March 6, 1951 W. E. ZIMMERMANN 2,544,626

CLOSURE APPLYING MACHINE

Filed March 15, 1947 3 Sheets-Sheet 1

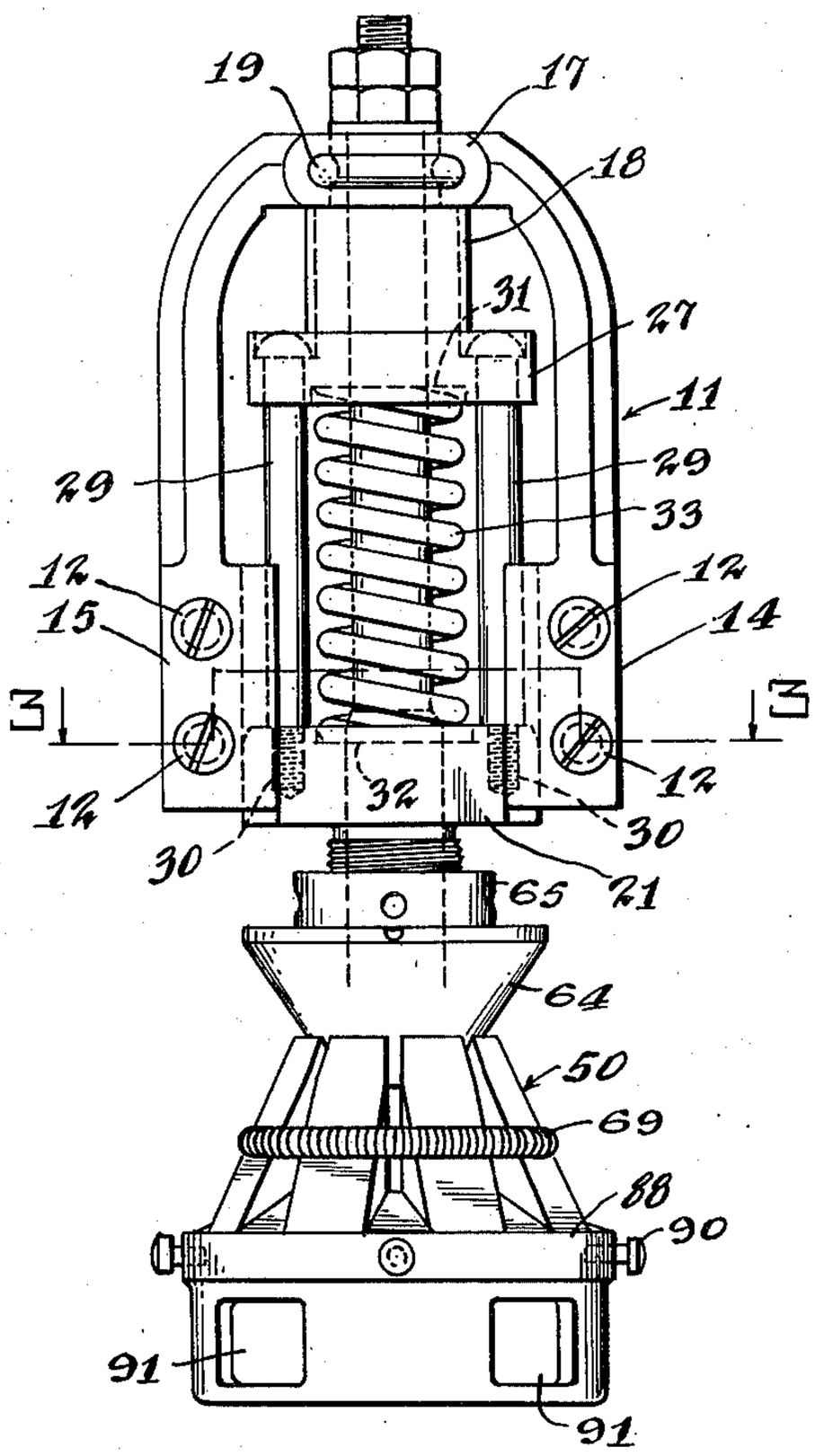

FIG-1-

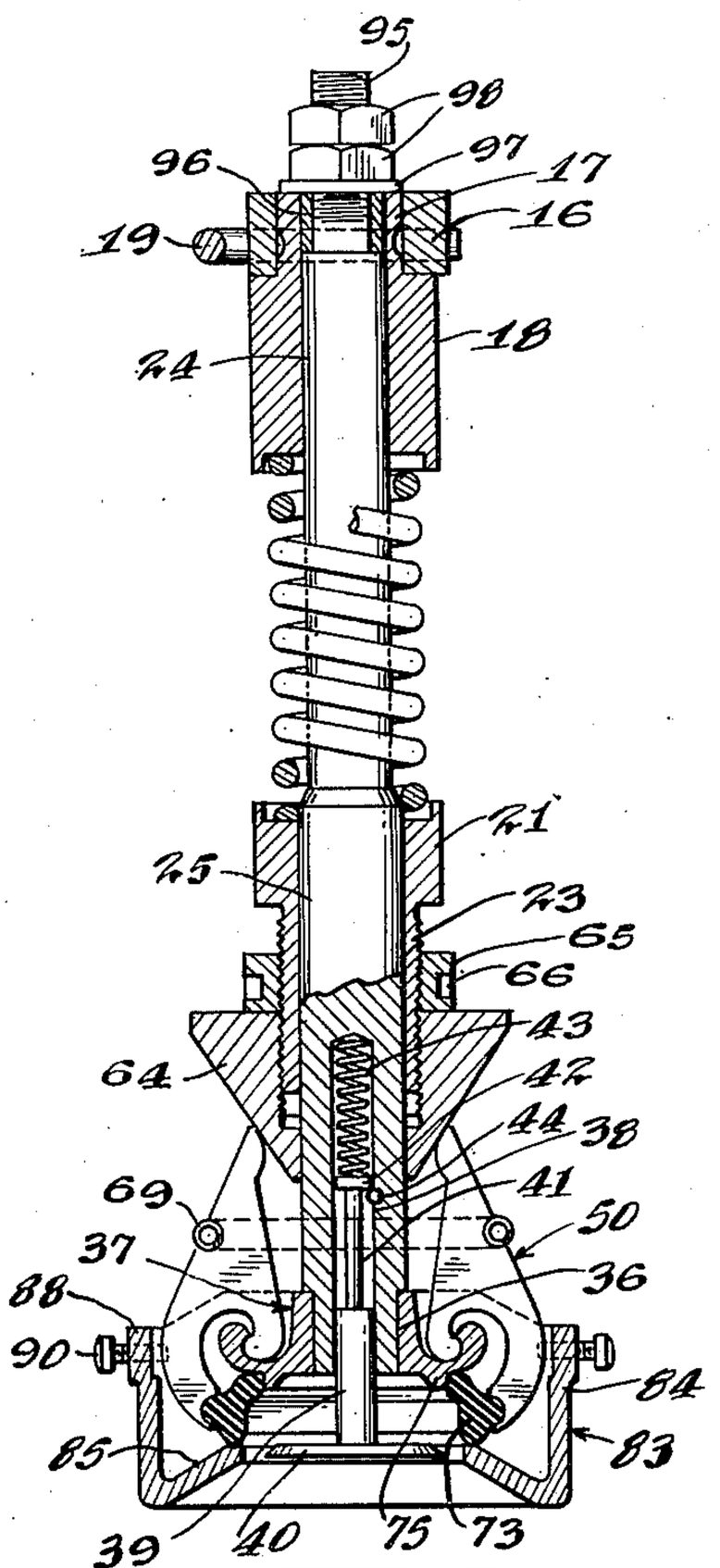

FIG-2-

