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C. W. GOODWIN

2,125,609

MILK BOTTLE CAP

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Fig. 1

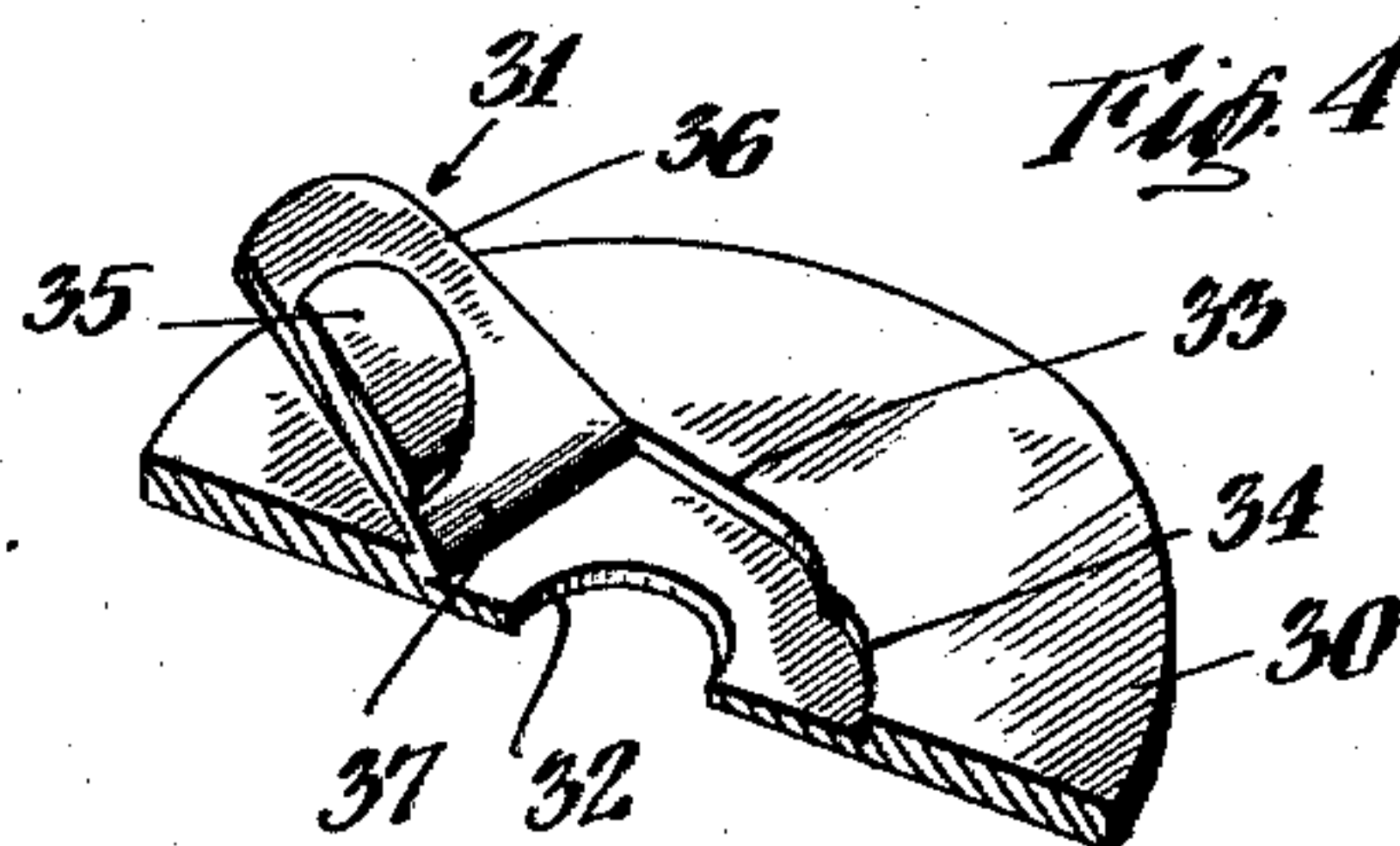
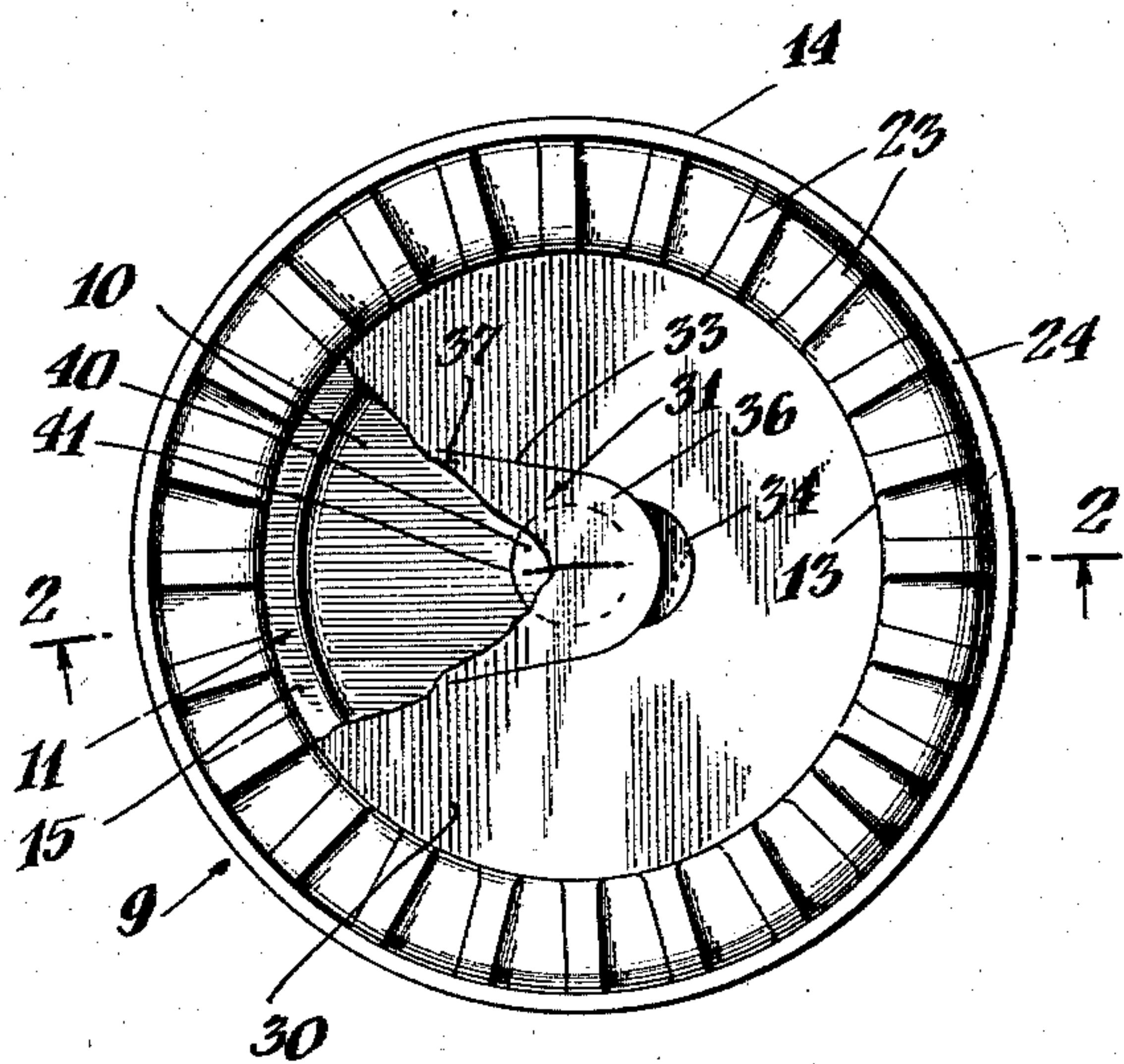


