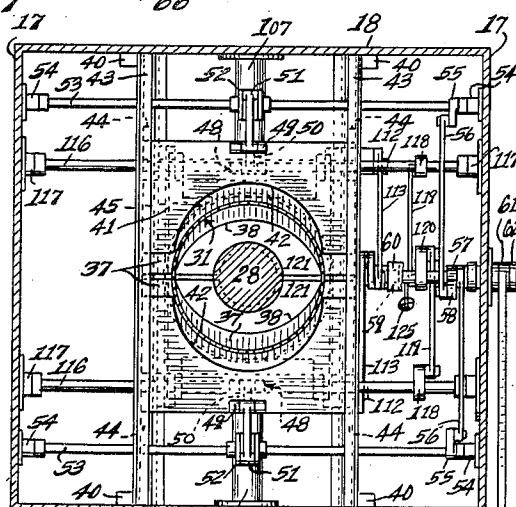
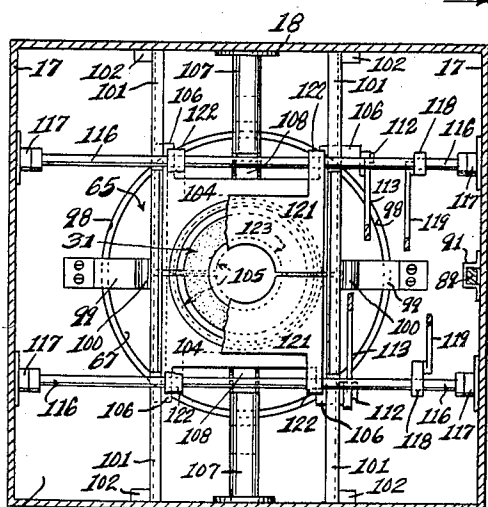
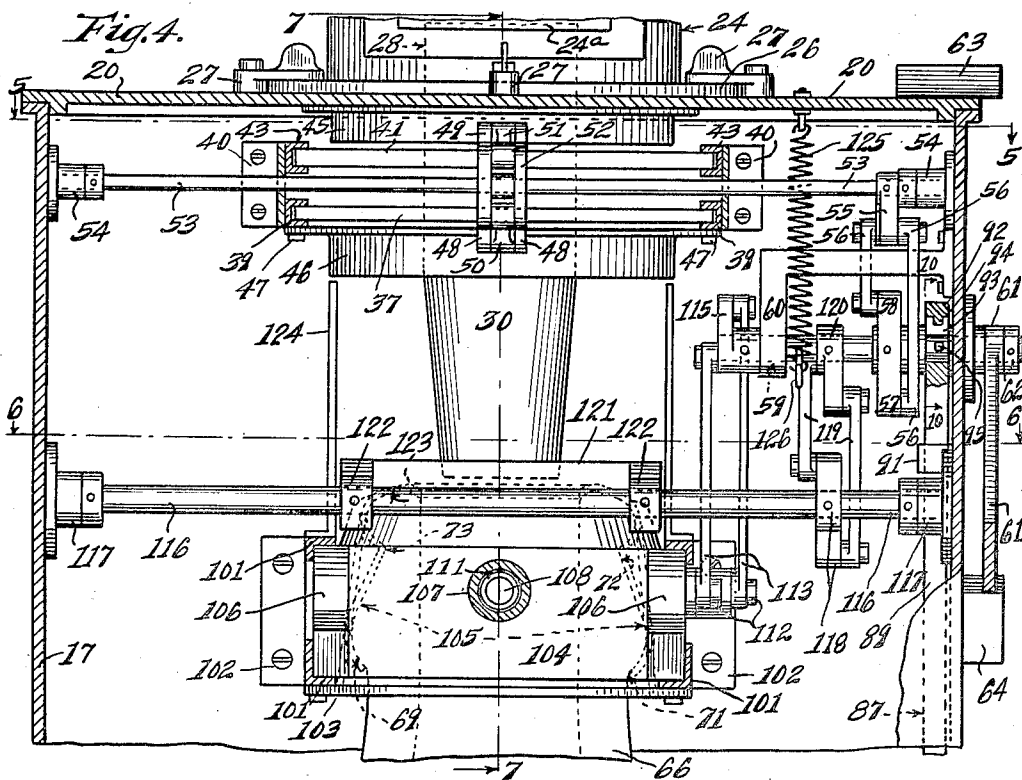


April 27, 1943.

