

Sept. 4, 1962

H. D. MANAS

3,052,269

ATTACHMENT FOR FILLING MACHINES

Filed June 22, 1960

5 Sheets-Sheet 1

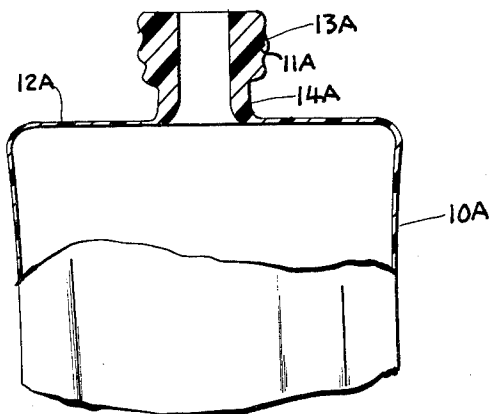


Fig. 1A.

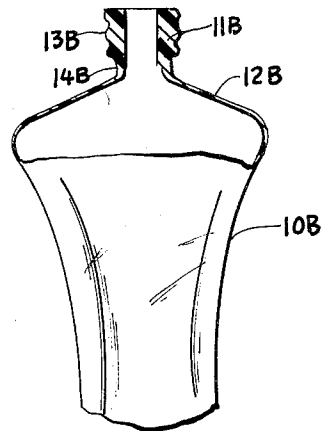


Fig. 1B

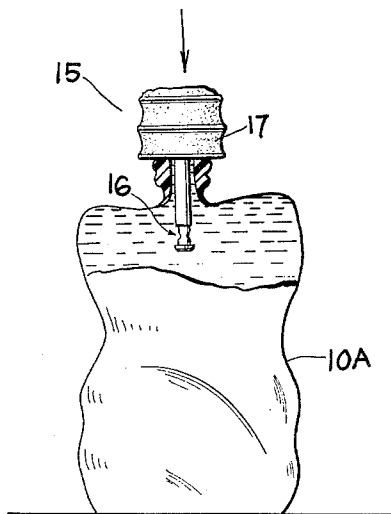


Fig. 1C

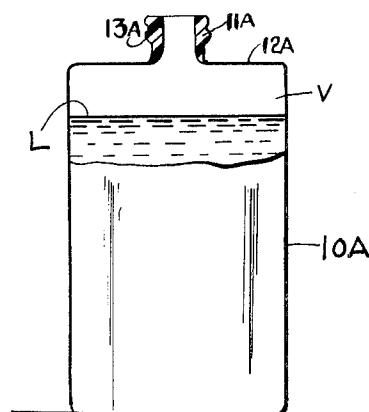


Fig. 1D

INVENTOR
HERMAN D. MANAS

BY *Henry H. Henson*
ATTORNEY

Sept. 4, 1962

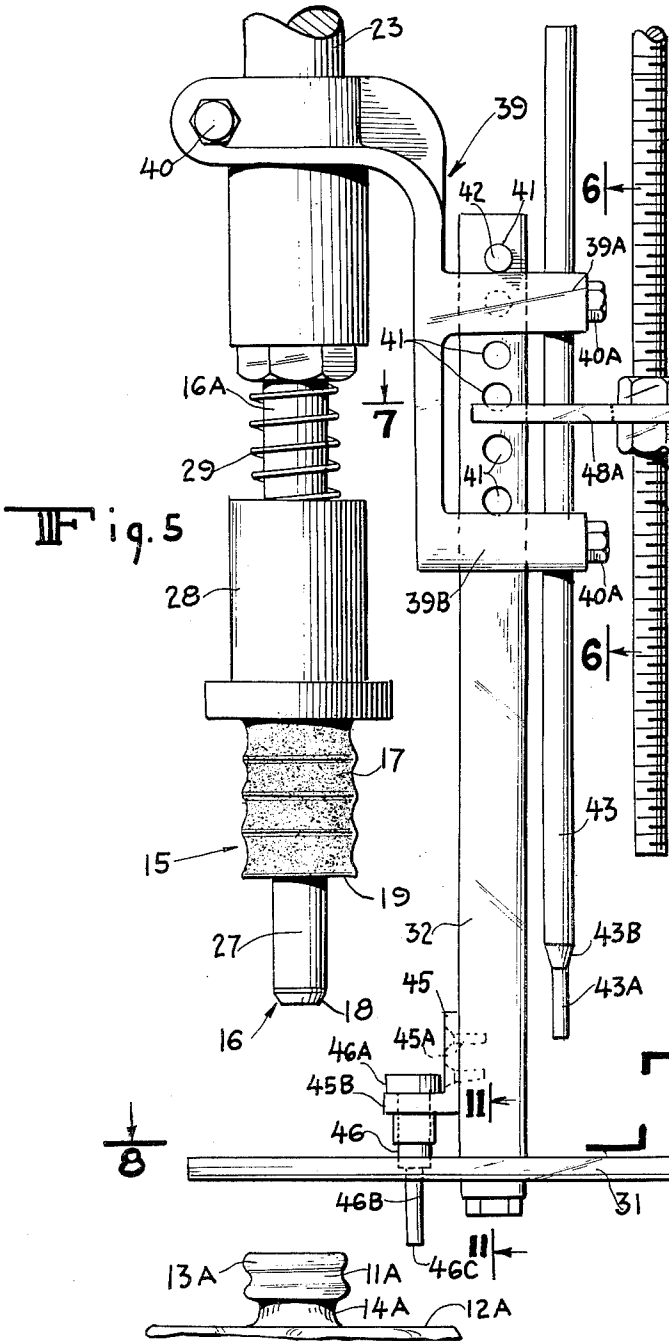
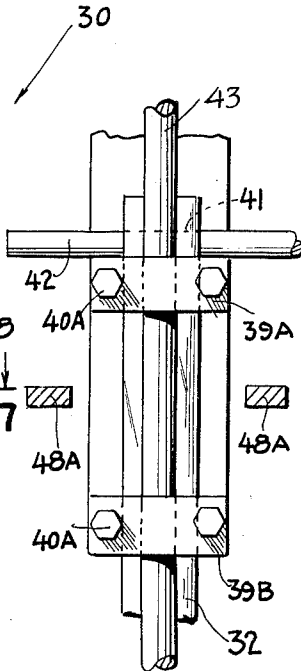
H. D. MANAS

