

G. STRANDT.
MILK BOTTLE CAPPER.
APPLICATION FILED NOV. 2, 1917.

1,360,463.

Patented Nov. 30, 1920.

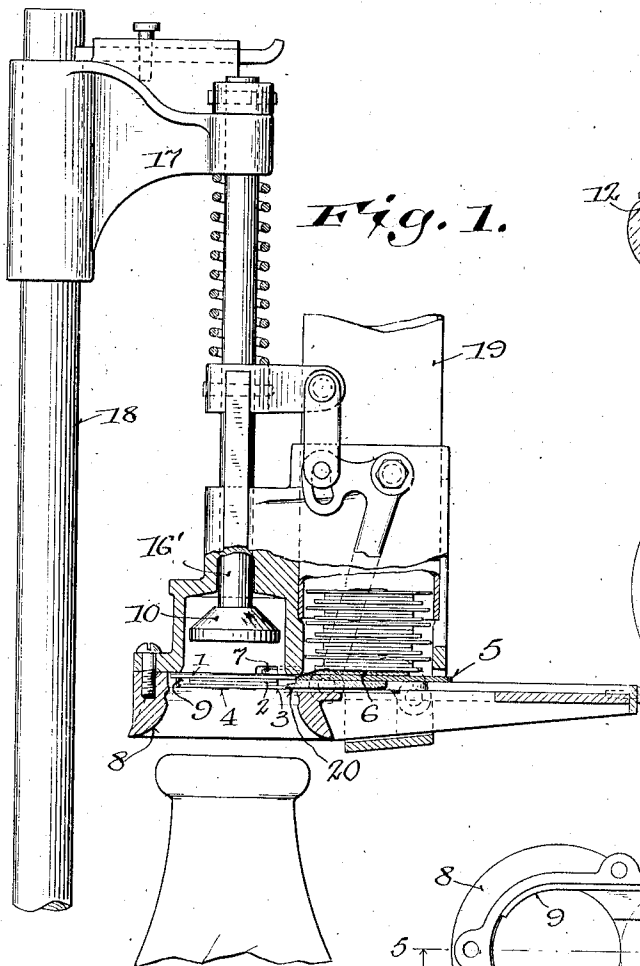
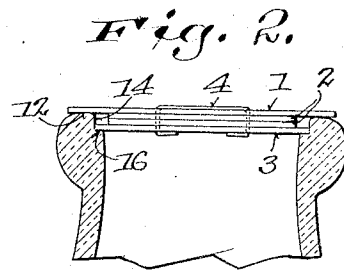


Fig. 3.

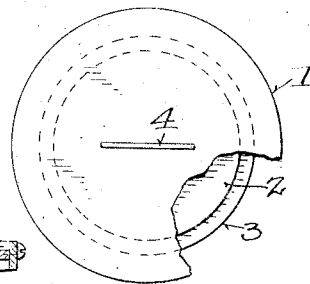


Fig. 4.

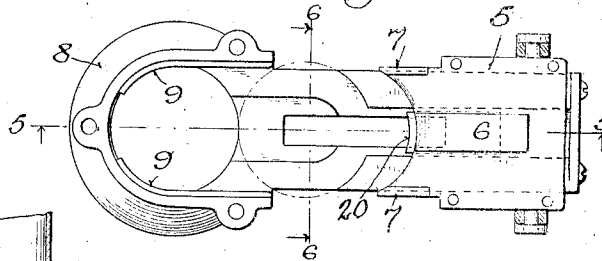
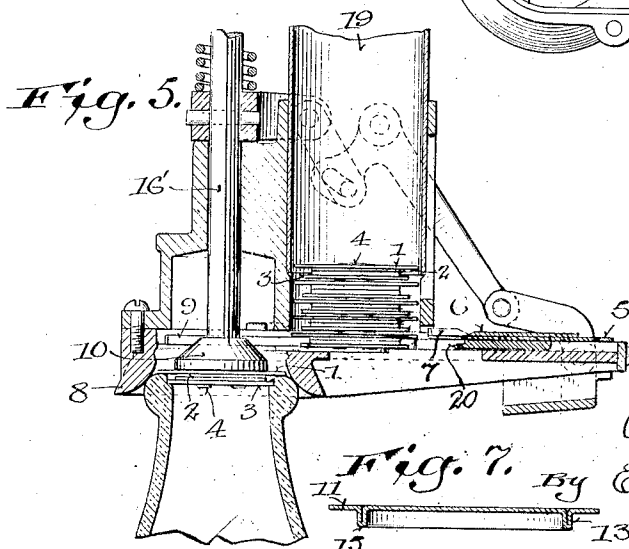


Fig. 6.