W. M. SCHNEIDER
METHOD AND APPARATUS FOR PRODUCING AND DISPENSING
SANITARY MOUTHPIECES FOR BOTTLES
Filed June 10, 1940

2,317,408

4 Sheets-Sheet 2

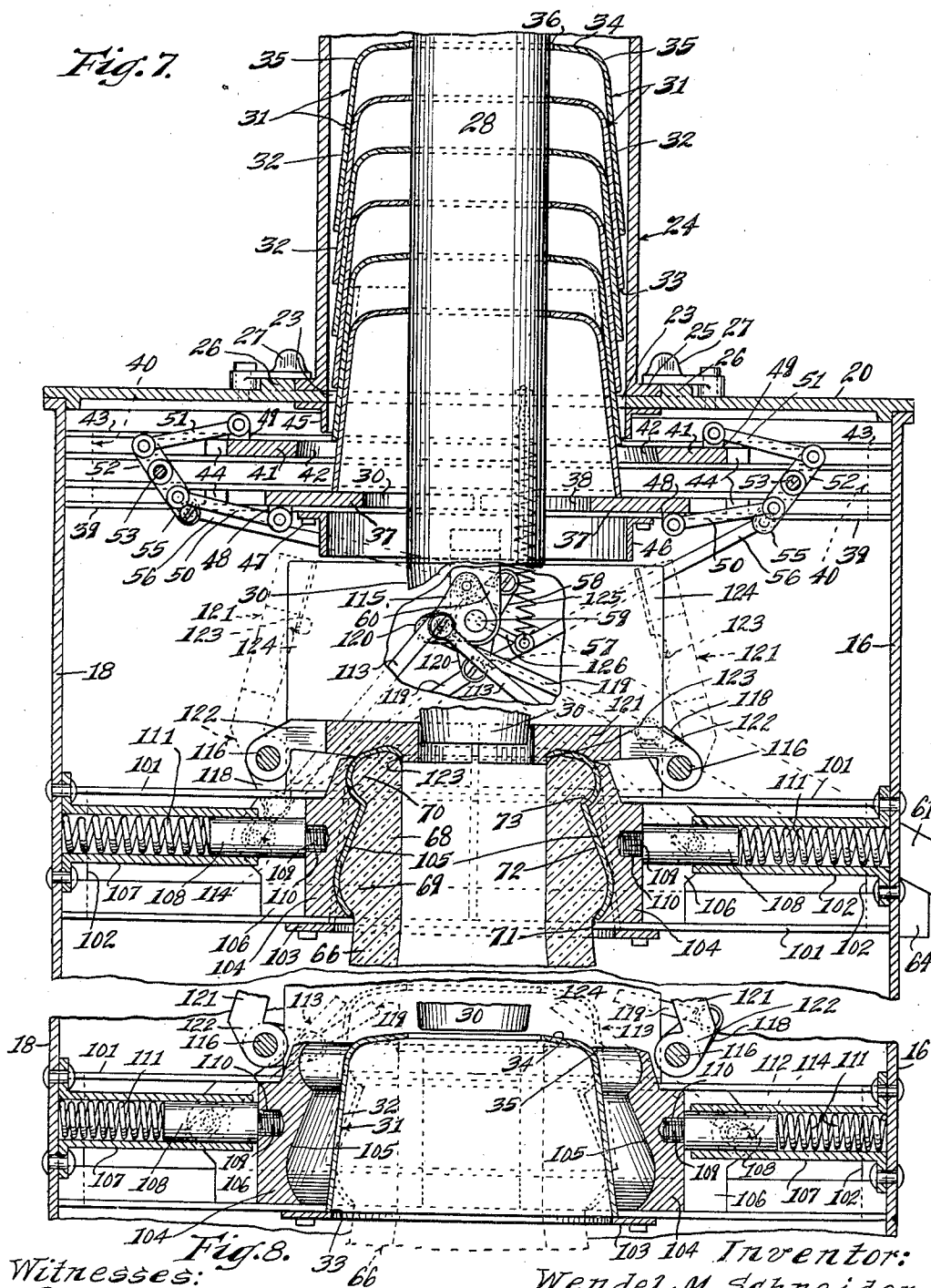


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4 Sheets-Sheet 3



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4 Sheets-Sheet 4

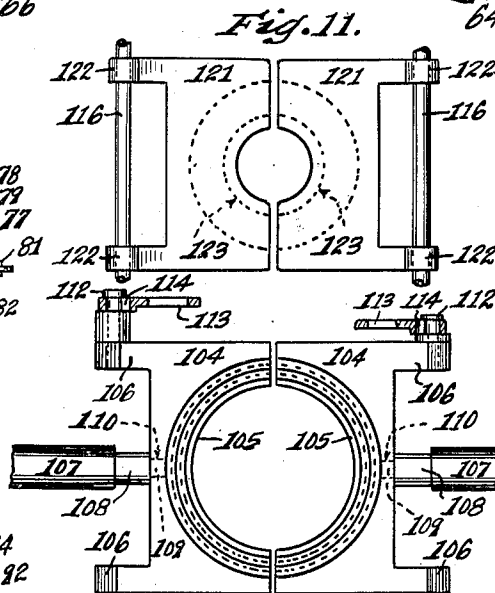
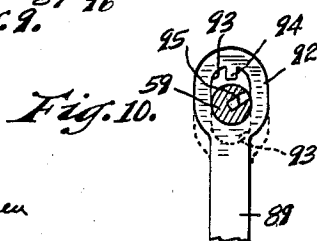
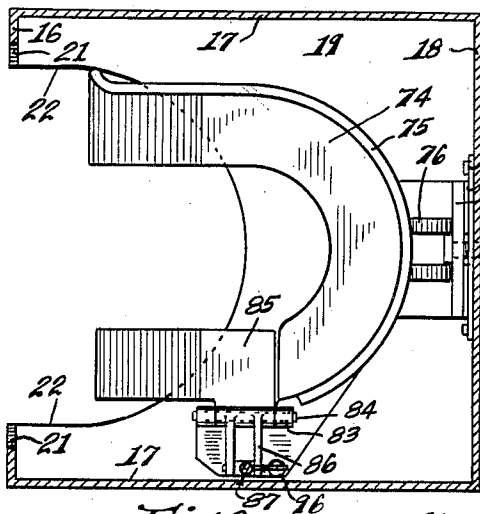
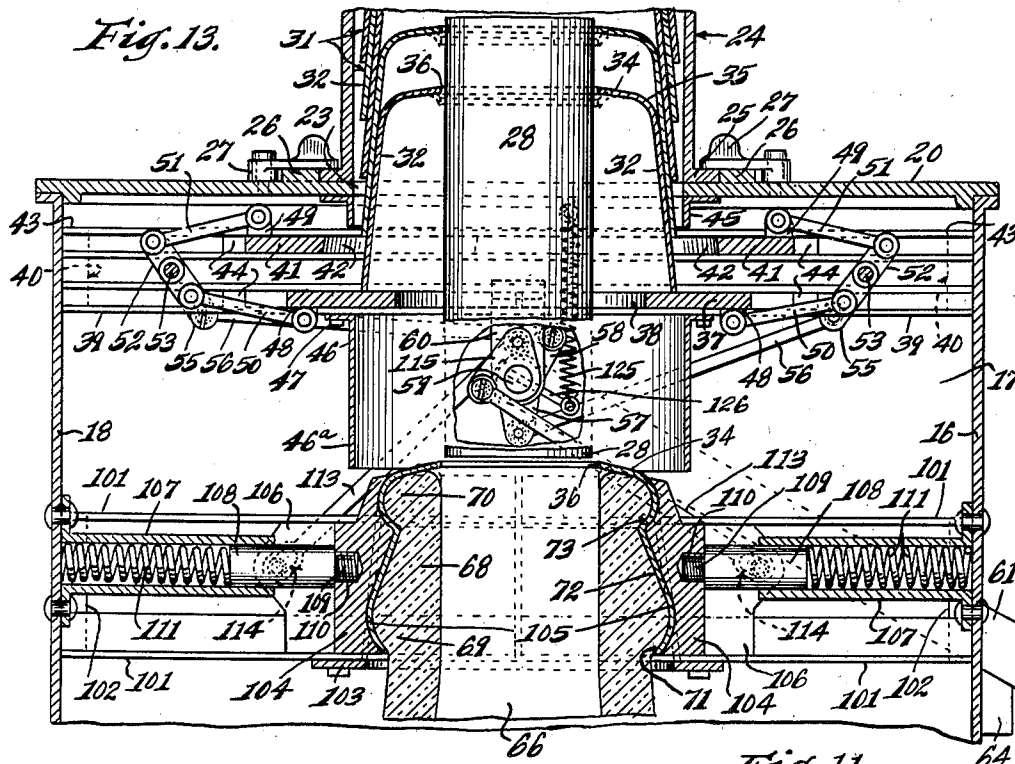