Fig. 5

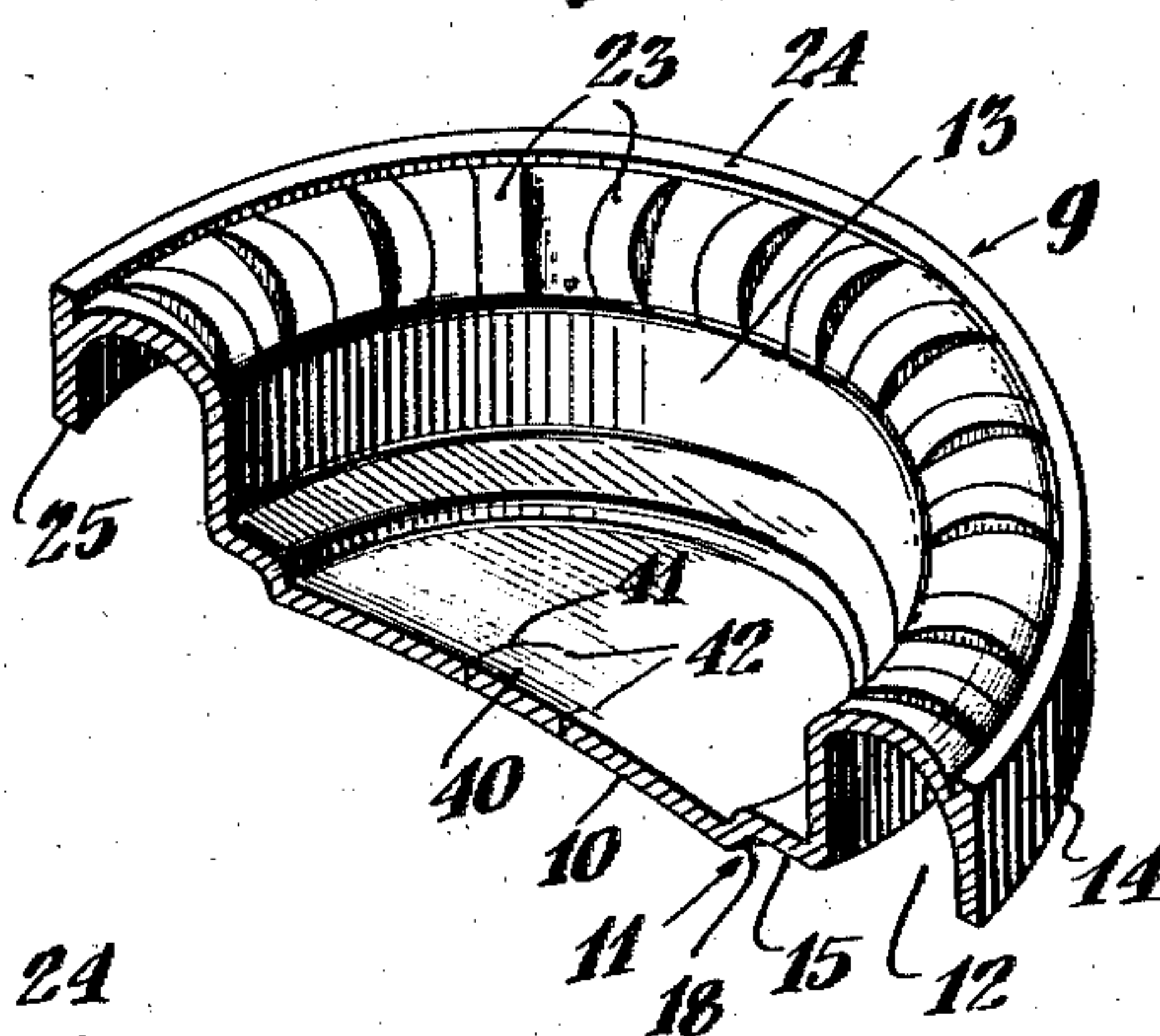