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5 Sheets-Sheet 3



INVENTOR
HERMAN D. MANAS
BY *Herman D. Manas*
ATTORNEYS

Sept. 4, 1962

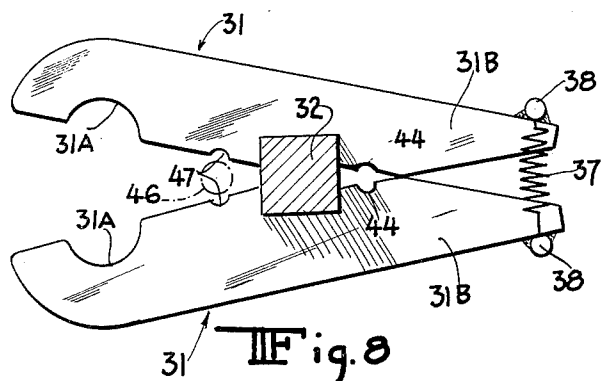
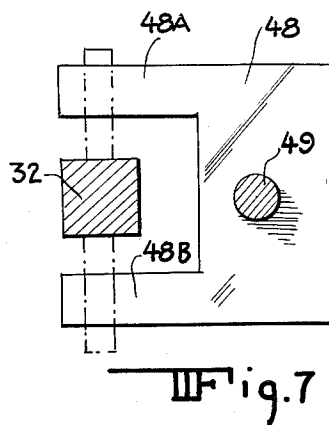
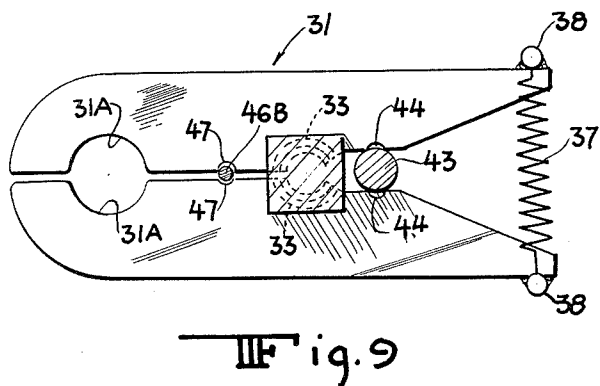
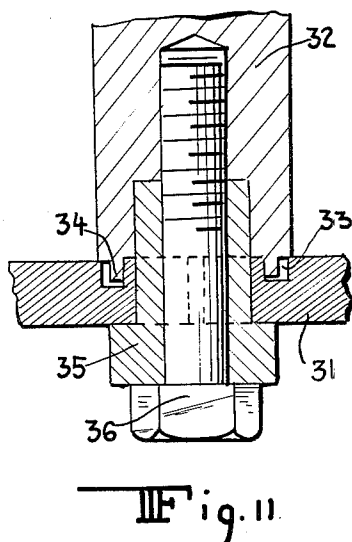
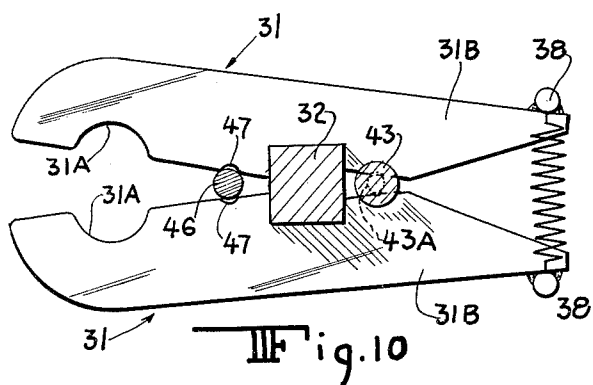
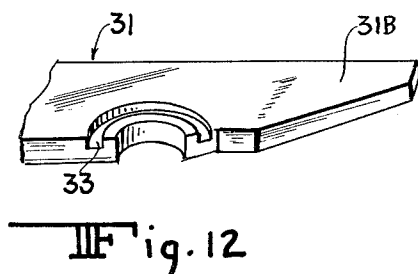
H. D. MANAS