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UNITED STATES PATENT OFFICE

2,317,408

METHOD AND APPARATUS FOR PRODUCING
AND DISPENSING SANITARY MOUTH-
PIECES FOR BOTTLES

Wendel M. Schneider, Oak Park, Ill.

Application June 10, 1940, Serial No. 339,632

21 Claims. ((Cl. 93—1))

This invention relates to sanitary mouthpieces or protectors for drinking from bottles as commonly used for containing and dispensing carbonated beverages or other soft drinks, beer or the like, and the object of the invention is to provide a novel method and apparatus for producing and dispensing sanitary mouthpieces for bottles and to apply the same to a neck and mouth of a bottle to prevent contact of the lips with the bottle, or cutting thereon should the edges of the bottle mouth be rough, chipped or broken.

Another object of the invention is to provide a novel and simple method for feeding and applying the mouthpieces to bottles for drinking purposes after the removal of the ordinary crown caps or closures ordinarily used on bottles of this or similar character.

Another object of the invention is to provide an apparatus or device by which a supply of the mouthpieces may be held in a magazine in nested relation so as to accommodate a large number and adapted for the insertion of a bottle after removing the cap therefrom and by the simple operation of the apparatus to fit a mouthpiece into position over the mouth of the bottle by insertion of the bottle, and then to clamp or crimp the mouthpiece on the mouth and adjacent portion of the neck of the bottle, especially in conjunction with the reinforcements or enlargements of the latter so as to temporarily hold and effectively prevent accidental displacement of the mouthpiece from the mouth of the bottle in removing the same from the machine and while drinking from the bottle and present a clean and sanitary protector for contact with the lips in drinking the contents from the bottle, thus preventing contamination or other deleterious effects and serving as a convenience to the public in lieu of the ordinary methods or use of straws which are difficult to maintain clean and sanitary or on hand in certain places where such bottled goods are sold or dispensed as a matter of convenience to the purchasing public or customers, especially at gasoline supply or service stations.

Still another object of the invention is to provide a device of the above character which is fool-proof and which by the mere insertion of a bottle will dispose the sanitary mouthpiece or protector over the mouth of the bottle and by the simple operation of moving the mechanism by means of a lever or otherwise will firmly fasten the mouthpiece on the bottle and to release the same after being applied so that the bottle may be removed in such condition for use and without spilling the contents thereof.

A still further object of the invention is to provide a relatively compact device which can be easily supported and which will occupy a minimum of space and yet retain the mouthpieces or protectors in a clean and sanitary condition while permitting a quick and convenient application thereof to bottles and which will also accommodate bottles of different sizes.

A still further object in connection with the preferred form of the invention and a sanitary mouthpiece or protector for bottles as a new article of manufacture, is to provide a novel and simple method of producing and applying such mouthpieces to bottles, whereby instead of having an attachment or mouth guard entirely preformed to be carried about by a person and applied to a bottle when it is desired to use same and which is objectionable because such device would not be clean and sanitary and perhaps not available when needed, which is produced in a partially preformed state and fit to the bottles as desired by a suitable check control means or dispensing apparatus and dropped over the mouthpiece of a bottle for immediate use and may be compressed or constricted about the bottle mouth after the usual cap has been removed, so as to be retained thereon and form a guard for the mouth head of the bottle, but will fulfill all sanitary requirements of a device of this character.

Further objects and advantages will appear and be brought out more fully in the following specification, reference being had to the accompanying drawings, in which:

Fig. 1 is a side elevation partly broken away and in section showing a bottle inserted in an apparatus or device for applying and dispensing sanitary mouthpieces in accordance with the method and apparatus for producing same constituting the subject matter of the present invention;

Fig. 2 is a fragmentary front elevation of the device taken on the line 2—2 of Fig. 1 and with parts broken away;

Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is an enlarged vertical sectional view on the line 4—4 of Fig. 1 with the parts in positions they occupy after the operating lever has been depressed, as distinguished from the raised position shown in Fig. 1;

Fig. 5 is a horizontal sectional view on a reduced scale taken on the line 5—5 of Fig. 4;

Fig. 6 is a similar view taken on the line 6—6 of Fig. 4;

Fig. 7 is a vertical sectional view at right angles to Fig. 4 taken on the line 7—7 thereof;

Fig. 8 is a view similar to Fig. 7 of the lower part thereof with the mouthpiece applying means opened out as distinguished from the applying position shown in Fig. 7;

Fig. 9 is a horizontal sectional view taken on the line 9—9 of Fig. 2;

Fig. 10 is an enlarged fragmentary vertical sectional view taken on the line 10—10 of Fig. 4;

Fig. 11 is a plan view of forming plates for pressing the top of the mouthpiece against the bead of a bottle mouth;

Fig. 12 is a similar view of the plates or jaws for compressing or crimping the side or lateral wall of the mouthpiece on a bottle, and

Fig. 13 is a view similar to Fig. 7 of a modified construction wherein the top forming plates or jaws for acting on the bead of a bottle are omitted.