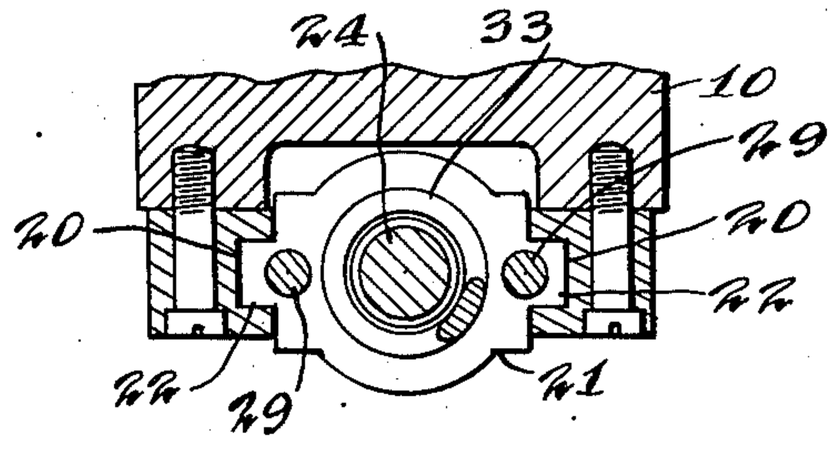

FIG-3-

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CLOSURE APPLYING MACHINE

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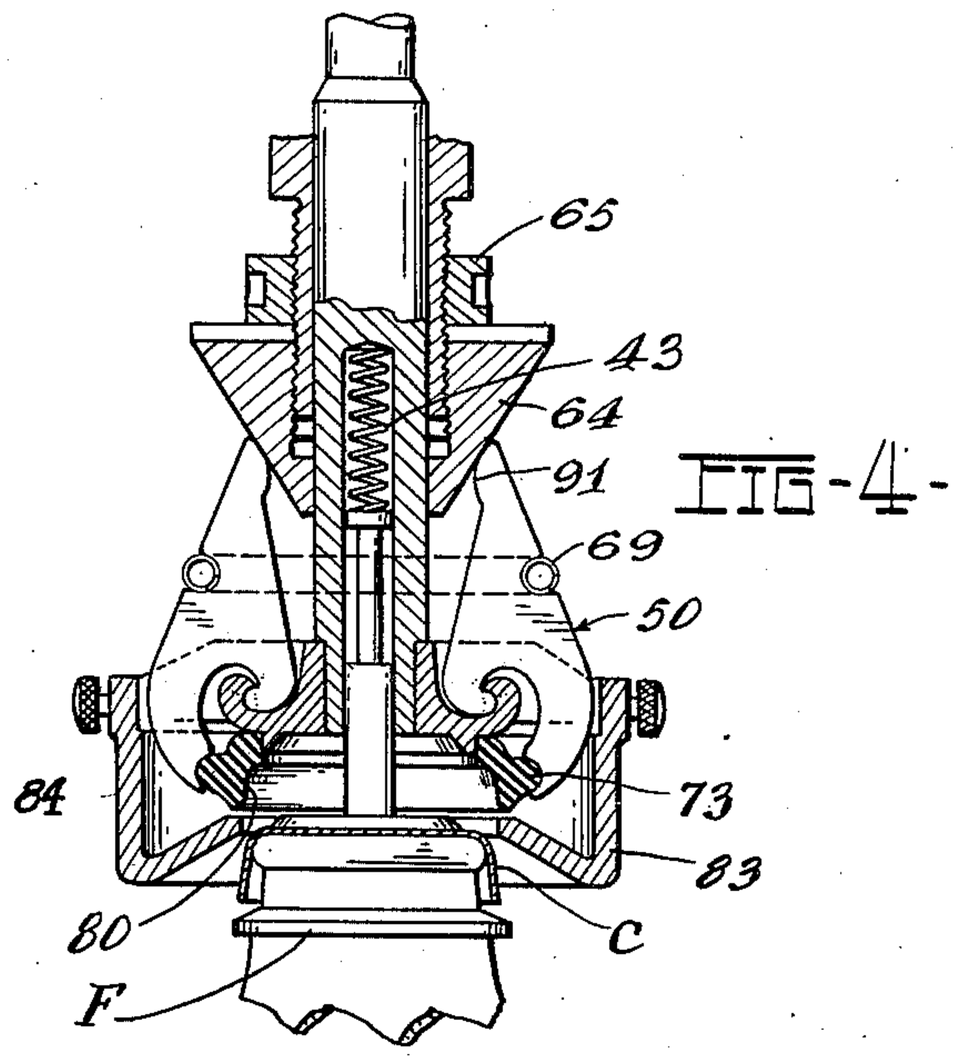