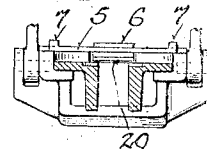
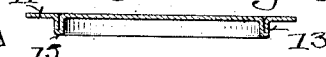


Fig. 7.



Invento.
Gustav Strandt
By Curran & Wheeler
Attorneys.

UNITED STATES PATENT OFFICE.

GUSTAV STRANDT, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO MILWAUKEE DAIRY
SUPPLY MANUFACTURING CO., OF MILWAUKEE, WISCONSIN, A CORPORATION OF
WISCONSIN.

MILK-BOTTLE CAPPER.

1,360,463.

Specification of Letters Patent. Patented Nov. 30, 1920.

Application filed November 2, 1917. Serial No. 199,814.

To all whom it may concern:

Be it known that I, GUSTAV STRANDT, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Milk-Bottle Cappers, of which the following is a specification.

My invention relates to certain improvements in that class of milk bottle cappers for which Letters Patent of the United States, No. 1,040,453, was issued to me October 8th, 1912, and the same pertains more especially to a device for feeding and forcing thick caps, and caps having side bearings, to their seats in the mouth of the bottle. Heretofore the ordinary paper cap was adapted, when forced down into the mouth of a bottle, to rest upon a single horizontal surface or seat only, while my present invention is adapted to be used with caps which bear, when in their closed position, against two horizontal seats. In some instances certain forms of caps are adapted to bear against the vertical wall, and the bottle is more effectually closed, because of the fact that the cap is closed against a plurality of seats. When caps are formed of a single piece of paper, such caps are each provided with a downward bend or bead which is adapted to bear against the vertical sides of the mouth of the bottle, while the lower edge of such bead or bend is adapted to rest upon the lower seat of the bottle, and the upper seat of the bottle is closed by the upper flat horizontal portion of said cap. When, however, caps formed from a plurality of sheets are used, but two seats of the bottle are adapted to be closed, the upper and lower. The overlapping portion of the cap constitutes a means whereby the cap may easily be removed from the bottle.

My invention is further explained by reference to the accompanying drawing, in which—

Figure 1 represents a side view of a machine for capping milk bottles, part broken away.

Fig. 2 is a vertical section of the mouth of the bottle, provided with an improved form of cap which my device is adapted to force into the mouth of the bottle.

Fig. 3 is a plan view of a portion of an improved cap.

Fig. 4 is a plan view of parts of the machine shown in Fig. 1.

Fig. 5 is a vertical section of the machine, showing the same in the act of forcing a cap into the mouth of a bottle.

Fig. 6 is a detail, drawn on line 6, 6 of Fig. 4, and

Fig. 7 represents a modified form of cap which is adapted to be operated upon and forced into the mouth of a bottle by my device.

Like parts are identified by the same reference numerals throughout the several views.

When caps are made of the form shown in Figs. 1, 2, 3 and 5 the several pieces of paper or cardboard 1, 2 and 3 are secured together by a wire staple 4, as shown in Fig. 2 and 3, and it therefore becomes necessary to provide the reciprocating slide 5 with a suitable plate 6, which plate 6 is adapted as the said slide is moved forwardly to remove the lower cap from the stack in the tube or magazine 19, and raise those above it, to prevent the points of the staple 4 from injuring the cap which is then being moved into capping position.

The reciprocating slide 5 is also provided on its lower surface with an additional plate 20 which plate 20 is adapted, as said slide is moved inwardly with a cap of the style shown in Figs. 1, 2, 3 and 5, to bear against the opposing edge of the sheet 3, as described and claimed in my co-pending application, filed Dec. 15, 1915, Serial No. 66,885.

The reciprocating slide 5 is also provided upon two opposing sides, at its front end with two vertical flanges 7, 7 which flanges are adapted to engage the upper sheet 1 of the style of cap shown in Figs. 1 and 5, whereby such cap is always forced inwardly with each forward movement of the slide 5, regardless of the fact that such upper sheet may, in some instances, be bent upwardly or out of its normal shape. The cup shaped member 8 is provided with two flanges 9, 9 which are curved inwardly at their inner ends, and extend along parallel lines from opposite sides of the ring toward the cap

magazine 19, said flanges being adapted to engage the upper sheet of that style of cap shown in Figs. 1 and 5, whereby such caps are supported above and free from contact with the mouth of the bottle when forced inwardly over such mouth until such cap is acted upon by the plunger 10, when said plunger 10 descends and contacts with the upper sheet of said cap, whereby said sheet is curved upwardly far enough to escape past said supporting flanges 9, 9, when it is thereafter forced into the mouth of the bottle.