Referring to the drawings, according to the present method and apparatus for producing and dispensing sanitary mouthpieces for bottles, the same are not only dispensed or fed individually for application to the bottles, but are frictionally held thereon or fastened thereto. The device or apparatus employed in this connection is shown as comprising a vertically elongated rectangular case 15 which may be of sheet material of metal, Bakelite or molded plastic, and has a front wall 16, side walls 17 and a back wall 18. It also has a bottom wall 19 and a top wall 20 which is preferably removable and may be fastened by suitable securing means so as to permit access to the interior with facility. The front wall 16 is provided with a relatively wide opening 21 extending almost across the width thereof and communicating with an opening or cut out 22 in the bottom to facilitate the entrance of a bottle, preferably in a slightly tilting or rearwardly inclined position into the lower part of the case, as will be hereinafter more fully set forth. The top of the case is provided with an opening 23 which is preferably circular, although it may be of any other desired shape, such as square or polygonal and over which a magazine or container 24 is supported in a novel position, that is, with its open end downward and its closed end upward. This magazine may be in the form of a cylinder, or other shape, preferably agreeing with the shape of the opening 23 in the top wall and may be opaque with the sight or window opening 24a, or entirely of transparent material, preferably a fireproof plastic composition such as mica or even Celluloid. The magazine or container 24 may be mounted in a flanged base 25, and of course the magazine may be constructed of sheet metal or Bakelite and the flange 25 formed on or applied to the bottom thereof to set on the top wall 20 around the opening 23 therein. To center and position the magazine, the base flange 25 may be disposed within a ring 26, mounted upon the top wall 20 and suitably secured thereon or formed therewith so that the magazine may be held in position by having the top faces of the flange and ring flush, if desired, and retained in position by fasteners such as pivoted buttons or clips 27 acting over the flange. A post or guide member 28 is suspended from the top wall of the magazine, this wall being closed and the guide post having a flange 29 secured thereto so that the post will extend down through the opening 23 in the top wall 20 and below the latter a suitable distance, with its lower end preferably slightly tapered, as shown at 30, and adapted to terminate adjacent the top of a bottle mouth

when the bottle is inserted in position for applying a mouthpiece thereto.

The sanitary mouthpieces or protectors are designated at 31 and may be preformed blanks or molded so as to nest one within the other. They comprise suitable preformed paper or cardboard material or other suitable material which is water-proof, such as by treatment with paraffin or wax in the manner described in copending application for sanitary mouthpieces for bottles filed May 25, 1940, Serial No. 337,129 and consists of a body portion 32 in the shape of a frustum of a cone with the top and bottom edges parallel and slightly enlarged or flared downwardly toward its open bottom edge 33 which latter is smooth entirely around its surrounding edge and disposed horizontally, and the body, as well as the edge of uniform thickness throughout, as well as free of beads, rolled portions or enlargements so that the device may be made of relatively thin stock paper somewhat stiffened by waterproof treatment as by paraffin or wax, or made from a suitable blank of sheet material or molded pulp or other plastic material which will render the same non-absorbent or waterproof and either with a smooth wall or folded and crimped as is common in connection with drinking cups or the like. As above stated, the bottom of the body is freely open and the top is provided with an in-turned flange 34 which may be inclined upwardly or downwardly, preferably away from the horizontal or rounded as at 35 in somewhat concavo-convex formation to fit the bead of a bottle mouth while an opening 36 is provided in the top at the center to exactly register with the orifice of the bottle neck at the mouth thereof. However, it is to be understood that this frusto-conical body may be left upstanding at the top part instead of forming a flange extending over the bead of the bottle, as described.

The checking, releasing and feeding mechanism by which the blanks or mouthpieces 31, formed or shaped as described, and a supply of which is held in nested position within the magazine, are fed singly and applied to the bottles containing beverages, will now be described. This mechanism is contained within the case or housing 15 and primarily in the upper portion thereof. It consists of a lower pair of coating plates 37 on which the mouthpieces or blanks forming substantially inverted cups with apertured top walls are normally supported at their bottom edges. These plates are provided with co-acting semi-circular recesses or cut-outs 38 at their vertical inner edges as shown and coacting to form a circular opening. These plates are slidable in channel guides 39 horizontally positioned as are the plates and the guides are supported at the front and back walls 16 and 18 respectively in any suitable way as by means of blocks 40 or the like, secured to said walls at the inside. Similar, but oppositely movable upper plates 41 are provided in spaced parallel relation horizontally above the plates 37 and have co-acting semi-circular recesses or openings 42 with downwardly and outwardly beveled or inclined inner edges. These plates are movable in similar horizontal channel guides 43 which are likewise suitably supported as by the blocks or brackets 40. The plates 37 and 41 are limited in their outward movements by stops or blocks 44 situated in the guideways. The bodies of the mouthpieces, as previously described, are nested within one another in the magazine to any desired degree, but preferably so that one projects beneath the other