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INVENTOR
HERMAN D. MANAS
BY *Herman D. Manas*
ATTORNEYS

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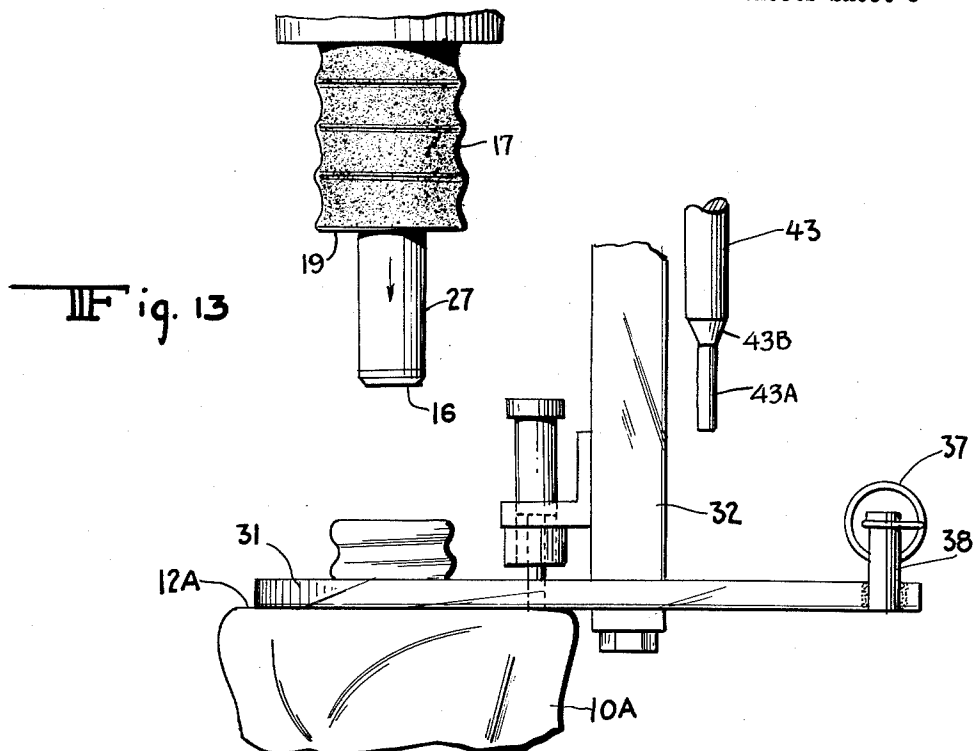
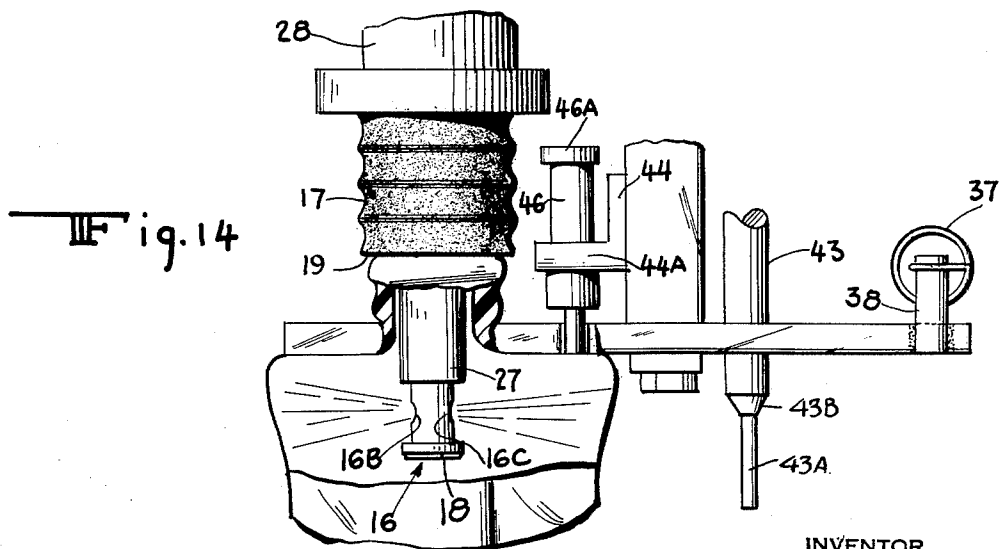
H. D. MANAS

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ATTACHMENT FOR FILLING MACHINES

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5 Sheets-Sheet 5



INVENTOR
HERMAN D. MANAS
BY *Herman D. Manas*
ATTORNEYS

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ATTACHMENT FOR FILLING MACHINES

Herman D. Manas, Roslyn Estates, N.Y., assignor to M.R.M. Company, Inc., Brooklyn, N.Y., a corporation of New York

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11 Claims. (Cl. 141—114)

This invention relates to filling machines and more particularly to apparatus for facilitating the filling thereby of resilient containers of plastic or other suitable materials.

Automatic container filling machines for filling of rigid containers are widely used. The advent of resilient containers of plastic material or the like in recent years has, however, introduced new problems into the art of container filling. It has been found that in the use of conventional filling machines these resilient containers tend either to collapse when the filling head is lowered onto the neck end of the container or else to become materially deformed by the pressure and weight of the applied filling head during filling. Either condition results in accurate filling of these containers. This is, of course, an unsatisfactory and undesirable result which no reputable distributor of a liquid product in a resilient plastic container can tolerate.