FIG-4-

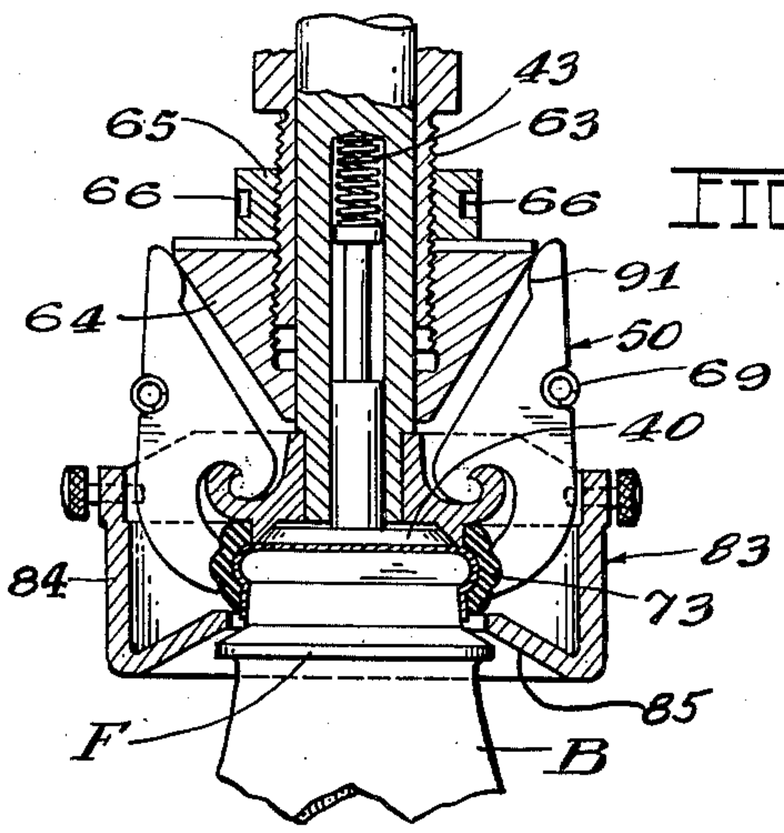

FIG-5-

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CLOSURE APPLYING MACHINE

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FIG-6-

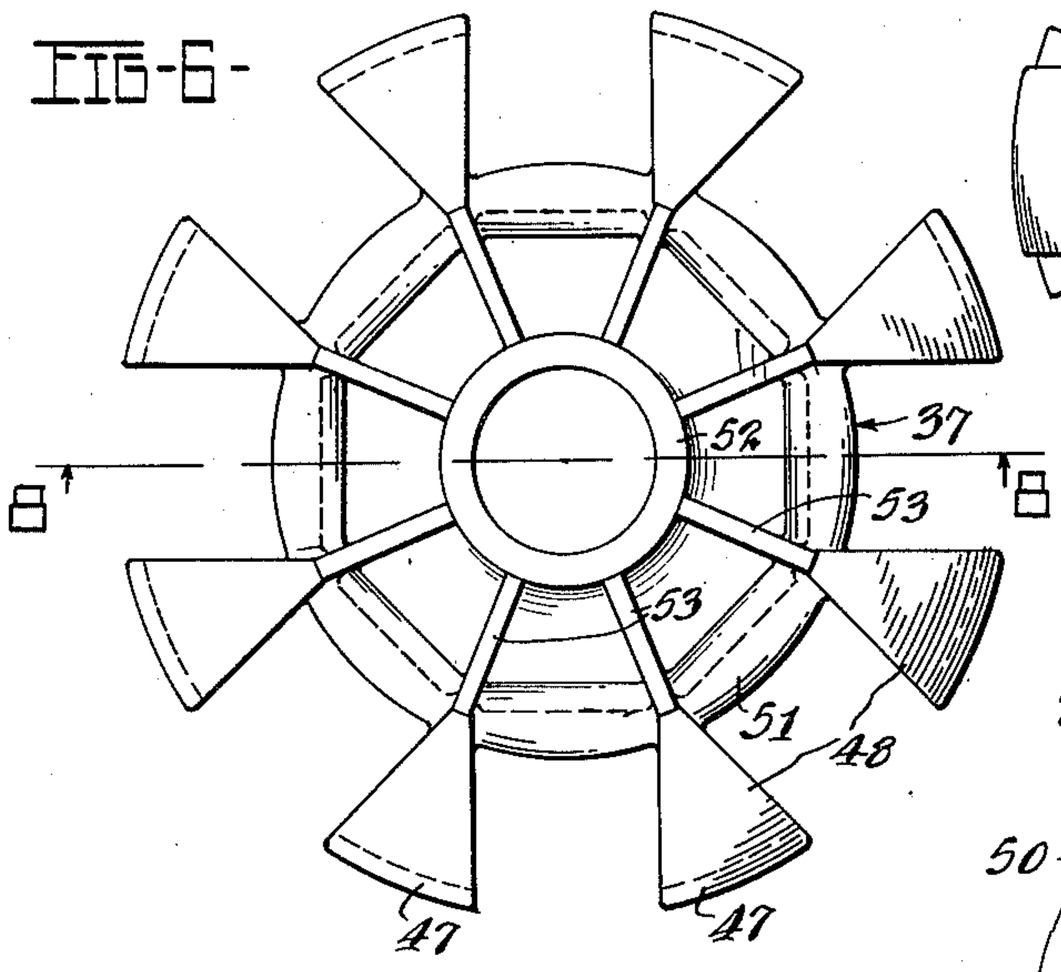


FIG-13-

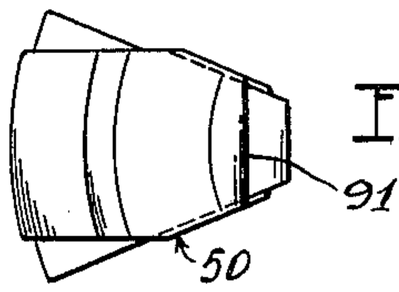


FIG-11-

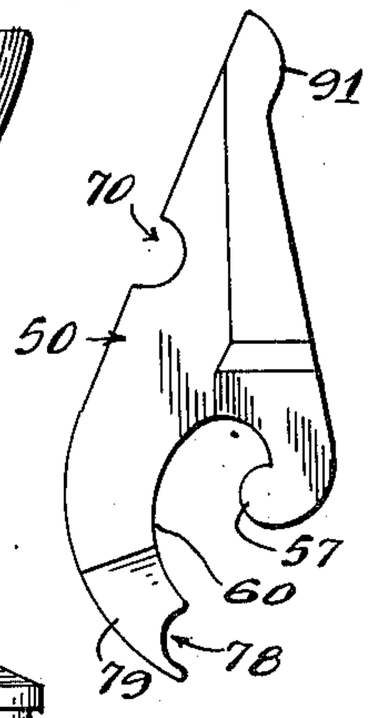


FIG-12-

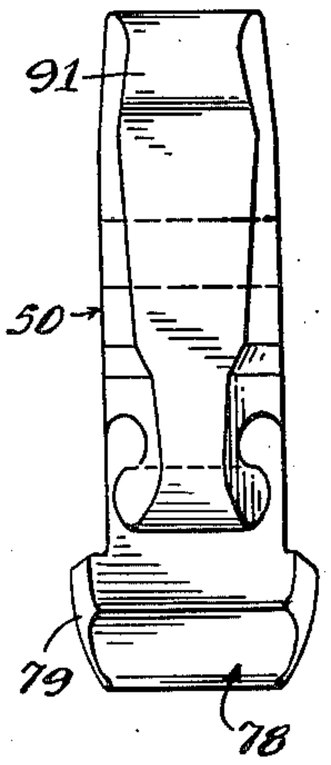


FIG-7-

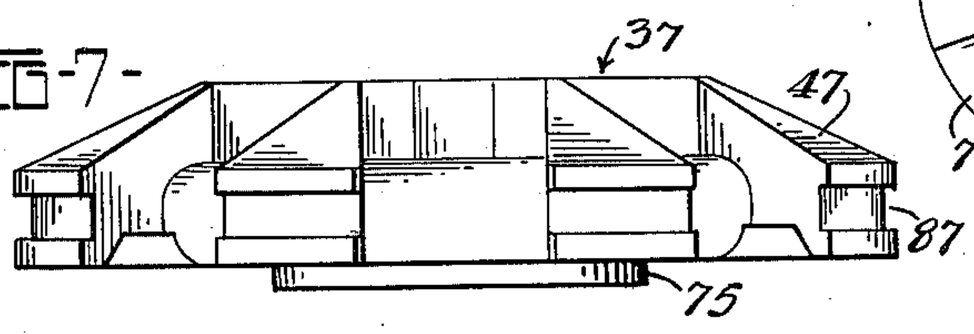


FIG-14-

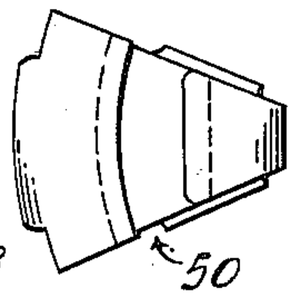


FIG-8-

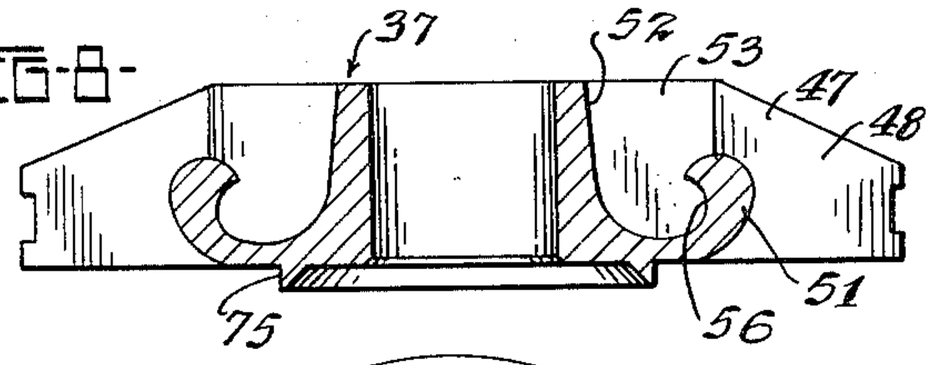


FIG-10-

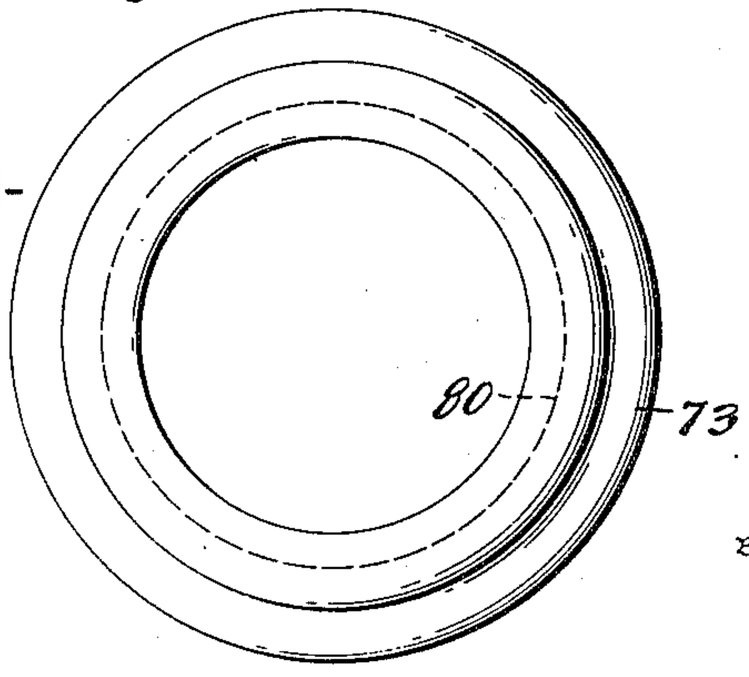
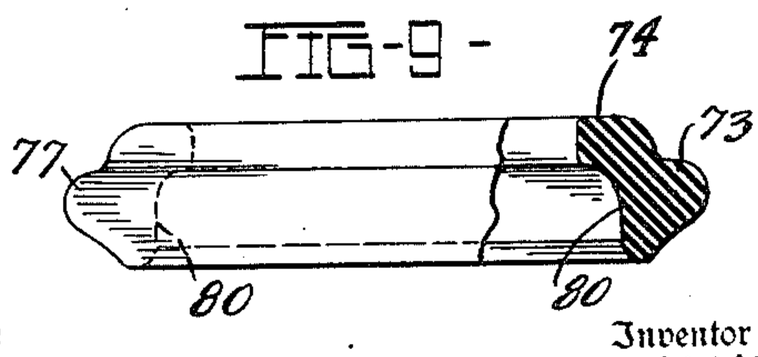


FIG-9-



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UNITED STATES PATENT OFFICE

2,544,626

CLOSURE APPLYING MACHINE

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Application March 15, 1947, Serial No. 735,011

17 Claims. (Cl. 226—86)

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This invention relates to closure affixing or capping machines and more particularly to devices for deforming or acting upon skirted closures to seal receptacles such as milk bottles and the like.

The invention embraces the provision of a capping head for use with a capping machine which is particularly adapted for applying of affixing caps of very thin metal or caps of a laminated formation of paper and metal foil to milk bottles or similar receptacles.

The invention comprehends the provision of a capping device for affixing skirted closures to receptacles which embodies a resilient annular member and a plurality of movably supported levers or fingers cooperating therewith to apply pressure radially of the resilient member to deform or distort the skirted portion of a closure into proper sealing engagement with a receptacle mouth.

