flanges 22. These flanges extend into the slots 19. Thumb-screws 23 and 24 extend through the top plates and through a center portion 25 of the frame. When the thumbscrew is screwed down, the pieces 17 and 18 are prevented from coming apart by reason of the plates 20 and 21 acting as clamps and the flanges 22 striking against the center piece 25. Extending downwardly from the plate 20 is a deflector or plunger 26 terminating in a circular head 27. Notched lugs or springs 28, 28 extend inwardly and directly opposite each other from the opposite sides of the frame A, and serve as insert supports. A mold 29, either circular, oval or oblong, or any desired shape, as shown in Figs. 5 and 6, is provided with oppositely disposed longitudinal grooves 30, 30 adapted to receive the sides 17 and 18 of the frame. The bottom comprises a block of india rubber or other resilient material 31 securely bolted between the plate 32 and the wooden bottom 33 by means of a bolt 34. The lower portion of the mold 29 is flanged, forming a circular seat 35 against which the face of the rubber block abuts. The lugs or pins 28, as shown in enlarged view in Fig. 13, are preferably pointed at 36 and provided with a slot 37 within which is seated the disk 38. This disk is preferably provided with a metallic edge 39 adapted to fit closely within the slot 37, but any suitable material can be used, as shown in Figs. 5 and 6.

In Figs. 11 and 12, is shown a block 40 provided with a groove 41, the groove being adapted to fit the configuration of the soap core. Secured to opposite sides of this groove and at one end of the block, are spring-metallic fingers 42, 42, preferably curved outwardly and so placed that their flat surfaces are flush with the edge of the groove, and extending a little above. At the other end of this mold are secured upwardly extending plates 43, 43, situated on opposite sides of the groove and having faces adapted to conform to the finished soap core. These plates may be formed in one piece and secured to the block, or they may comprise a circular portion 44 secured to the block by means of annular bars 45.

The operation of my device is as follows: The frame A is laid flatwise on the block 14, the plunger 27 fitting in the opening 16. Inserts of wood, soap or metal, but preferably pasteboard disks with metallic edges, are then inserted within the notches 37, when thick inserts are used. The thumb-screw clamp being loosened, each side of the frame is parted, allowing sufficient room to place the thicker inserts in the spaces 15 (Fig. 2), these inserts being so placed in the spaces that their bottom edges rest upon the bottom of the spaces 15. The teeth of the lugs are then forced

into the inserts, thus holding them in a central position so that they will be centered in the mold 29. If desired, the lugs may comprise two springs and grip the insert. After the inserts are all in place, the frame is lifted and slipped into the mold 29, the sides of the frame sliding within the grooves 30, leaving the disks exactly centered and evenly spaced within the mold. When the frame with the inserts therein is in place in the mold, liquid soap is poured in at the upper end.

10 The head 27 of the plunger or deflector serves to prevent the soap from falling directly on the disks, but forces it downwardly along the sides of the mold. The mold is set at an angle depending on the consistency of the liquid soap, which prevents the formation

15 of air bubbles underneath the inserts. When the mold is filled above the last insert, additional liquid soap is poured therein until it covers the head 27. This additional soap is provided in order to take care of the shrinkage and the air which arises from the liquid

20 column, as ordinarily a few inches of the upper portion of the soap core is more or less frothy and filled with air. After the soap has hardened sufficiently to insure its retaining its shape after removal from the mold, the bottom plug 33 is removed from the mold,

25 the frame A is forced downwardly forcing out the soap and frame. This operation is all performed with the mold placed horizontally, as shown in my Patent No. 740,387, issued October 6, 1903, except that in this case the soap bar is forced out of the mold from the

30 top of the mold towards the bottom, leaving the hardened froth soap formed on the inner walls of the mold behind in place of being forced over it, which is the case when the soap is forced from the mold from the bottom towards the top. I thus avoid having the

35 cylinder of soap being cut into by the hard crust of froth soap, which leaves longitudinal furrows in the soap bar. The mold being now on the table in line with the groove 41, so that as the frame A is forced outwardly through the bottom of the mold, the plunger

40 head 27 carries the soap forward and deposits the frame and soap bar within the extension of the groove 41. At this point, the thumbscrews 23 and 24 are loosened, and the sides 17 and 18 of the frame are forced apart in any well-known manner until

45 the flanges 22 engage the center piece 25, as, for instance, by means of a double rack and spur pinion (not shown), or any other well-known method. The soap bar now containing the inserts molded centrally therein and lying in the extension of the groove 41

50 has on its opposite sides longitudinal fins or beads of soap formed from the soap which has flowed into the groove 30 between the inner periphery of the mold and the inner edges of the frame A. These longitudinal fins or beads are, of course, oppositely disposed.