above at the lower enlarged open end and edge so as to extend beneath the magazine and top wall in the manner shown in Fig. 7 of the drawings with the lower blank of a body or mouthpiece normally resting on the plates 37 and guided beneath the top wall through an upper depending apron 45 in the form of an angular collar secured against the bottom of the top wall 20 and extending down substantially to the guides 43 but spaced therefrom and the top plates 41. A similar lower collar or apron 46 is mounted beneath the lower guides 39 to which it may be secured, as shown at 47, but this lower collar or apron is preferably made to permit the mouthpiece to freely pass therethrough whereas the upper collar may slightly friction such movement of the mouthpiece bodies fed by gravity as will be apparent. The lower plates 37 are provided with depending ears 48 and the upper plates 41 are provided with upwardly extending ears 49 which are pivotally connected by means of links 50 and 51 respectively to the lower and upper ends of cross arms or levers 52 suitably apertured for this purpose as are the ears and ends of the links. The cross arms are fixed to horizontal shafts 53 positioned in a horizontal plane between the plates 37 and 41 and journaled at their ends in bearings 54 carried by the side walls 17 at their inner faces. Arms 55 are also provided on the shafts 53 and pivotally connected by links 56 with radial arms 57 and 58 on a shaft 59 horizontally supported in a bearing 60 centrally below the magazine, but offset therefrom at one side beneath the top 20 and below the plates 37, guides 39 and apron 46. The bearing 60 is supported on a bracket attached to one side wall 17 and one end of the shaft 59 is provided with an operating arm or lever 61 which is normally disposed in an upwardly inclined position by means to be later described. A collar 62 is mounted on the outer end of the shaft 59 to retain the lever in position, although any other suitable means may be provided for this purpose and to restrain the shaft against axial movement. In addition to the lever being fixed to the shaft, both are limited in their rotation between upper and lower limits by an upper stop 63 carried by the top 20 and extending into the path of the lever, while a lower stop 64, carried by the side or front wall limits the downward movement by abutment with the lever.

The forming mechanism is described in connection with the bottle 65 of conventional design having a neck 66, an enlarged upper portion 67 forming an upwardly facing breast and a mouth portion 68 having an annular reinforcement or enlargement 69 and a similar enlargement or bead 70 at the mouth orifice. The enlargement 69 forms a bottom shoulder 71 and an inclined portion 72 with an annular shoulder or groove 73 at the top thereof and beneath the bead 70. The bottle is adapted to rest on an adjustable support or auxiliary bottom 74 superimposed above the bottom wall 19 and enclosed within the case. This adjustable bottom is substantially horse shoe or U-shaped and it has an upright marginal flange 75 so that when the bottle is placed thereon, it will be retained against displacement and properly positioned when pushed against the flange 75. A bracket shelf 76 is provided for the adjustable bottom and has an upright part 77 disposed against a vertical plate 78, both of which are serrated at their coacting faces as indicated at 79 to interfit and have vertical slots 80 registering with one another where-

by the bracket and the bottle supporting member formed by adjustable bottom 74 may be adjusted vertically for different sized bottles whereby the latter may be properly supported to be acted upon by the forming mechanism to be subsequently described. The bracket and adjustable bottom are held in adjusted position by disposing a bolt 81 through the upright part of the bracket and through the slots 80 for engagement by a suitable clamping means such as a wing nut 82, but any other suitable form of adjusting means may be employed for this purpose. The adjustable bottom 74 carries bearing ears 83 for a horizontal stud shaft 84 on which a trip plate or inclined pressure foot 85 forming part of the bottom 74 is pivotally mounted. This plate has a forked arm 86 extending outwardly for pivotal connection with a vertical rod 87 which is also adjustable in length for different sized bottles and may comprise a series of telescoping sections including a lower section 88 and an upper section 89 held by clamping means such as a set screw 90. Guides 91 are provided for the rod which is provided with an enlarged and slotted head 92 having an elongated slot 93 and a depending lug 94 extending down from the top wall or upper end of the slot to engage a socket 95 in the shaft 59 so as to hold the shaft against rotation, but to permit turning of the shaft when disengaged therefrom. The auxiliary bottom 74 is normally elevated to support the bottle in operative position as by means of a spring 96 connected to the lower section 88 of the rod 87 and the bottom 74, but when the bottle is inserted on the trip plate 85, the latter is depressed to raise the rod 87 and disengage the lug 94 from the socket 95.

A horizontal partition or breast plate 97 is provided across the case at the enlarged upper portion 67 of the bottle 65 and has a hole 98 to receive the bottle therethrough with the neck projecting above or upwardly therefrom while the edge of the opening may contact with the bottle and assist in centering it in connection with a plurality of spring arms 99 which are mounted on the plate 97 and have flared or rolled upper ends 100 to facilitate passage of the bottle and particularly the removal of the bottle and mouthpiece after the latter has been applied without mutilating or loosening the mouthpiece. The use of this structure, however, is optional, as the bottle will be substantially centered by the flange 75 of the horse shoe plate 74.

In connection with the forming mechanism, a structure is provided which is quite similar to the checking and releasing or feeding mechanism in the upper portion of the case as previously described for supporting the lower mouthpiece body at the lower edge of the latter before dropping the same into position to be applied to a bottle mouth, and beneath the bottom edge of the next mouthpiece body thereabove so that the supply in the magazine will be supported while the lower one is fed by gravity to forming position. For this purpose, guides 101 are horizontally supported in spaced relation below the aforesaid guides 39 and 43, apron 46 and shafts 53 and 59 against the front and back walls as by means of blocks 102. These guides 101 are arranged in pairs at the top and bottom of the horizontal guideways formed therebetween or bottle mouth receiving member as seen in Figs. 7 and 13 and the lower guides carry an annular plate 103, the inner edge of which projects inwardly to normally support the mouthpiece blank at its lower