Since filling machinery extant is complex and expensive, no bottler or distributor of bottled products desires unnecessarily to discard filling machinery fully useful for ordinary rigid containers or bottles merely because plastic bottles and containers have become fashionable and currently are widely used.

Principal objects and features of this invention are the provision of an adjunct or attachment for conventional types of filling machines that may be sold separately for installation on filling machines extant or else incorporated into new filling machines and which in either event will enable these machines to be fully useful in connection with the filling of plastic containers or bottles, preventing collapse or deformation of the latter during filling and thus insuring accuracy of fill of such plastic containers.

Further objects and features of this invention are the provision of an adjunct or attachment of this character that is simple in construction, is readily installable on extant as well as new filling machines and which is also comparatively inexpensive.

Additional objects and features of this invention are the provision of an adjunct or attachment of the kind described that is adjustable to permit use of the filling machine to which it is attached for filling resilient containers of differing sizes and shapes.

Yet other objects and features of the invention are the provision of an adjunct or attachment of the kind described that includes feeler means for detecting absence of a container to be filled so as to then preclude ejection of filling fluid by the filling head of a machine to which the adjunct is attached.

Further objects and features of the invention will become apparent from the following specification and the accompanying drawings forming a part thereof wherein.

FIGURE 1A is a fragmentary, partially sectionalized elevation of one form of resilient container or, bottle of plastic or other suitable material now in common use;

FIGURE 1B is a similar fragmentary, partially sectionalized elevation of a different form of such container or bottle also now in common use;

FIGURE 2 illustrates the partial collapse or deformation of the container of FIGURE 1A under the pressure of the filling head of a conventional filling machine during the period of fill;

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FIGURE 3 illustrates the container of FIGURE 2 restored by its natural resiliency to substantially its initial condition after withdrawal of the filling head, the unfilled portion directly below the neck representing volume lost by the collapse or deformation of the container under pressure of the filling head during filling;

FIGURE 4 is a fragmentary elevation of a filling machine illustrating a group of filling heads thereof, one at a first position in advance of the filling station of the machine, a second at a position at the start of filling; and a third showing the conditions when no container is present beneath it for filling, all heads of said group shown being equipped with adjuncts of this invention to render the machine of which they are part, useful for filling resilient containers of plastic or other suitable material;

FIGURE 5 is an elevational view of a filling head of a filling machine to which the adjunct of this invention has been applied, and illustrating the condition of parts at the initial stage of a filling cycle and in advance of arrival of the head at the filling position;

FIGURE 6 is a sectional view taken along the plane of lines 6—6 of FIGURE 5 as seen in the direction of the arrows;

FIGURE 7 is a sectional view taken along the plane of line 7—7 of FIGURE 5 also as seen in the direction of the arrows;

FIGURE 8 is a sectional view taken along the plane of line 8—8 of FIGURE 5 as seen in the direction of the arrows illustrating the open condition of container neck gripping jaws of the adjunct or attachment of this invention as ready to receive a portion of a container neck;

FIGURE 9 is a similar view illustrating the closed condition of these gripping jaws about a portion of the neck of a plastic container;

FIGURE 10 is a similar view of these gripping jaws when no container has been in a position on the filling machine to be gripped by the jaws;

FIGURE 11 is a fragmentary section taken along the plane of line 11—11 of FIGURE 5;

FIGURE 12 is a fragmentary perspective view of one of the gripping jaws viewed in the direction of the arrow 12 of FIGURE 11;

FIGURE 13 is a fragmentary elevational view of the filling head of FIGURE 5 in the position just after the gripping jaws of its adjunct have seized a portion of the neck of a particular plastic container to be filled; and

FIGURE 14 shows a succeeding position wherein the filling head has been lowered into sealing engagement under pressure with the rim at the mouth of the plastic container and its filling nozzle exposed to permit filling of the container with its desired fluid content without collapse or deformation of the main body of the container.

Referring to the drawing and first to FIGURES 1A, 1B, 2 and 3, the reference characters 10A and 10B respectively denote resilient bottles or containers of plastic or similar material of conventional shapes. The shapes shown are by way of illustration only and not by way of limitation. A filling and dispensing neck 11A or 11B projects upwardly of the upper surface 12A or 12B of the container, the neck preferably being threaded externally at 13A or 13B for the application of a threaded cap (not shown) and having an annular external groove 14A or 14B positioned on the respective neck directly adjacent the respective upper container surfaces 12A or 12B. Threading of the necks is not essential if closures other than a threaded cap are used.

Conventional filling machines are equipped with filling heads 15. FIGURE 4 et seq. show a fragment of such a machine and such heads. Each such head 15 includes a tubular nozzle part 16 which may be lowered into a

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container to be filled through its open mouth. The part 16 is surrounded by a bellows-like resilient tubular body 17 whose lower lip 18 is adapted to engage the upper rim of a container neck 11A or the like into which the part 16 has been lowered. Weighted pressure on the head 15 as will be described causes bellows 17 to press onto and effect sealing engagement between its lower lip 18 and the upper rim of the container neck. This pressure also effects opening of the valve ports 16C in a part 16B of the nozzle part 16 in FIGURE 14 to permit filling of the container. With ordinary rigid containers, the pressure necessary to effect sealing compression between bellows 17 and container rim and also exposure of valve ports 16C for filling causes no detectable deformation of the containers and has no effect upon the accuracy of container fill.