An object of the invention resides in the provision of a capping head for affixing skirted closures to receptacles in which force applied in effecting a sealing engagement of a closure with the receptacle mouth is so directed as to eliminate the possibility of improperly applying the cap or closure to a receptacle.

Another object of the invention resides in the provision of a closure affixing means which will not injure or damage the closure or cap.

A further object of the invention resides in the provision of a closure affixing or deforming means which is adapted to seal bottles or receptacles provided with a reinforcing bead or ring adjacent the bottle or receptacle mouth.

A further object of the invention is the provision of a closure affixing means which will distort or pinch the closure into the firm engagement with the bead forming the bottle mouth or lip so as to provide an effective seal between the closure and receptacle.

Still another object of the invention resides in a means for affixing skirted closures to a bottle mouth in which the means is rendered automatically adjustable to compensate for slight variations in the height of the bottles.

A further object of the invention is the provision of a capping head for distorting skirted caps or closures into sealing engagement with a bottle wherein the relative movement between the capping head and the bottle is less than that required in prior devices.

Further objects and advantages are within the scope of this invention such as relate to the arrangement, operation and function of the related eleemnts of the structure, to various details of construction and to combinations of parts, elements per se, and to economies of manufacture and numerous other features as will be apparent from a consideration of the specification and drawing of a form of the invention, which may be preferred, in which:

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Figure 1 is an elevational view of a capping head or closure affixing means embodying my invention;

Figure 2 is a vertical sectional view through the closure affixing means shown in Figure 1;

Figure 3 is a horizontal sectional view taken substantially on the line 3—3 of Figure 1;

Figure 4 is a sectional view showing the upper portion of a bottle and closure prior to the application of the capping head to the closure;

Figure 5 is a sectional view of the arrangement shown in Figure 3 illustrating the mechanism in a position to deform the closure about the bottle mouth;

Figure 6 is a top plan view of an element forming a part of the invention;

Figure 7 is an elevational view of the element shown in Figure 6;

Figure 8 is a vertical sectional view taken substantially on the line 8—8 of Figure 6;

Figure 9 is an elevational view with a portion in section showing a resilient member adapted to engage the closure during deforming operations;

Figure 10 is a plan view of the member illustrated in Figure 9;

Figure 11 is an elevational view of one of the levers or fingers for actuating the resilient member;

Figure 12 is a side view of the construction shown in Figure 11;

Figure 13 is a top plan view of the lever shown in Figure 11, and

Figure 14 is a plan view of the lower end of the construction shown in Figure 11.

While I have shown the closure affixing means or capping head of my invention as particularly adapted and arranged to deform or affix closures on to the mouths of milk bottles or the like, it is to be understood that I contemplate the utilization of my invention in affixing closures to any type of receptacle with which the same may be found to be useable.

A capping head of the character embraced in the present invention is preferably employed in connection with bottle filling machinery and closure applying means. For example, in dairies and other industries engaged in operations of filling and closing or sealing bottles, the sequence of

operations usually include a mechanism for filling the bottles, of selectively feeding closures or skirted caps on to the mouths of the filled bottles and of deforming portions of the closures to affix or distort them into sealing engagement with the bottles. The present invention is directed to improvements in devices or mechanism for affixing caps or closures in sealed relation upon the bottle mouths.

Referring to the drawings in detail there is illustrated a capping head or closure affixing means embodying the present invention which is supported upon a frame 10 forming a part of a bottle filling machine, or in some installations is an independent frame, which is usually configurated in a manner (not shown) to support a plurality of capping heads or units.

The frame 10 is adapted to support a U-shaped bracket or member 11, the leg portions 14 and 15 of the bracket being secured to the frame by means of screws 12 as shown in Figures 1 and 3. The bight portion 16 of bracket 11 is centrally bored to snugly receive a tenon 17 formed upon the upper portion of a member 18, the portion 16 being provided with parallel horizontal openings to receive a U-shaped retaining clip 19. The exterior wall of the tenon 17 is formed with an annular recess which accommodates leg portions of the clip 19 to retain the member 18 to the bracket 11 which provides a supporting means for the capping device.

As particularly shown in Figure 1, the depending portions of members 14 and 15 are provided with vertical recesses 20 which form guide means for a cross head 21, the latter being formed with projections 22 extending into and cooperating with the ways 20. The cross head 21 is integrally formed with a depending sleeve-like portion 23, both cross-head portion and sleeve having a bore therethrough to receive and accommodate portion 25 formed on a shaft 24, the portion 25 being of slightly larger diameter than the upper portion of the shaft 24.

As shown in Figure 1, the member 18 is provided with laterally extending ears or projections 27 which are respectively bored to slidably accommodate a pair of guide rods 29. The cross head 21 is provided with a pair of threaded bores which are adapted to receive threaded tenons 30 formed on the lower ends of the guide rods 29. The members 18 and 21 are respectively formed with shallow recesses 31 and 32 which are adapted to receive and form seats for the extremities of an expansive coil spring 33 which surrounds a portion of the shaft 24. The spring 33 is a comparatively heavy spring arranged to exert a downward pressure upon the member 21 but is adapted to be compressed and avoid damage to the mechanism if material variation is encountered in the dimensions of bottles upon which closures are being affixed. In event the member 21 is moved upwardly in the recesses 20, the spring 33 will be compressed and the rods 29 will slide upwardly relative to the ear portions 27 formed on member 18.

The means for distorting or deforming the closures into sealing engagement with the bottles will now be described. Formed upon the lower extremity of shaft 24 is a tenon 36 which is of a size to receive and carry a member 37, the latter being secured to the tenon by being pressed on or otherwise fixedly retained in position. The portion 25 of shaft 24 is provided with an axial bore 38 within which is reciprocably mounted a

plunger 39 having a disc-like depending head 40. Integrally formed upon plunger 39 is an upwardly extending portion 41 of reduced diameter which terminates at its upper end in a shoulder or abutment 42. Also disposed in the bore 38 is an expansive coil spring 43. A transversely extending pin or dowel 44 projects partially into the bore 38 and is adapted to engage the abutment 42 to limit the lowermost position of the head 40. The expansive spring 43 serves to constantly urge the plunger 39 and head 40 toward their lower-most position.

As particularly illustrated in Figures 6 through 8, the member 37 is circumferentially formed with a plurality of equally spaced triangularly-shaped projections 47. Each adjacent pair of projections 47 are formed with opposing parallel walls 48, the space between each pair of parallel walls accommodating a finger or lever 50. In the embodiment of the element 37 shown in Figures 6 and 7 there is provided a series of eight spaces to accommodate eight fingers or levers 50. Each pair of projections 47 are connected integrally by means of a portion or bridge 51, and each triangular projection or segment 47 is joined to a central annular boss 52 by means of radially arranged ribs 53.