edge when dropped down into applying position as shown in dotted lines in Figs. 7 and 13, but the opening in the annular plate or ring 103 is of sufficient size to permit the applied and formed cap on the bottle neck to pass therethrough when the bottle is removed from applying position. In order to apply the mouthpieces, semi-circular molds or forming plates 104 are provided and oppositely slidable in the guideways formed by the guides 101. These molds are shaped like the bottle externally at the mouthpiece on their inner faces, as indicated at 105, to a point above the bead 70 and extending outwardly at an angle of substantially 45 degrees at the top, which is slightly below or substantially in line with the upper end or mouthpiece bead of the bottle. Shoes or ears 106 are also slidable in the guides outwardly of the plates or molds 104 and cylinders 107 having flanges for securing them to the front and back walls, are horizontally mounted between said walls and the molds 104 to take plungers 108 having reduced threaded ends 109 threaded into sockets 110 in the molds and normally held inward by springs 111 disposed in the cylinders between the front and back walls and the plungers 108. Horizontal pivot studs 112, as shown in Figs. 4 and 12 are provided on the shoes or ears 106 of the molds or plates 104 and are pivotally connected by links 113 having elongated slots 114 to allow lost motion therebetween and prevent binding of these parts due to the centers of the operating connections having different radii. The inclined links 113 are pivotally connected at their upper ends to arms 115 provided on the shaft 59 and the angular relation of the various arms on the shaft is such that they are disposed substantially diametrically opposite each other in pairs for connection with the respective links at opposite sides of the center axis of the machine vertically and of the shaft 59 whereby opposite movements toward and away from each other will be imparted to the respective plates of the checking and releasing or feeding mechanism as well as to the molds of the forming mechanism in a manner to be hereinafter more fully described.

Horizontal shafts 116 or other suitable pivots are provided above the guides 101 and the pivotal connection of the links 113 at the pivot studs 112, and these shafts 116 are mounted in bearings 117 at the inside of the side walls 17 and have arms 118 pivotally connected by links 119 to arms 120 fixed on the shaft 59. Top former plates 121 are fixed to the shafts 116 and are also of semi-circular shape to fit the top of the bead 70 of the bottle and also at the mouth orifice of the bottle, if desired. The plates 121 are provided with apertured lugs or ears 122 so that they may be mounted on the shaft 116 and the bottom curvatures of the former plates 121 are clearly shown in the drawings and may have an internal shape or annular shoulder 123 disposed vertically in the form of an outwardly facing edge exactly conforming to the interior diameter and wall of the orifice in the bottle neck and within the bead 70 so as to shape the top flange 34 of the mouthpiece at its inner edge 36 where the opening is provided in the blank or body 32 so as to exactly register with and be in conformity to said orifice, although as previously described, the top flange may be left in its original position inclined outwardly and downwardly or inwardly and downwardly, as preferred, and somewhat dictated by the style of bottle and the formation of the mouthpiece bead thereof, such as described in my copending application above referred to. In

the form of the invention shown in Figs. 1 to 12 inclusive, side plates 124 may be provided between the bottom guides 39 and the guides 101 therebeneath through which the tapered end 30 of the post or rod 28 extends so as to project slightly down into the central aperture formed by the semi-circular inner openings of the top former plates 121, as clearly shown in Figs. 1, 4 and 7 of the drawings. Thus, the top former plates 121 may freely move upward to open positions and outward in opposite directions on the shafts 116 as axes or swung downwardly to horizontal positions horizontally aligned with each other in the same plane and around the lower end portion of the tapered part 30 of the post 28 without interference and to insure that the blanks will be properly fed to applying position for application to the bottle mouth.

In the form of the invention shown in Fig. 13 of the drawings and where it is desired to leave the top flange 34 of the mouthpiece in its original condition sloping upwardly or downwardly, according to the top formation of the bead 70, as also described in my copending application above referred to, the top forming plates 121 may be omitted entirely, together with the operative connections between the same and the shaft 59 for actuation by the lever 61. In this form, the tubular guide or apron 46 is made longer as shown at 46a. Thus the top flange extends inwardly to the orifice of the bottle neck at the mouth of the latter and in either case will prevent contact of the lips with the glass of the bottle, which although sterilized, is not desirable and is often guarded against in various ways by persons drinking from bottles where other means, such as an individual glass or straws are not available, because in most instances the bottles are submerged in iced water which is generally unclean and unsanitary. This will also prevent cutting or scraping of the lips against rough, chipped or broken glass at the mouth of the bottle, which ordinarily occurs due to rough handling and in any event contamination from direct contact of the bottle is prevented, while also presenting a comparatively pleasant soft contact surface, the cleanliness and sanitary condition of which cannot be questioned. In order to maintain the parts in normal positions with the operating lever 61, raised or lifted to an inclined position, as shown in Fig. 1 of the drawings and the forming and molding plates open to permit insertion of a bottle to fit beneath the lower mouthpiece blank which has been dropped or fed into receiving position, by slight friction up into and under the mouthpiece when the bottle is inserted through the openings 21 and 22 at the front and bottom of the case in a slight angular arcuate upward and rearward movement, suitable means may be provided. This means is illustrated in the form of a spring 125 anchored to the top of the case and connected to an arm 126 on the shaft 59, as more clearly shown in Figs. 4, 7 and 13 of the drawings. This spring normally pulls upwardly on the arm 126 to turn the shaft 59.