On the other hand, when a resilient container of plastic material such as container 10A or 10B is filled, the compression pressure on the bellows 17 required for sealing and for exposure of valve ports 16C for filling causes partial collapse or deformation of the container (10A as is illustrated in FIGURE 2). This partial collapse or deformation effects a reduction in available filling volume within such plastic container 10A. In consequence, when the filling head 15 is lifted and its valve parts are withdrawn from the seemingly full partially collapsed container 10A of FIGURE 2, the inherent resiliency of the plastic container restores it substantially to its original shape as is seen in FIGURE 3. In this restored, reexpanded condition, the rated volume of the container exists, rather than the reduced volume caused by the partial collapse under filling head pressure during filling. The apparently full container of FIGURE 2 becomes the partially filled container of FIGURE 3 with an unfilled volume V above the liquid level L. This unfilled volume V is material. It varies as a function of the extent of collapse of the container 10A during filling which itself is unpredictable, depending largely upon the material and the wall strength of each individual container. In consequence, a group of plastic containers filled by conventional filling machines not equipped with the adjunct or attachment of this invention vary widely and inaccurately as to their extent of fill. This variation obviously is objectionable and must be eliminated.

The adjunct or attachment of this invention which is applicable to existing as well as new filling machines provided with relatively movable filling heads and containers solves the problem simply and effectively by completely preventing collapse or distortion of the resilient container during its filling.

Referring now to FIGURE 4, a group of filling heads 15 of a conventional filling machine 20 are illustrated. This filling machine 20 for illustrative purposes, may be of the rotary type, the individual heads 15 being supported by vertically spaced turret frame parts 21 and 22 that are rotated in synchronism about a common vertical axis. Each filling head 15 is carried by a vertically slidable support rod 23 to which a cam follower roller 24 is attached. This roller 24 is movable on a stationary surface cam 25 positioned between the rotary turret frame parts 21 and 22. A weight 26 biases the cam follower 24 against the upper face of stationary cam 25. Thus during turret rotation as the cam follower roller 24 moves from a high surface elevation 25A to a descending elevation 25B and again to a rising elevation 25C of said surface cam 25, the support rod 23 is reciprocated vertically alternately lowering and raising the filling head 15 as required for container filling operations.

Each head 15 includes a fluid receiving chamber F which is supplied with fluid in conventional ways from a common supply source (not shown). This chamber F is secured to the lower extremity of the support rod 23. The tubular nozzle part 16 projects downwardly from the chamber 26. This part in its upper portion 16A has larger diameter than at its lower terminal part 16B (FIG-

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URE 14). The nozzle part has outlet ports 16C in its length and valve cap 18 at its extreme lower end. A valve sleeve 27 fits slidably over the terminal part 16B of nozzle part 16, its lower rim, being adapted to seat on the valve cap 18 to close off the ports 16C. This sleeve 27 has its upper end secured to the telescopic bellows member 17 which in turn is secured to a sleeve 28 (FIGURE 5). This sleeve 28 is slidably mounted on the upper portion 16A of nozzle part 16. A biasing spring 29 surrounding said upper portion 16A normally biases sleeve 28, bellows 17 and sleeve 27 outwardly and downwardly to the limit permitted by the valve cap 18, so that valve ports 16C are normally closed off to preclude discharge of fluid therefrom.

Exposure of the ports 16C occurs only when sleeve 27, bellows 17 and sleeve 28 are displaced upwardly against the biasing action of spring 29. This occurs when head 15 is lowered and the lip 19 of bellows 17 engages the rim of the neck 11A or 11B of an underlying container 10A or 10B as the case may be. The lowering and raising of head 15 is effected as described by the weight 26 and by interaction of cam follower 24 and the upper surfaces of stationary cam 25 as the turret parts 21 and 22 are rotated.

The adjuncts or attachments 30 of this invention are adapted to be mounted one with relationship to each head 15. Each adjunct 30 in the embodiment shown includes gripper jaws 31 intended to be operable to open and closed positions relative to the grooves 14A or 14B of the respective neck portions 11A or 11B of the containers 10A or 10B around which they may be clamped. These gripper jaws 31 have gripping faces 31A of substantially semi-circular shape. The jaws are pivotally carried from a vertical support bar 32 in any suitable manner. In the embodiment shown, the respective jaws 31 have semi-circular recesses or grooves 33 (FIGURES 11 and 12) in their upper surfaces engageable by an annular lip 34 depending from the lower end of support 32. A bearing pivot 35 on which each jaw 31 is mounted is secured in place to the lower end of support 32 as by a threaded bolt 36 (FIGURE 11). The pivoted jaws 31 are biased toward the open condition seen in FIGURE 8 as by a tension spring 37 whose opposite ends are secured to pins 38 carried by the respective jaws 31.