55 Equi-distant along the line of these two longitudinal fins or beads are cavities left in the soap when the metallic lugs (Fig. 13) are removed from the soap, (leaving the inserts now molded in the center of the soap) in the soap bar itself, the two parts of the soap frame, 17

60 and 18, having been forced apart and the frame removed, the soap bar is pushed farther along into a continuation of its bed, where the soap frame is parted from the soap and into the trough 41 (Fig. 11). The soap bar is then forced horizontally between the fingers

65 42. As the soap is in a somewhat plastic condition at

this time, the fingers 42 press the two fins or beads forwardly and into the cavities in the soap bar itself, at the same time filling up the openings in the soap bar formed by the insert supports 28. After the soap passes the smoothing fingers 42, it is forced between the 70 smoothing plates 43, the configuration of which conforms to the finished lines of the completed cake. These smoothing plates, besides filling up the cavities formed by the lugs (Fig. 13), remove any little inequalities that may remain on the sides of the bar after passing 75 the fingers, and after the bar leaves these plates, it is in a smooth and finished condition, with the inserts molded exactly in the center of the soap bar. The bar is then cut into cakes in the usual way, care being taken to cut exactly equi-distant between the inserts, which 80 leaves the insert exactly in the center of each soap-cake. The cakes are then pressed into shape in the usual way, the proper die and press being used, and each cake contains an insert entirely surrounded by soap.

By the use of this apparatus and method, I am enabled to manufacture cheaply and quickly soap cakes 85 provided with central inserts of any character. This invention is particularly valuable in that it permits the insertion within transparent soap of inserts of various kinds bearing any desired design, picture, figures 90 or letters whereby the distributor may advertise his wares or his business.

If desired, the core may be of wood, thus making a cake that will float on the surface of the water until all the soap is used, or it may consist of a thin disk of card- 95 board, celluloid, or other composition, or any light substance capable of receiving imprint of printing or lithographing, and surrounded by metallic edges or otherwise, whereby the shape of the disk or insert is always maintained, and permitting the insertion of such in- 100 sert into the frame A and insuring its positive retention in the frame in the exact position desired. It is of great importance that the inserts in the soap should be parallel with the face of the soap cake, in order that as the soap is used away, an equal thickness may re- 105 main on all portions of the insert. In prior patents taken out by me, the inserts have been supported on one side only, with the result that it has been somewhat difficult to maintain them in proper position to insure the best results in the finished article. 110

It is understood that I do not limit myself to any particular shape or configuration of insert, or to the insert with the metallic edge, although for reasons before stated, I find those inserts provided with metallic edges to be superior to others used. 115

I claim:

1. In a soap mold, the combination with a tube having longitudinal slots therein, a support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support. 120
2. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support.
3. In a soap mold, the combination with a tube having longitudinal slots therein, a separable support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support. 125
4. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a separable support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support. 130
5. In a soap mold, the combination with a tube having

oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support.

6. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support, and removable means for holding said sections together.

7. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support, and removable means for holding said sections together, said means comprising a plate provided with downwardly extending flanges.

8. In a soap mold, the combination with a tube having oppositely disposed longitudinal slots therein, a sectional support adapted to slide within said slots, and a plurality of insert-supporting means carried by said support, and removable means for holding said sections together, said means comprising a plate provided with downwardly extending flanges, said flanges being adapted to slide within slots formed in the upper and opposite ends of said frame.

9. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed insert supports secured to said first-named frame, a series of inserts held by said supports, and a plunger or deflector arranged above said inserts.

10. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed insert supports secured to said first-named frame, a series of inserts having metallic edges held by said supports, and a plunger or deflector arranged above said inserts.

11. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed insert supports secured to said first-named frame adapted to receive and hold a series of thin inserts provided with metallic edges, and a deflector or plunger secured to said frame.

12. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed notched insert supports secured to said first-named frame, a series of inserts held by said supports, and a plunger or deflector arranged above said inserts.

13. In a soap mold, the combination with a tube, of op-

positely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed notched insert supports secured to said first-named frame, a series of inserts having metallic edges held by said supports, and a plunger or deflector arranged above said inserts.

14. In a soap mold, the combination with a tube, of oppositely disposed longitudinal slots or pockets opening into said tube, a supporting frame adapted to slide within the said pockets, oppositely disposed notched spring insert supports secured to said first-named frame, a supporting frame adapted to receive and hold a series of thin inserts provided with metallic edges, and a deflector or plunger secured to said frame.

15. The improved process of manufacturing soap with inserts, comprising the spacing of inserts in a suitable frame, the placing of said frame and inserts in a mold tilted at an angle from the perpendicular, the turning of soap into said mold, allowing said soap to harden, the forcing of the frame, soap-bar and inserts from said mold, the separation of said frame from the bar, the subjecting of the sides of said bar to pressure to fill up the openings left therein by said insert supports, the further subjecting of the sides of said bar to a smoothing operation, and the separation of said bar into cakes, each cake containing an insert.

16. The improved process of manufacturing soap with inserts, comprising the spacing of inserts in a suitable frame, the placing of said frame and inserts in a mold tilted at an angle from the perpendicular, the turning of soap into said mold, allowing said soap to harden, the forcing of the frame, soap-bar and inserts from said mold, the separation of said frame from the soap bar and core, the subjecting of the sides of said bar to pressure to fill up the openings therein left by the insert supports, the further subjecting of the sides of said core to a smoothing operation, and the separation of said bar into cakes, each cake containing an insert provided with a metallic edge.

17. The combination with a longitudinally slotted tube, a support adapted to slide within the slots therein, insert supporting means carried by said support, and a series of inserts held by said supporting means.

18. The combination with a longitudinally slotted tube, a support adapted to slide within the slots therein, insert supporting means carried by said support, and a series of thin metallic-edged inserts held by said supporting means.

Signed by me at Chicago, Cook county, Illinois, this 12th day of May, 1906.

WASHINGTON BERRY.

Witnesses:

F. H. DRURY,

ALBERT JOHN SAUSER.