In the method of producing and applying the sanitary mouthpieces to bottles, in accordance with the invention, and in the operation of the device or apparatus shown and described, the parts are normally in the positions shown in Figs. 1, 8 and 13 of the drawings. That is, the lever 61 is upwardly raised by the spring 125 or other suitable means provided for this purpose against the upper stop or abutment 63 and the mold

plates 104 and 121 for compressing the body and flange of the mouthpiece against the bottle are normally separated outwardly sliding in the guides 101 and swung upwardly and downwardly on the pivots 116 respectively. The upper plates 41 are disposed outwardly in their guidees 43 and the lower plates 37 are disposed inwardly in the guides 39. This permits the lower mouthpiece body or blank to drop down to feeding position resting at its lower edge 33 on the plates 37 while the upper ones are supported thereon due to their frictional nesting position. A blank has been previously fed down between the mold plates 104 to rest on the annular plate or ring 103 in similar fashion. Thus, when the lever 61 is swung downwardly the plates 41 are moved inwardly beneath the lower edge of the mouthpiece body immediately above the lower one supported on the plates 37 so as to check the downward movement of the supply in the magazine and at the same time move the plates 37 outwardly to release the lower one to be fed into applying position by dropping onto the ring 103. Before doing this, however, the bottle having been obtained from an attendant, a dispensing machine or other refrigerated container and the cap removed therefrom, is inserted through the openings 21 and 22, as previously described to rest upon the adjustable bottom or support 74, and properly positioned against the flange or retaining member 75. When this is done, the bottle will depress the trip plate or inclined pressure foot 85 to raise the rod 87 and disengage the lug 94 from the socket 95 so that the lever will be free to be moved to partially turn the shaft 59. The bottle mouth is inserted upwardly into the mouthpiece body 32 supported on the ring or plate 103, as indicated in Figs. 7, 8 and 13 of the drawings and there is sufficient friction between the enlargements 69 and 70 and the interior of the body 32 to hold the mouthpiece on the mouth of the bottle or by omitting the plate 103 to permit removal of the bottle with the mouthpiece so applied and with the flange 34 covering the mouth of the bottle at the bead 70 inward to the orifice of the pouring neck or extending upwardly in the event that the top of the body is not flanged. However, ordinarily, and with the flange 34 provided and resting on the top of the bead 70, the lever 61 is swung downwardly while supporting the bottle in the manner stated and while still grasping the same through the opening 21. This causes the former plates 104 to be moved inwardly to shape the body around the bottle at the enlargements 69 and 70, or either of them, according to the inner formation or curvature of the plates or molds, as previously described. In other words, the body may be compressed into either shoulder 71 or 73 or both and restricted or crimped in conformity therewith. At the same time, the upper or top former plates 121 are swung downwardly against the top body portion or flange of the mouthpiece blank and pressed against the top portion of the bead 70 so that its inner edge will conform to the orifice. This may be facilitated by having the vertical edge 123 moved downwardly against the inner edge 36 of the flange 34 at the top opening in the blank forming the mouthpiece in a sort of frictional wiping or shearing motion so that the edge is rendered smooth and pressed into conformity to the inner edge of the bead where it joins with the bottle orifice. The blanks are guided in their movements by the post or rod 28 and are freed by the tapered portion 30 and retained against

possible displacement by the rings 45 and 46 or 46a and in the form employing the top plates 121, by the side plates 124. In the form shown in Fig. 13 of the drawings wherein the top plates 121 are omitted, the forming action is against the lateral or surrounding wall only of the bottle mouth and the mouthpiece may be compressed against either or both of the shoulders or grooves 71 and 73, as well as the inclined portion 72. Upon releasing the operating lever, the latter will be raised and the parts returned to initial positions by the spring 125. The plates 104 with or without the plates 121 having been released from clamping or crimping position pressed against the bottle mouth so as to provide clearance between the same and the mouthpiece applied to the bottle, the latter may be readily removed by a downward and outward motion in an arc, the enlarged portions of the mouthpiece at the reinforcements or shoulders, particularly formed by the enlargements 69 and 70 may readily pass through the inner opening of the ring or plate 103 tangentially thereto without spilling the contents of the bottle and so that the latter may be partaken of with assurance that the lip will contact with a clean and sanitary surface properly guarded against infection or contact with the objectionable glass surface of the bottle and without scraping or cutting the lips.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A method of applying sanitary mouthpieces to bottles for drinking purposes consisting in taking a preformed annular freely open ended body in the shape of a frustum of a cone, dropping the same around the bottle mouth to frictionally engage externally thereon only at the interior of the body and then pressing portions of the body laterally inwardly only into restricted areas of the outside of the bottle neck by means through which the bodies pass when dropped into position for removal with the bottle.

2. A method of applying sanitary mouthpieces to bottles for drinking therefrom consisting in taking a preformed annular body with freely open ends in the shape of a frustum of a cone, dropping the same over the bottle mouth by an upward movement of the bottle to frictionally engage externally thereon at the interior of the body, passing the body through pressing means to a bottle mouth and then pressing portions of the body into restricted external areas of the bottle neck and at the mouth bead thereof to the neck orifice of the bottle and in conformity therewith at all points of its area.

3. A method of producing sanitary drinking mouthpieces for bottles having neck enlargements consisting in preforming an annular open ended waterproof paper body of uniform thickness from edge to edge and enlarging slightly and uniformly toward the bottom edge so as to nest one within the other and project one above the other sufficiently to form an external guard for the exterior of the mouth bead of the bottle, said

body being dropped down and supported at its lower edge over the bottle mouth to receive the mouth portion of a bottle inserted upwardly therein and frictionally supported and then applying external pressure to portions of the body to restrict the same at reduced external portions only of the bottle adjacent the enlargements to secure the mouthpiece in position.

4. A method of making sanitary mouthpieces consisting in preforming a partially formed annular blank body, then applying the same frictionally over a bottle mouth by insertion of the bottle therein from the bottom while the body is restrained against movement and subsequently restricting, compressing and crimping the blank body around enlargements and restricted portions of the bottle mouth and over the pouring lip thereof to the orifice thereof, said body moving in a constant, straight path until removed with the bottle.

5. A method of applying sanitary mouthpieces to bottles consisting in feeding open ended blanks downwardly by gravity to receiving position singly, retaining said blanks from beneath in receiving position, inserting the mouth of the bottles thereinto by an arcuate upward movement for frictional engagement therewith and subsequently conforming the blanks to irregularities of the bottle mouth.

6. An apparatus for applying sanitary mouthpieces to bottles or the like, comprising a magazine for containing a supply thereof, means therebelow for releasing the blanks for axially feeding and fitting over a bottle mouth, means for checking the blanks and means therebeneath for receiving and compressing the blanks about the mouth of the bottle.