The support bar 32 is slidably carried by a yoke-like bracket 39. This bracket 39 is secured as by clamping at 40 to the filling head support rod 23. The parallel yoke arms 39A and 39B of this bracket 39 serve as slide guides for the support bar 32 which preferably has square or other polygonal shape in cross section. Spaced apart transverse holes 41 are provided in the support bar 32, through any one of which a transverse height adjustment pin 42 may be inserted. The said pin 42 is adapted normally to rest on the upper surface of yoke arm 39A. Its position in any of the selected holes 41 determines the relative vertical elevation of the support bar 32 and the jaws 31 carried by the latter above the surface 12A or 12B of a selected plastic container to be filled.

A cam rod 43 extending parallel with the vertical support bar 32 is fixedly but adjustably supported by the yoke arms 39A and 39B as by clamping bolts 44. The lower or terminal end 43A of the cam rod 43 has reduced diameter relative to the diameter of the main portion of rod 43. The two differently diametered portions are joined by a tapered portion 43B. The smaller diametered portion 43A of cam rod 43 is movable freely through juxtaposed semi-circular notches 44 in the edges of jaws 31. The two notches 44 define a substantially circular hole whose diameter is slightly larger than the diameter of portion 43A of cam rod 43. Thus relative longitudinal motion of rod 43 and support bar 32 which permits entry or withdrawal of portion 43A of cam rod 43 in the hole defined by notches 44 has no effect on the jaws 31 and no closing action thereof occurs. If on the other hand, tapered portion 43B and the larger diametered main

body of cam rod 43 enter between the notches 44, the camming action of tapered portion 43A and the main body 43 of said cam rod impart a scissor-like spread to the wings 31B of clamping jaws 31 in opposition to the bias of spring 37. This pivots the jaws 31 into the closed clamping condition of their jaw claws 31A as is illustrated in FIGURE 9.

A safety arrangement is provided to prevent complete closure of the jaws to the position shown in FIGURE 9 in the event that no container lies in a position to have its neck clamped by jaws 31. To this end a bracket 45 is secured as by bolts 45A to the support bar 32 adjacent its lower end. A slidable feeler plunger 46 is vertically supported in freely slidable manner by the arm 45B of bracket 45. This feeler 46 has a head 46A which limits downward movement of said plunger 46. A reduced portion 46B is provided at the lower extremity of said plunger 46.

Notches 47 are provided in jaws 31. These notches 47 are dimensioned to permit the jaws 31 to close when the reduced portion 46B of said plunger lies in the space defined by them. However, if the larger diametered portion of plunger 46 above said reduced portion 46B lies between the notches 47, as is illustrated in FIGURE 10, the jaws 31 cannot close completely.

The presence of a container is necessary to elevate the feeler plunger 46 so that its portion 46B will lie between the notches 47. This elevation is effected by engagement of the lower end or nose 46C of the feeler plunger 46 with a surface 12A or 12B of a container 10A or 10B as the case may be during the downward stroke of the filling head 15 underlying a particular container. These containers are placed on a suitable conveyor C (FIGURE 4) which underlies the turret structure 20 and moves in synchronism with the frame parts 21 and 22 thereof. The containers 10A or 10B to be filled are positioned either manually or automatically in conventional ways in spaced relationship on conveyor C so that one underlies each filling head 15 and travels at synchronous speed therewith.

Guides G may be positioned on the conveyor C to maintain the spaced position of containers placed thereon.

A fork-like member 48 (FIGURES 4, 5, 6 and 7) having tines 48A and 48B is adjustably supported on a threaded support rod 49 which is suspended fixedly as by nuts 50 (FIGURE 4) from the turret frame part 22. One such member 48 is provided for each head structure 15. The tines 48A and 48B extend laterally from the support rod and on opposite sides of the bar 32 underlying the cross pin 42 thereon so that they lie in the vertical path of travel of said cross pin 42. The elevation of the fork-like member 48 relative to its threaded support rod 49 above conveyor C may be adjusted by the locking nuts 51 for purposes presently to be described.

Operation

A filling machine having heads 15 each equipped with the adjunct herein above described is operated in the following manner.

The cross pin 42 is inserted into the appropriate one of the holes 41 of the jaw supporting bar 32 so that in the uppermost vertical stroke position of the filling head 15, the jaws 31 are at a selected level above conveyor C which permits the nose end 46C of the feeler pin 46 to then lie at a level just slightly above the upper lip of the neck 11A or 11B of the container 10A or 10B as the case may be which is to be filled. The plurality of holes 41 permit selection of that one suitable for a container or any selected height. This is the condition of the parts at the position I in FIGURE 4 and as seen in FIGURE 5. At that time the cam follower 24 rides on the high surface portion 25A of stationary cam 25. As the turret 20 advances from position I to the position II of FIGURE 4, cam follower 24 moves over descend-