It will be understood that my capper is not only adapted to force caps of the style shown in Figs. 1, 2, 3 and 5 into the mouths of bottles, but such device is also adapted to be used with the form of caps shown in Fig. 7, when the upper portion of the cap 11 is adapted to rest upon the upper horizontal surface of the seat 12, while the bead or bend 13 is adapted to bear against the vertical sides 14 of the mouth of the bottle, while the lower edge 15 of said bend is adapted to rest on the upper surface of the lower seat 16.

Thus, it is obvious that my capper is adapted to be used for forcing at least two different styles of caps into the mouths of bottles.

It will be understood that invention herein is predicated upon the mechanism herein described and claimed; that the plunger 10, plunger supporting rod 16, yoke 17, rod 18, tube 19, and slide operating mechanism, as well as numerous other cooperating parts, have heretofore been shown, and the same forms no part of the present invention, except so far as such parts necessarily cooperate with the parts herein described and claimed.

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

1. In a milk bottle capper, the combination with a support, a cap storing magazine mounted upon the support and having an open lower end, a feed slide adapted to reciprocate along the support underneath the magazine, and a relatively narrow plate on the upper surface of the feed slide disposed longitudinally over the center line thereof, and provided with a downwardly beveled front margin terminating at the front margin of the slide, said first named margin being formed to engage a circular cap at a plurality of points along its periphery.

2. In a milk bottle capper, the combination with a support, a cap storing magazine mounted upon the support and having an open lower end, a feed slide adapted to reciprocate along the support underneath the magazine, a relatively narrow plate on the upper surface of the feed slide disposed

longitudinally over the center line thereof, provided with a downwardly beveled front margin terminating at the front margin of the slide, said first named margin being formed to engage a circular cap at a plurality of points along its periphery, and said slide being also provided on its under surface with an auxiliary cap engaging member projecting in advance of the central portion of said slide margin, and adapted to engage a depending portion of the cap of less diameter than the portion engaged by the body of the slide.

3. In a milk bottle capper, the combination with a support, a cap storing magazine mounted upon the support and having an open lower end, a feed slide adapted to reciprocate along the support underneath the magazine, a relatively narrow plate on the upper surface of the feed slide disposed longitudinally over the center line thereof, and provided with a downwardly beveled front margin terminating at the front margin of the slide, said first named margin being formed to engage a circular cap at a plurality of points along its periphery, said slide being also provided with ribs on its upper surface near its side margins.

4. In a milk bottle capper, the combination with a bottle mouth piece ring, having a segmental upper portion provided with cap supporting ribs extending along parallel lines from opposite sides of the ring, the lower portion of the ring having a bell shaped inner surface to receive the mouth piece of a bottle, a support for the ring, a magazine carried by the support, and adapted to hold a pile of bottle caps thereon, and a reciprocatory slide on the support adapted to feed caps from the bottom of the magazine to the ring along the parallel portions of the ribs, said slide having an arcuate cap pushing margin adapted for movement along the upper surfaces of the ribs, and another cap engaging portion at a lower level, and positioned to simultaneously engage depending cap members of less diameter and push them into position within the ring below the level of the upper surface of the ribs, whereby double disk caps may be fed into the capping ring by simultaneous pressure upon both disks, and while each cap is being supported by the engagement of its upper disk with said ribs.

5. In a device of the described class, the combination with a ring shaped bottle engaging member having its inner surface curved downwardly and outwardly, of a reciprocating slide, a plate adapted to pass beneath and raise a stack of caps as a cap is being forced inwardly over the mouth of the bottle, a second plate secured to the lower side of said slide, a pair of upwardly extending flanges affixed to the respective sides of said slide near its front end, and

a second pair of flanges located within the bottle engaging member, said second pair of flanges being adapted to temporarily support a cap above the mouth of a bottle
5 preparatory to being forced by a plunger into such bottle mouth, all substantially as and for the purpose specified.

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

GUSTAV STRANDT.

Witnesses:

O. C. WEBER,
JAS. B. ERWIN.