7. A device for applying sanitary mouthpieces to bottles for drinking purposes only including a magazine for containing preformed frusto-conical open ended bodies of relatively flexible material, means in axial alignment therebeneath for supporting the lower body and the upper bodies nested thereon, means for intermittently releasing the lower body and supporting the upper bodies beneath the lower edge of the next to the lowest body, and means axially therebeneath for receiving and crimping a body discharged from a previous low position to the outside only of the mouth of a bottle while leaving the top open.

8. A device for applying sanitary mouthpieces to bottles including a case, a magazine thereon adapted to contain the mouthpieces partially preformed, means for releasing the mouthpieces to drop axially into the case from the bottom of the magazine, means axially therebeneath for supporting the bottle in applying position, said means being adapted to accommodate bottles of different sizes, means for checking the upper mouthpiece bodies and supporting the lower released mouthpiece body in applying position and means operable simultaneously with the checking and supporting mechanism for compressing the bodies about the mouths of bottles.

9. A device for applying sanitary mouthpieces to bottles including a case, a magazine thereon adapted to contain the mouthpieces partially preformed, means for singly releasing the lowest mouthpiece for feeding the same into the case from the bottom of the magazine, means for supporting the bottle in applying position, means for normally supporting the bodies in feeding position, means therebeneath for supporting a previously fed body, and means actuatable with the

releasing and supporting means to compress the body about a bottle mouth.

10. A device for applying sanitary mouth pieces to bottles including a case, a magazine therefor adapted to contain the mouth pieces partially preformed in nested relation, means for supporting and releasing the mouth pieces into the case from the bottom of the magazine, means for supporting the bottle in applying position, means for supporting a released mouth piece for application to the bottle and means actuatable with the supporting and releasing means to compress the mouth piece about the outside or lateral wall of a bottle mouth provided with enlargements and restricted portions and simultaneously crimping the same over the bead of the bottle mouth for removal with the bottle.

11. An apparatus of the class described comprising means for intermittently releasing and feeding frusto-conical bodies to supporting position, means for checking and supporting the same, means for releasing the checking means and means for applying the bodies after release.

12. An apparatus of the class described comprising means for intermittently releasing frusto-conical bodies to feed the same to supporting position and checking the same, means for releasing the checking means to permit the bodies to move to applying position, means for applying the bodies after release, means for rendering said releasing, checking and applying means inoperative and means operated by insertion of a bottle for releasing the latter means.

13. An apparatus for applying sanitary mouthpieces to bottles comprising means for supporting mouthpiece blanks in nested relation one over the other to receive the mouthpiece of a bottle upwardly therein, oppositely acting means for releasing the lower blank and supporting the blanks thereabove and means for anchoring the mouthpiece on the bottle.

14. An apparatus for applying drinking mouthpieces to bottles comprising a magazine for holding frusto-conical open ended bodies for feeding the same directly downwardly, means for individually discharging said bodies downwardly and supporting the remainder, means for supporting a body spaced therebeneath in position to receive a bottle neck from beneath and means for compressing the body about the bottle so positioned, all of said means being located in a single vertical line.

15. An apparatus for applying sanitary mouthpieces to bottles having mouth beads and reinforcements with restricted portions, comprising a case, means for individually releasing and feeding frusto-conical bodies to said case and means simultaneously operated with the last named means for applying the body to a bottle neck and bead inserted into the bodies for crimping the latter thereon and then releasing the same.

16. An apparatus for applying sanitary mouthpieces to bottles having mouth beads and reinforcements with restricted portions, comprising a case, slidable means for individually releasing frusto-conical bodies for feeding the same to said case, said case having an opening for insertion of a bottle, means for supporting and centering the bottle so that the mouthpiece will be in position to frictionally receive a body thereover by upward movement of the bottle, means for actuating said releasing means, means to hold said actuating means against movement until a

bottle is inserted and means to release the latter means upon insertion of a bottle.

17. An apparatus for applying sanitary mouthpieces to bottles having mouth beads and reinforcements with restricted portion, comprising a case, slides for individual releasing for feeding frusto-conical bodies downwardly to said case, said case having an opening for insertion of a bottle from beneath, means for supporting and centering the body relative to the bottle, means for crimping the body about the bottle neck and bead and then releasing the same and means for simultaneously actuating said slides and crimping means.

18. A method of making sanitary mouthpieces for bottles for drinking purposes only consisting of preforming an annular frusto-conical open ended waterproof body and then frictionally applying the same to a bottle mouth by separable applying means through which the bodies are fed in a single straight path axially of the bottles, bodies and applying means.

19. An apparatus for applying sanitary mouthpieces to bottles having mouth beads and reinforcements with restricted portions comprising a case, means for individually releasing frusto-conical bodies for feeding the same to said case, said case having an opening for insertion of a bottle, means for supporting and centering the bottle so that the mouthpiece will be in posi-

tion to frictionally receive a body thereover by upward movement of the bottle and means for actuating said releasing means.

20. An apparatus for applying sanitary mouthpieces to bottles having mouth beads and reinforcements with restricted portions comprising a case, means for individually releasing and feeding frusto-conical bodies downwardly to said case, said case having an opening for insertion of a bottle from beneath in an arcuate path, means for supporting and centering the body relative to the bottle, means for crimping the body about the bottle neck and bead and then releasing the same and means for simultaneously actuating said releasing and crimping means.

21. A device for applying sanitary mouth pieces to bottles including a case, a magazine therefor adapted to contain mouth piece bodies partially preformed in nested relation, means for normally checking and supporting the nested mouth piece bodies in feeding position and for releasing the lowest mouth piece body, means operable upon the release of the lowest mouth piece body for checking and supporting the bodies thereabove, and means for supporting a released mouth piece body in position for application to a bottle and for releasing the same when said body has been applied to the bottle.

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