ing surface 25B of cam 25 and rides off this descending surface just prior to reaching position II under gravity action of weight 25. During the period of descent the filling head 15 with the adjunct carried by its bar 23 move downwardly toward the underlying container 10A or 10B as the case may be. In this descending movement and prior to the arrival of the head at position II, the nose 46C of feeler 46 engages the top surface 12A or 10B of the underlying container. After such engagement occurs further descent of the bar 23 first causes feeler pin 46 to be elevated sufficiently relative to the notches 47 so that its reduced portion 46B now lies aligned with these notches. Thus the jaws 31 and their faces 31A may be moved to a clamping condition. However, before any clamping movement of the jaws occurs, the open jaws move downwardly further over the neck 13A or 13B of the underlying container 10A or 10B into coplanar alignment with the groove 14A or 14B thereof and the jaws 31 rest on the upper surface 12A or 12B of the container 10A or 10B as the case may be (see FIGURE 13). On further descent of the head and its support bar 23, the nozzle 16 and sleeve 27 enter the open mouth of the container. However, as jaws 31 now are resting upon said surfaces 12A or 12B, their support bar 32 slides upwardly freely relative to its support bracket arms 39A and 39B. In the further downward descent of head 15, it carries with it the cam rod 43 whose reduced end 43A first enters the space defined between the notches 44 of the jaws 31. On further descent of head 15 the larger diametered portion 43 of the cam rod is moved between the jaw notches 44 of jaws 31 causing them to close against the biasing action of spring 37 with their jaw faces 31A in clamping relationship in grooves 14A or 14B of the container 10A or 10B as the case may be. At this time the cross pin 42 engages the fork tines 48A of fixed fork 48 and this prevents any further downward displacement of the jaws 31 and thus of the container necks 11A or 11B. Subsequently in further descent of the head 15, its resilient bellows member 17 comes to rest on the upper lip or rim of the container neck 11A or 11B being pressed into sealing relationship therewith by the magnitude of the weight 25. At the same time a relative upward displacement of this bellows member 17 occurs against the biasing action of the spring 29 which becomes compressed. This displacement exposes the valve ports 16C permitting fluid to be ejected into the container to fill it.

Since the jaws are clamped in grooves 14A or 14B of the respective containers and are locked against further descent by fork 48, the compression of the bellows member 17 against the lip of the container to effect a seal cannot cause collapse or deformation of the body of the container 10A or 10B below the clamped neck portions thereof. In consequence, accurate filling occurs starting at position II at which time the positional condition of the component parts is that shown in FIGURE 14.

This positional condition is maintained for a dwell period beyond position II for a time long enough to effect complete filling of the container with fluid ejected into it via the open ports 16C. Upon completion of the dwell period beyond position II the cam follower 24 rides onto the ascending portion 25C of the stationary cam 25 (FIGURE 4) causing elevating movement of the filling head 15 and the component parts of the adjunct or attachment of this invention.

The elevating motion of the head 15 causes cam rod 46 to rise sufficiently to permit its reduced portion 43A to become aligned with jaw notches 44 of the jaws 31 permitting them to move to unclamping condition under the action of spring 37 and release the container. Further upward movement of the head 15 carries the nozzle 16 upwardly to clear the neck of the container in which it has been inserted during filling. Also the nose 46C of the feeler 46 is elevated by continued upward movement of the unclamped jaws to clear the open mouth of the

neck so that the filled container may be passed to a delivery station (not shown) for ready removal from the conveyor C of the filling machine.

When the cam roller 24 again reaches the high surface 25A of stationary cam 25, all parts are restored to the condition shown at position I of FIGURE 4 and as shown in FIGURE 5 ready for a repetition of the cycle described in filling another container.

If at any time a container fails to appear on the conveyor C for filling by a head as it reaches position I, descent of head 15 continues in its approach to position II. However, since no container then underlies the head, the feeler nose 46C of feeler pin 46 has nothing to engage it. In consequence, no relative vertical upward displacement of this feeler pin 46 occurs and its larger diametered portion 46E now remains at rest between the notches 47 of the clamping jaw, the condition shown in FIGURE 10. This prevents the jaws 31 from being moved to the closed condition of FIGURE 9 under actuation of the cam rod 43 since its tapered portion 43B and wider diametered portion 43 cannot be forced into the space between the notches 44 of the clamping jaws 31. The jaws 31 then cannot be accidentally closed below the resilient bellows member 17 and accidentally cause a vertical displacement of the latter to expose the ports 16C of the fluid dispensing nozzle 27. A safety feature is thus introduced preventing accidental discharge of fluid from a filling head when no container appears below it during a filling cycle of the particular head.

The adjunct of this invention it can be seen is readily attachable to heads of filling machines currently extant as well as installable as equipment of new machines. Moreover, although described with relationship to a rotary type filling machine, it is equally applicable to linear feed type machines having vertically reciprocable filling heads. Likewise it is adaptable by reason of the adjustable positions of its component parts, to accommodate containers of different size and cubic content. Its use additionally is not restricted to containers having the specific shapes and contours depicted in FIGURES 1A and 1B but may be used with any collapsible container equipped with a groove or the like in its neck around which the jaws 31 may be clamped in such a condition to prevent sealing thrust of the filling head bellows 17 from being transmitted below the neck during container filling operations. Prevention of transmission of this thrust precludes deformation of the containers and insures accurate fill.

Although a specific embodiment of the invention has been described, variations in structural detail within the scope of the appended claims are possible and are contemplated. There is no intention, therefore, of limitation to the exact disclosure herein presented.