Fig. 2

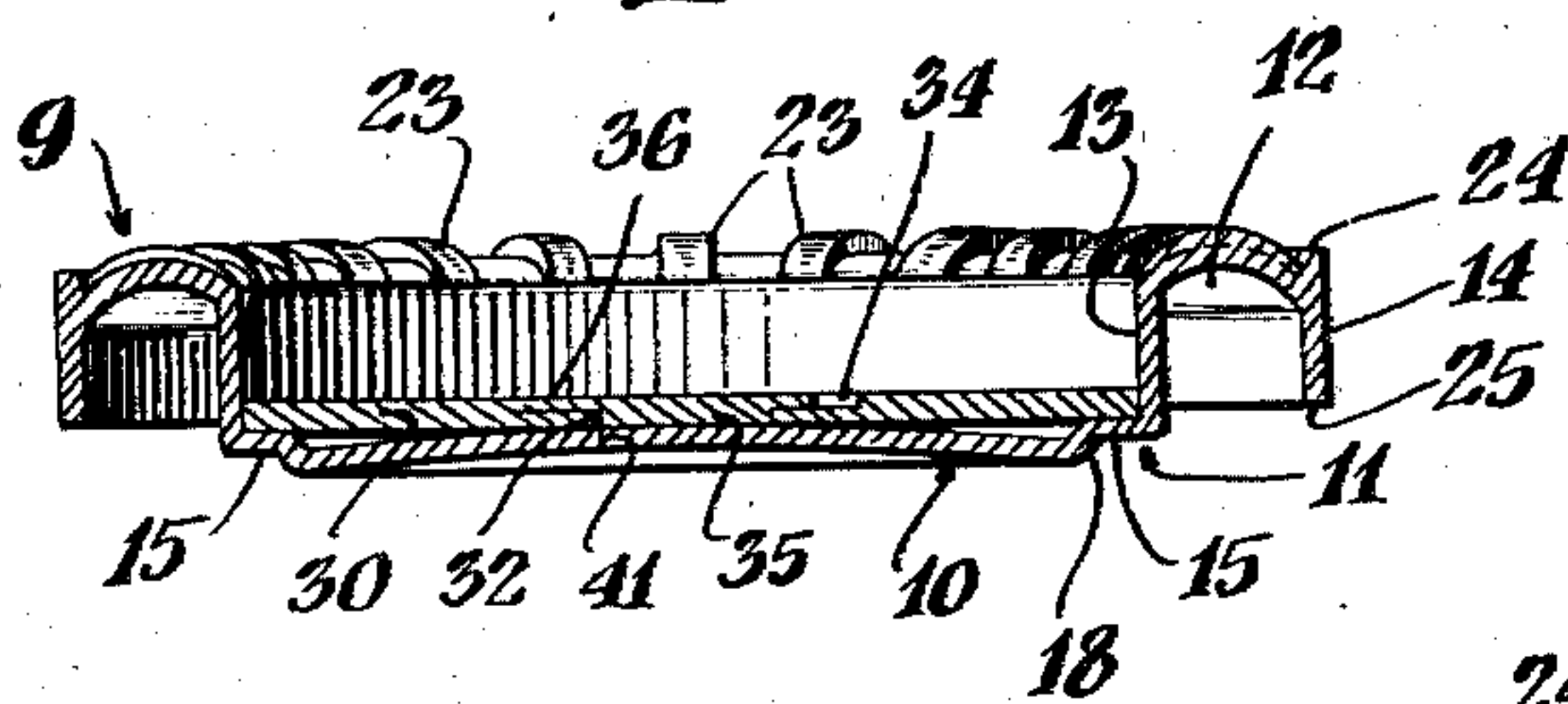