Each of the bridge portions 51 is configurated as shown in Figure 8. The interior wall or the wall nearest the axis of shaft 24 of each bridge is formed with a curved portion 56 which provides a fulcrum or seat for a reciprocally-shaped convex portion 57 formed on each of the fingers 50. The projections 57 on the fingers 50 provide, when engaged in the convex recess 56 formed in the bridge portions 51, surfaces adapted for compound pivotal and sliding movement with respect to the walls of the recesses 56. Each of the fingers 57 is provided with a configurated interior formation 60 providing a relief or clearance to accommodate pivotal movement of the fingers about the bridge portions 51 as particularly shown in Figures 2, 4 and 5.

The exterior of the sleeve 23 is threaded as at 63, and mounted upon the threaded portion is a means for actuating the fingers 50. In the embodiment illustrated this means is in the form of an inverted frusto-conically shaped member 64 as shown in Figures 1, 2, 4 and 5. The member 64 is threaded upon the sleeve 63 and is adapted to be locked in adjusted position with respect to the sleeve by means of a locking nut 65. The nut 65 is preferably provided with spaced radial openings 66 to accommodate a spanner wrench for manipulating the nut.

The fingers or levers 50 are normally urged to the position shown in Figures 1, 2 and 4 by means of a resilient extensible means which, in the embodiment illustrated, is in the form of a coil spring 69 formed into annular shape. The resilient member 69 is adapted to engage in recesses 70 formed in the fingers 50.

The arrangement of my invention is inclusive of a closure engaging means in the form of an annular member 73 of rubber, synthetic rubber or other deformable material. The annular member 73 is provided with an inwardly extending flange or ledge 74 which is adapted to snugly fit over a depending annular boss or flange 75 formed upon member 37. The annular member 73 is provided with an outwardly projecting bead portion 77 which is adapted to engage in recesses 78 formed in depending portions 79 of the levers or fingers 50, as particularly shown in Figures 2 and 4. The

member 73 is formed with an interior surface 80 of such configuration and dimension as to receive a bottle mouth and closure as illustrated in Figure. 4.

Means are provided for aligning or centering the bottle and closure prior to the engagement of the resilient ring 73 therewith. This guide means is inclusive of a member 83 which is formed with an annular wall 84 with which is integrally formed an inwardly and angularly projecting flange 85. The inner wall of the flange 85 is of a dimension to accommodate the passage of a bottle mouth and closure. The guide member 83 is adapted to be removably mounted upon the member 37. To this end each of the lateral projections 47 on member 37 are formed with recesses or grooves 87 and the upper portion of wall 84 is formed with a circular boss portion 88, the latter being provided with a plurality of threaded openings to accommodate headed screws 90. The screws 90 project through the threaded openings and extend into the recesses 87. Through the use of this form of securing means, the guide member 83 may be quickly removed and replaced without the use of special tools. The wall 84 is formed with spaced openings 91 so that the operation of the cap or closure affixing means may be readily observed.

The initial vertical position of the capping head or unit may be regulated in the following manner. The upper extremity of shaft 24 is provided with a threaded tenon 95 which is surrounded by means of a spacer or collar 96 above which is positioned a washer 97 and lock nuts 98. By removing the lock nuts 98 and washer 97, a spacer or collar of different width may be employed for initially raising or lowering the capping device. When a collar of proper width is inserted to position the capping unit, the washer 97 and lock nuts 98 may be assembled as shown in Figures 1 and 2, which arrangement predetermines the lower-most position of the capping unit.

The operation of the arrangement of my invention is as follows: A capping or closure affixing means of the nature disclosed herein is usually employed in conjunction with bottle filling and cap applying means, such mechanism having a movable bottle or receptacle conveying means for moving the bottles from a filling station to a cap applying station and to the cap affixing unit. A bottle B having a cap or closure C loosely applied upon the bottle mouth is moved by the above mentioned bottle conveying means to a position in which the vertical axis of the bottle is in substantial alignment with the axis of the shaft 25 and plunger 39. The bottle conveying means (not shown) is arranged to thereafter elevate the bottle and closure carried thereby, an intermediate position of elevation being illustrated in Figure 4 in which position the uniplanar portion of the closure C is brought into contact or engagement with the lower surface of the disc 40. Under the influence of the resilient means or spring 43, the disc 40 resiliently retains the closure in tight engagement with the upper edge of the bottle mouth during the operation of affixing the closure to the bottle. Further upward movement of the bottle compresses the spring 43 to the position shown in Figure 5, disc or head 40 engaging member 37 to prevent further upward relative movement of head 40 with respect to the member 37. The bottle B is thereafter elevated a further distance whereby the bottle and closure move the member 37 and components carried thereby upwardly. As this further upward movement of the bottle takes place, the inverted frustoconically shaped member 64 remain relatively stationary under the influence of the spring 33 which exerts comparatively high resistance against movement. Thus the pad portions 91, engaging the member 64, cause the fingers or levers 50 to be swung or pivoted about the fulcrum surfaces or seat 56 in member 37, such action moving the depending portions 79 of the fingers inwardly against the resilient annulus 73, causing the latter to be deformed in engaging the closure C to affix or distort the closure skirt into sealing engagement with the upper portion of the bottle or receptacle as illustrated in Figure 5. The skirted closure being formed of metal or of the laminated type of paper and metal or foil, the closure after distortion into sealing engagement with the receptacle mouth will be retained in such sealed position with withdrawal of the resilient annulus and until the closure is removed to obtain access to the receptacle.

In the event that there is any appreciable difference in the heights of bottles, the difference will be compensated by reason of upward movement of the closure head 21 against the tension of spring 33 so that damage to the components of the closure affixing mechanism will be avoided. Upward movement of the closure head will only ensue after the upper portion of member 37 engages the lower end or extremity of member 64.