What is claimed is:

1. An adjunct for attachment to a filling head of a container filling machine which head includes means thereon engageable with the rim mouth of a resilient container to be pressed thereagainst when said head is moved downward to filling position on said rim to preclude pressure induced deformation of a resilient container during its filling by the head, said adjunct comprising gripping means engageable with the neck portion of said container below said mouth rim prior to and during the filling of said container to prevent transmission of pressure between the engaging means on the filling head and the container mouth rim to the body of the container below its neck portion during said filling to thereby preclude the deformation of said body, and operating means in conjunction with said gripping means and responsive to relative motion of said filling head with respect to said container mouth rim to effect closing and opening of said gripping means about said neck portion.

2. The adjunct of claim 1 wherein said gripping means include a pair of pivotally supported jaws between which said neck portion of said container may be disposed and wherein said operating means includes a cam member

insertable between portions of said jaws to effect their closing, and biasing means to open said jaws when said cam member is withdrawn from between said portions of said jaws.

3. The adjunct of claim 2 including jaw closure preventing means insertable between other portions of the said jaws and means to support said jaw closure preventing means so that on movement of said filling head to filling position said jaw closure preventing means is displaceable only by engagement with a container to preclude complete closing of said jaws by said cam member in the absence of a container in a position to be filled by the filling head to which said adjunct is attached.

4. An adjunct for attachment to a filling head of a container filling machine which head includes means thereon engageable with the rim mouth of a resilient container to be pressed thereagainst when said head is moved downward to filling position on said rim to preclude pressure induced deformation of the resilient container during its filling by the head, said adjunct comprising a bracket attachable to a moving part of said filling head, a bar slidably supported by said bracket, a pair of jaws pivotally supported by said bar and engageable with a neck portion of said container below said mouth rim prior to and during filling of said container to prevent transmission of pressure between the engaging means on the filling head and the container rim mouth to the body of the container below its neck portion during said filling to thereby preclude the said deformation of said body, a cam member carried by said bracket and insertable between certain portions of said jaws during movement of said filling head to effect their closing about said neck portion, and spring biasing means to open said jaws when said cam member is withdrawn from between said portions of said jaws.

5. The adjunct of claim 4 including means for adjusting the position of said bar relative to said bracket.

6. The adjunct of claim 4 including jaw closure preventing means carried by said slidably supported bar and insertable between certain other portions of said jaws and displaceable only by engagement with a container to preclude their complete closing by said cam member in the absence of a container in position to be filled by the filling head to which said bracket is attached.

7. The adjunct of claim 6 wherein said jaw closure preventing means includes a feeler pin member having portions of differing diameter respectively insertable between said certain other portions of said jaws.

8. The adjunct of claim 6 wherein said feeler member has a nose engageable with a surface of said container.

9. For use with a container filling machine an adjunct to prevent collapse of a plastic container during its filling by a filling head of said machine, said adjunct comprising means on said head engageable with the rim mouth of the plastic container to be pressed thereagainst when said head is moved downward to filling position on said rim, a bracket attachable to the filling head, a bar, means for slidably supporting said bar from said bracket, means for adjusting the position of said bar relative to said bracket, gripping means pivotally carried by said bar and adapted to engage the neck of said container prior to and during its filling, means to bias said gripping means toward an open condition relative to said neck, cam means movable with the bracket between certain positions of said gripping means to a gripping position about said neck portion, and means mounting said cam means for relative movement with respect to said gripping means, said gripping means in gripping position about said container neck serving to prevent collapse of the container by pressure exerted by said engaging means on said filling head during filling operations thereof, and means to effect movement of said cam means relative to said gripping means to open and close said gripping means.

10. For use with a container filling machine having a reciprocally movable filling head equipped with means

thereon engageable with the rim mouth of a resilient container to be pressed thereagainst when the head is moved to filling position on said rim, an adjunct attachable to the filling head to permit accurate filling of a resilient container thereby, said adjunct comprising a bracket attachable to the filling head, a bar, means for adjustably and slidably supporting said bar from said bracket, gripping means pivotally carried by said bar and engageable with a neck portion of said container prior to and during filling of the container to prevent transmission of sealing pressure between the rim-engaging means of the filling head and the container rim mouth to the body of the container below its neck portion during said filling to thereby preclude collapse of said body, means to bias said gripping means toward an open condition relative to said neck and cam means responsive to relative motion of said filling head with respect to said container to effect closing and opening of said gripping means about said neck portion.

11. An adjunct for use with a container filling machine to prevent collapse of a plastic container during its filling via a filling head of the machine which head has engaging means thereon which is pressed against the rim mouth of the container neck when said head is moved into filling position on said rim comprising a bracket attachable to move with the filling head, a bar member slidably supported by the bracket, a pin member adjustably position-

able in said bar member and engageable with said bracket to selectively locate the position of said bar relative to said bracket, means in the movement path of said pin for engaging it to limit displacement of said bar in said bracket, a pair of movable jaws pivotally secured to said bar, biasing means for normally maintaining said jaws in open condition, jaw closure preventing means normally positioned between the jaws and displaceable to free the jaw members for closure by engagement with a container to be filled, cam means movable between portions of the jaw members to displace them into jaw closing position about the neck of the container to be filled prior to and during filling of the container by the filling head of the machine, and means mounting said cam means for relative movement with respect to said jaw members.

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