Fig. 3

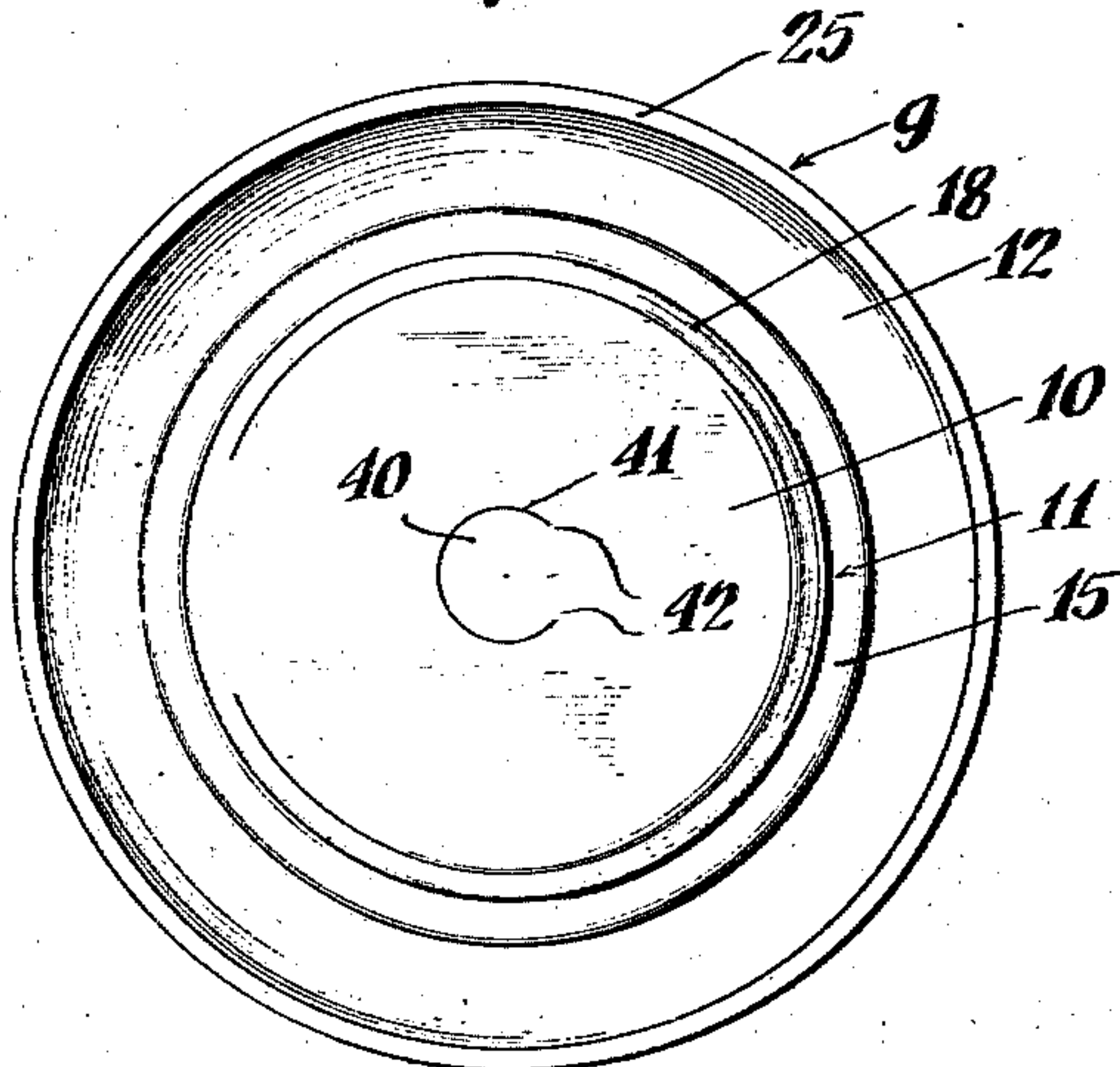