After the closure or cap C has been deformed or affixed to the bottle mouth as illustrated in Figure 5, the conveyer mechanism supporting the bottle is caused to move downwardly, thus lowering the bottle, member 37 and guide member 83. As these elements move downwardly the pad portions 91 of the fingers 50, remaining in contact with member 64 under the influence of springs 69, move inwardly whereby the fingers 50 again move about their fulcrum seats 56 and again approach the position illustrated in Figure 4. This pivotal movement of the fingers 50 moves the depending portions 79 of the fingers in a lateral direction away from the axis of the bottle B and shaft 25, and the annular member 73 being of resilient material assumes its normal retracted position as illustrated in Figure 4. In this manner the annulus 73 is completely withdrawn from contact with the closure C so that closure and the bottle may be freely withdrawn through the central opening in the guide member 83. It should be noted that the fulcrum seats 56 for the fingers 50 are arranged away from the vertical axis of the bottle B and shaft 24 substantially the same distance as the exterior periphery of the bottle mouth from the same axis. With this arrangement wherein the fulcrums for the fingers 50 are arranged in vertical alignment with the peripheral edge of the bottle mouth, the lateral pressure exerted by the depending portions of the fingers 50 upon the resilient annulus 73 is in a substantially horizontal direction in the zone where the skirt portion of the closure C is deformed or distorted into sealing engagement with the bottle B. Through the application of a radially and substantially horizontal force directed against the closures there are no angularly directed forces acting upon the closure which might result in an ineffective sealing of the bottle. Certain types of bottles for containing milk or other fluids, and especially the larger bottles, are provided with reinforcing beads or annular flange portions F as illustrated in Figures 4 and 5, the flanges being disposed below the skirt portion of the closure C. These flanges

also provide a convenient means for facilitating packing and for delivering of the bottles. Through the utilization of the present closure affixing device, the bottle moves up a lesser distance than in prior devices during closure affixing operations so that the flange F does not come into contact with the wall 85 of the guide 83. This will be obvious from an examination of Figure 5.

While I have described the arrangement of my invention as employed with a bottle conveying means which elevates the bottles into the closure affixing means, it is to be understood that my invention is susceptible of use wherein the bottle remains in one position and the mechanism carrying the capping head or unit is arranged for relative movement to move the closure affixing unit on to the bottle and closure.

A plurality of the capping devices or heads herein described may be employed with a single capping machine, and a capping unit may be quickly and easily affixed to the supporting bracket 11 or removed therefrom without the necessity of dismantling any other portions of the capping machine. The removal of the capping head may be affected by simply withdrawing the U-shaped member 19, after which the shaft 24 and the other components of the cap affixing unit may be withdrawn from the bracket 11.

It is apparent that, within the scope of the invention, modifications and different arrangements may be made other than is herein disclosed, and the present disclosure is illustrative merely, the invention comprehending all variations thereof.

What I claim is:

1. In combination, mechanism for affixing closures on receptacles including a support; a vertical shaft arranged for relative movement with respect to the support; a flange shaped member mounted upon the lower end of said shaft and formed with a plurality of concave portions to provide a plurality of fulcrum seats, an annular flange formed on the lower side of said member; an annulus of resilient material associated with said member, the upper edge portion of said resilient material in contact with said annular flange; a plurality of radially arranged levers having convex portions formed to fulcrum in said seats upon said member, the outer peripheral edge portions of said annulus of resilient material being in contact with the lower end portions of said levers; cone shaped means for actuating the upper end portions of said levers outwardly and the lower end portion inwardly to compress said annulus inwardly into engagement with a closure to affix the latter on the mouth of a receptacle; and a bottle guide carried solely by said member.

2. In combination, mechanism for affixing skirted closures to receptacles including a shaft; a flange shaped member carried by the lower end of the shaft and formed with a plurality of concave portions to provide a plurality of fulcrum seats, an annular flange formed on the lower end of said member; resilient means associated with the annular flange on said member; a plurality of levers having convex portions intermediate its ends formed to fulcrum in said seats upon said member; and a cone shaped means for causing outward relative movement of the upper end of said levers and inward movement of the lower ends of said levers to compress said resilient means inwardly into engagement with a closure to affix the latter on the mouth of a receptacle.

3. A capping device for affixing skirted closures to receptacles including a shaft; a lever supporting flanged member carried by the lower end of the shaft and formed with a plurality of concave portions to provide a plurality of fulcrum seats; a resilient annulus associated with a circular flange formed on the lower side of said member; a plurality of levers having convex portions formed to fulcrum in said seats upon said member; and cone shaped means for causing relative movement of said levers to compress said resilient annulus into engagement with a closure to affix the latter on the mouth of a receptacle.

4. In combination, mechanism for affixing skirted closures to bottles including a vertical shaft; a lever supporting flanged member mounted upon the lower end of said shaft and formed with a plurality of concave portions to provide a plurality of fulcrum seats; a deformable element associated with said member, an annular depending flange on the lower side of said member; a plurality of levers having convex portions formed to be carried by and to fulcrum in said seats upon said member and arranged for relative movement about horizontal axes disposed substantially in vertical alignment with the exterior periphery of the bottle mouth, said deformable element supported between said annular flange and the lower ends of said levers, and means for actuating said levers to deform said element into contact with a closure for affixing the closure upon a bottle mouth.

5. In combination, mechanism for affixing closures on receptacles including a shaft; a lever supporting member mounted upon the lower end of said shaft and formed with a plurality of concave portions to provide a plurality of fulcrum seats, said member having an annular depending portion formed on the lower side thereof; an element of resilient material associated with said member; a plurality of levers having convex portions formed to fulcrum in seats upon said member; said element of resilient material supported between said member and the lower ends of said levers, means for actuating said levers to distort said element into engagement with a closure, and guide means carried solely by said member for directing the mouth of a receptacle and closure therefor to a position adjacent said resilient element.

6. A device for affixing closures on receptacles including a vertical support; a shaft arranged for relative sliding movement with respect to said support; a horizontal member mounted upon said vertical shaft formed with a plurality of concave bearing seats; an annulus of resilient material associated with said member; a plurality of levers having bearing portions adapted to function in said concave bearing seats upon said member; said annulus supported between said member and the lower ends of said levers, means for actuating said levers to compress said annulus inwardly, and guide means carried solely by said member for directing the mouth of a receptacle and closure therefor into said annulus.

7. Mechanism for affixing closures on receptacles including a vertical shaft; a horizontal member mounted upon the lower end of said shaft formed with a plurality of concave bearing seats; an element of resilient material associated with said member; a plurality of levers having bearing members adapted to function with said bearing seats upon said member; said levers being fulcrumed about axes radially spaced from the axis

of the annulus a distance substantially equal to the radial distance of the exterior periphery of the receptacle from its central axis, said element of resilient material supported between said member and the lower ends of said levers, a cone shaped means for causing relative movement of said levers about their respective fulcrums to distort said element into engagement with a closure for affixing the closure to a receptacle mouth, and a bottle guide means carried solely by said horizontal member upon said shaft.