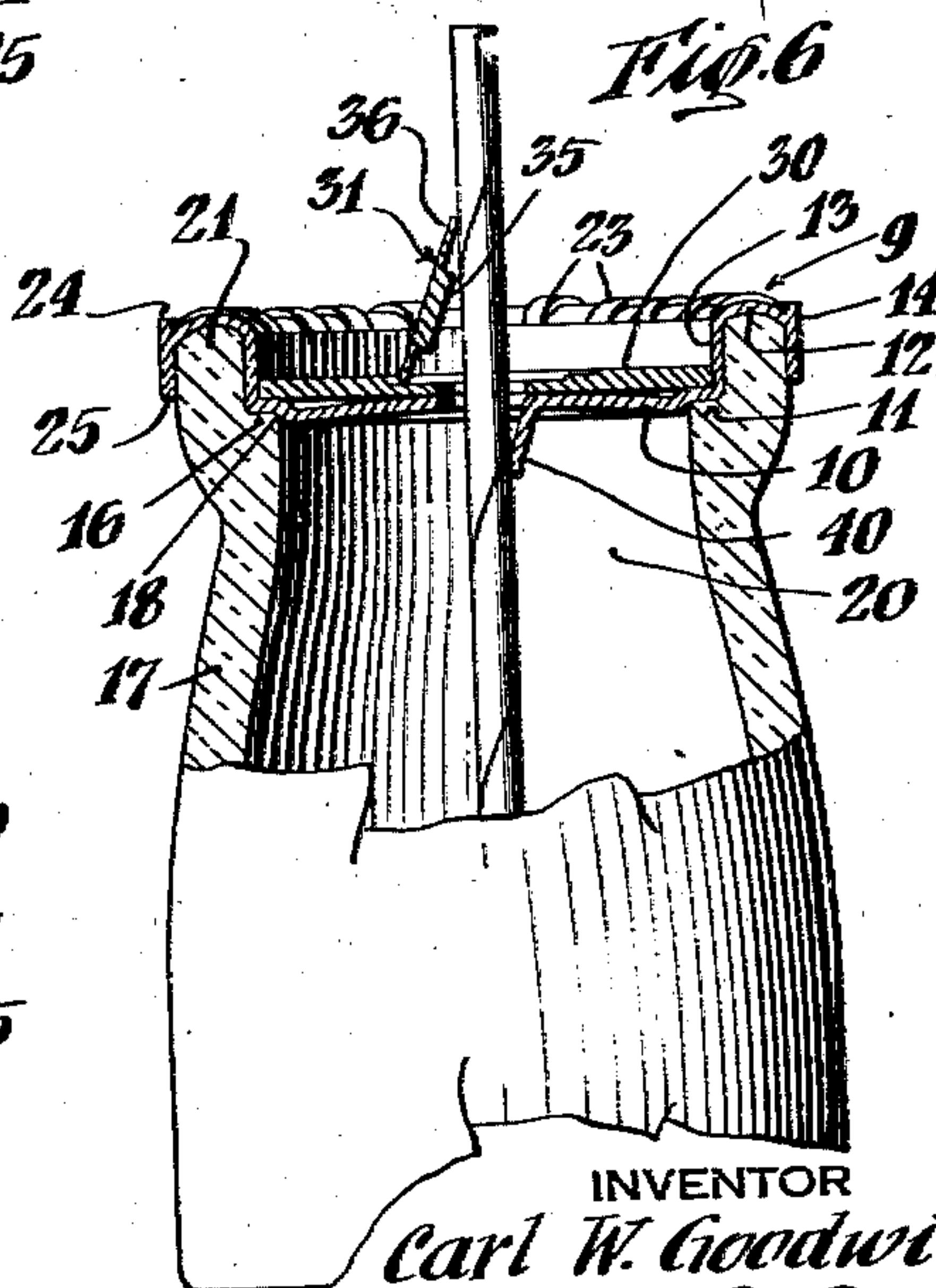


Fig. 6



INVENTOR
Carl W. Goodwin
BY *N. J. Leek*
ATTORNEY

UNITED STATES PATENT OFFICE

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MILK BOTTLE CAP

Carl W. Goodwin, Plainfield, N. J., assignor to
American Seal-Kap Corporation of Delaware,
Wilmington, Del., a corporation of Delaware

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2 Claims. (Cl. 215—38)

This invention relates to milk bottle caps of the type having two superposed bore covering members such as the cover-all cap, which consists of a shell formed to close the bore and extend over the pouring lip of the bottle and having an inner disc seated over the bore-closing portion, and more particularly to a cap of the above type having a closure which can be readily opened by a small child to permit a straw or the like to be inserted in the bottle.

The cap is particularly intended for school use where milk is supplied to the smaller children for consumption directly from the bottle, although it is also capable of various other uses.

An object of the invention is to provide a novel and improved cap of the type above indicated.

Another object is to provide a cover-all type cap which maintains a strong and effective seal and through which a straw or the like can be readily inserted without the use of sharp instruments which would be dangerous in the hands of small children.

Various other objects and advantages will be apparent as the nature of the invention is more fully disclosed.

Although the novel features which are believed to be characteristic of this invention are more particularly pointed out in the claims appended hereto, the invention will be better understood by referring to the following description taken in connection with the accompanying drawing in which a particular embodiment thereof has been set forth for purposes of illustration.

In the drawing:

Fig. 1 is a top plan view of a cap illustrating one embodiment of the present invention;

Fig. 2 is a transverse section taken on the line 2—2 of Fig. 1;

Fig. 3 is a bottom plan view of the cap;

Fig. 4 is a partial perspective view of the sealing disc;

Fig. 5 is a partial perspective view of the shell with the disc removed; and

Fig. 6 is a transverse section showing the cap applied to a standard milk bottle.

Referring to the drawing more in detail, the invention is shown as applied to a cover-all type cap comprising a shell 9 having a dished bore covering portion 10 joined at its periphery to a stepped seat portion 11 which, in turn, is joined to a U-shaped pouring lip housing 12 having an inner cylindrical wall 13 and an outer cylindrical flange 14. The stepped seat portion 11 comprises a flat annular member 15 which is adapted to rest upon the ledge 16 (Fig. 6) of a standard milk

bottle 17 and a shoulder 18 adapted to seat over the edge of the ledge 16 and to extend within the bore 20 of the bottle.

The periphery of the dished bore-covering portion 10 seats within the bottle below the ledge 16 and the central part thereof extends upwardly so as to provide space for any milk which may be displaced by the depressed peripheral portion. The inner wall 13 is adapted to seat within the inner surface of the pouring lip 21 of the bottle with the outer flange 14 disposed closely adjacent the outer surface of the pouring lip 21.

A plurality of stiffening ribs 23 may be formed on the top of the pouring lip housing 12 so as to impart rigidity to the cap. The outer flange 14 may be formed with a top bead 24 and the lower edge 25 of the flange 14 may be compacted so as to provide a flange of uniform width throughout.

An inner disc 30 is seated within the shell 9 with its edges engaging the wall 13 so as to hold the wall in firm sealing engagement with the inner surface of the pouring lip 21. The shell 9 is preferably formed from a pretreated and waxed blank under conditions such that a dense horn-like structure is obtained, whereby the cap is comparatively rigid and permanently retains its molded shape. An example of a cap of this type and a method of making the same is set forth in the Baum Patent 1,668,349. The cap thus far described is a standard cover-all type of cap. It is to be understood, however, that the details of construction may be varied in accordance with the requirements of any particular case. For example, the shape and extent of the pouring lip housing may be varied to produce any desired effect.