8. Mechanism for affixing closures on receptacles including a support; a vertical shaft arranged for relative sliding movement with respect to said support; a horizontal member mounted upon the lower end of said shaft having concave bearing seats; an annulus of resilient material associated with said member; a plurality of levers having bearing portions adapted to fulcrum with said bearing seats upon said member; said levers being fulcrumed about axes radially spaced from the axis of the annulus a distance substantially equal to the radial distance of the exterior periphery of the receptacle from its central axis, said annulus of resilient material supported between said member and the lower ends of said levers, means for causing relative movement of said levers about their respective fulcrums to distort said annulus into engagement with a closure for affixing said closure to a receptacle mouth; and a bottle guide carried solely by said horizontal member mounted upon said shaft.

9. In a mechanism of the character disclosed, in combination, a support; a vertical shaft mounted for relative movement with respect to the support; an element having an angularly directed surface including bearing seats associated with the shaft; a member mounted upon the shaft; resilient means associated with said member; means for deforming a receptacle closure including a plurality of fingers pivotally supported solely in said bearing seats upon said member; said resilient means carried solely between said member and the lower ends of said fingers, said fingers being arranged for cooperation with said angularly disposed surface whereby relative movement between said element and said fingers cause the latter to distort said resilient means into engagement with a closure to be deformed, and a bottle guide carried solely by said member mounted upon said shaft.

10. In a mechanism for affixing skirted closures to receptacles including in combination, a vertical shaft arranged for relative slidable movement; a supporting sleeve surrounding the shaft; an element having a frusto-conically shaped exterior surface through which said shaft extends; resilient means for normally maintaining said element in relative spaced relation with respect to said sleeve; a horizontal member carried by said shaft formed with a plurality of concave bearing seats; a plurality of fingers having portions adapted to cooperate with said seats and fulcrumed upon said member and radially spaced about the axis of said shaft; an annulus of compressible material associated with said member and supported solely between said member and the ends of said fingers; said frusto-conically shaped element and said fingers being so arranged that relative movement therebetween causes said fingers to compress the resilient annulus inwardly into contact with a closure for deforming the latter into sealing engagement with a receptacle; and a bottle guide carried solely by said member carried by said shaft.

11. A capping mechanism for affixing skirted caps to receptacles including a vertical shaft; an element having a cone shaped exterior surface associated with said shaft; a horizontal member mounted upon said shaft having a plurality of bearing seats; a plurality of levers radially spaced about the axis of said shaft; said levers having portions adapted to cooperate with said bearing seats and adapted to function upon said member; a member of compressible material associated with said levers, said compressible material supported between said member and the ends of said fingers; said parts being arranged whereby relative movement between said levers and said element causes said fingers to distort said compressible material into contact with a skirted closure for affixing the same upon a receptacle mouth, and guide means supported solely by said member mounted upon said shaft for guiding a receptacle mouth and closure into predetermined operative position with respect to said compressible member.

12. A capping mechanism for affixing skirted caps to receptacles including a support; a vertical shaft carried by and relatively movable with respect to the support; an element having a cone shaped exterior surface associated with said shaft; a substantially horizontal member mounted upon the lower end of said shaft having bearing portions; a plurality of levers radially spaced about the axis of said shaft and carried solely by said member; said levers cooperating with said bearing portions upon said member; an annulus of compressible material associated with said levers and supported solely between said member and the lower end portions of said levers; said parts being arranged whereby relative movement between said levers and the element cause said fingers to compress said annulus into contact with a skirted closure for affixing the same upon a receptacle mouth; and means carried solely by said member for guiding a receptacle mouth and closure into predetermined operative position with respect to said annulus.

13. In a capping mechanism, the combination of a shaft; a member secured to the lower end portion of said shaft and having a plurality of hook-like projections; a plurality of radially arranged fingers having seat portions intermediate its ends engageable in recesses formed by said hook-like projections; an annulus of compressible material disposed adjacent said member; said fingers having its lower end portions engageable with said annulus; cone shaped means associated with said shaft and engageable with the upper ends of said fingers whereby relative movement between said shaft and said cone shaped means forces the upper ends of said fingers outwardly and moves the lower end of said fingers inwardly to compress the annulus inwardly into engagement with a closure for affixing the latter upon a receptacle mouth; and a guide carried solely by said member.

14. In a capping head, the combination of a shaft; a flange like member associated with the lower end of said shaft and having a plurality of radially arranged upwardly extending hook-like projections; a plurality of radially arranged fingers having seat portions engageable in recesses formed by said hook-like projections; an annulus of compressible material juxtaposed said member on the lower end of said shaft, and a cone shaped means engageable with said fingers where-

by relative movement between said shaft and said cone shaped means forces the upper end of said fingers outwardly and moves the lower end of said fingers inwardly to distort the annulus into engagement with a closure for affixing the latter upon a receptacle mouth; and a bottle guide supported solely by said member.

15. In a capping head, the combination of a shaft; a flange like member secured to the lower end of said shaft and having a plurality of radially arranged hook-like projections; a plurality of radially arranged fingers having seat portions engageable in recesses formed by said hook-like projections; an element of compressible material; a circular depending rib on the said flange like member in contact with the internal edge portion of said element of compressible material, and cone shaped means for actuating the upper end of said fingers outwardly and the lower end of said fingers inwardly to distort said element into engagement with a closure for affixing the latter upon a receptacle mouth, and a bottle guide carried solely by said member.

16. In combination, a closure affixing means for receptacles including a vertical shaft; a sleeve; said shaft being relatively reciprocable in said sleeve; means for adjusting the initial position of said shaft with respect to said sleeve; a substantially horizontal member mounted upon said shaft and having bearing portions; a plurality of pressure fingers mounted upon and supported by said horizontal member and cooperating with said bearing portions; an annulus of compressible resilient material disposed between said member and the lower end portions of said fingers; means for actuating said fingers including an element having a conically shaped surface; a cross head; resilient means for maintaining said

cross head normally in a predetermined position; means for adjusting the position of said element with respect to said cross head; means mounted upon and carried solely by said member for guiding a receptacle mouth and closure therefor into the annulus, the lower end portions of said fingers being engageable with the annulus to distort the latter into contact with a closure to affix the closure on a receptacle mouth.

17. In a device of the class described for affixing closures upon receptacles, a vertical shaft, a compressible resilient clamping means, a cone shaped means movably mounted relative to said shaft, a flange type lever supporting member secured to the lower end of said shaft, a plurality of radially effective pressure exerting levers effectively disposed relative to said clamping member and carried solely by said flange type member, said levers effective upon a movement of said cone shaped means to cause said radially effective levers to contact said clamping means about a closure supported upon the mouth of a bottle; a bottle and closure guide means supported solely by said flange type member, and means for actuating said movable cone shaped member.

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