When a cap of this type has been used for supplying milk to school children, it has heretofore been necessary to provide a sharp pointed instrument which is used to punch a hole in the cap through which a straw or the like is inserted. This is undesirable because it requires an extra instrument and also because the use of such an instrument by small children is dangerous. In accordance with one embodiment of the present invention, this difficulty is overcome by providing the disc 30 with a center tab 31. The disc 30 is usually formed of two or more plies which are securely joined together. The tab 31 is formed in the disc 30 by providing a pair of cuts 32 and 33 in the upper and lower plies respectively, the area enclosed by the cut 32 in the lower ply being smaller than that enclosed by the cut 33 in the upper ply. A recess 34 is also formed in

the upper ply in a position to permit a finger-nail to be inserted under the edge of the tab 31 for splitting the tab along the line between the two plies of the disc so as to form a central plug 35 and an outer flange 36. The cut 33 is U-shaped, as indicated in Fig. 1 so that the portion 37 between the ends of the cut forms a hinge about which the tab may be bent upwardly. This permits the tab to be replaced for again sealing the bottle. The cut 33 may, however, be of any other desired shape. Although this tab provides a weakened spot which is readily opened, nevertheless it maintains a tight seal until opened because of the overlap of the flange 36, particularly if the tab is not completely split from the disc during the forming operation.

The bore covering portion 10 of the shell is likewise provided with a tab 40 which is formed in the center thereof by a U-shaped cut or scoring 41. The ends 42 of the cut or scoring 41 are separated to form a hinge therebetween which permits the tab 40 to be bent downwardly as shown in Fig. 6. The tab 40 is thus prevented from falling into the contents of the bottle.

The cut 41 is preferably made in the blank before the shell 9 is formed. In this way the forming of the waxed blank under high pressure serves to expand the tab 40 so as to practically re-seal the same. Hence both the shell and the disc are completely sealed until the tabs are opened to permit the insertion of the straw.

The tabs 31 and 40 are preferably formed in the center of the disc and the shell respectively so as to facilitate the assembling of the cap. Otherwise, it would be necessary to stack the shells and discs in such a way that the tabs would all be uniformly positioned. When the tabs are formed at the center of these members, however, registration is ensured, regardless of the relative angular positions thereof.

In accordance with the above described invention, the cap is applied to the bottle and used in

the usual manner. When it is desired to insert a straw, the tab 31 is first elevated by inserting a finger-nail in the recess 34, thereby exposing the under-tab 40. The tab 40 is then opened by pressing thereon with a pencil or with the end of a finger, thereby making an aperture through which the straw is inserted. If desired, the straw can be later removed and the cap resealed by closing the tab 31, the friction between the edges of the tab and the disc and the over-lapping flange 36 being sufficient to hold the tab closed.

It will be noted that the above described cap is particularly designed so as to be readily and safely used by small children. It is to be understood that various changes and modifications may be made therein and that the invention is not to be limited to the particular embodiment shown, but is only to be limited in accordance with the following claims when interpreted in view of the prior art.

What is claimed is:

1. The method of making a milk bottle cap or the like from a pretreated waxed blank which comprises scoring said blank to form a tab therein and forming the cap from said blank under pressure sufficient to expand said tab and to cause the wax to effectively re-seal the tab to said cap.

2. A two-piece milk bottle cap or the like comprising a shell having a bore covering portion and a pouring lip housing formed from a waxed and pretreated blank, said shell having a cut forming a depressible tab at the center thereof, said tab being expanded and compressed in said shell whereby the wax reseals the same, and a separate disc seated within said shell, said disc being partially scored to form a tab therein adapted to be raised to expose the tab in said shell, the tab in said disc being centrally located whereby it registers with said first tab in all relative angular positions of said disc and shell.

CARL W. GOODWIN.