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H. GRAY ET AL

3,036,371

PRESS FOR APPLYING HANDLE TO CONTAINERS

Filed Jan. 6, 1960

FIG. 1.

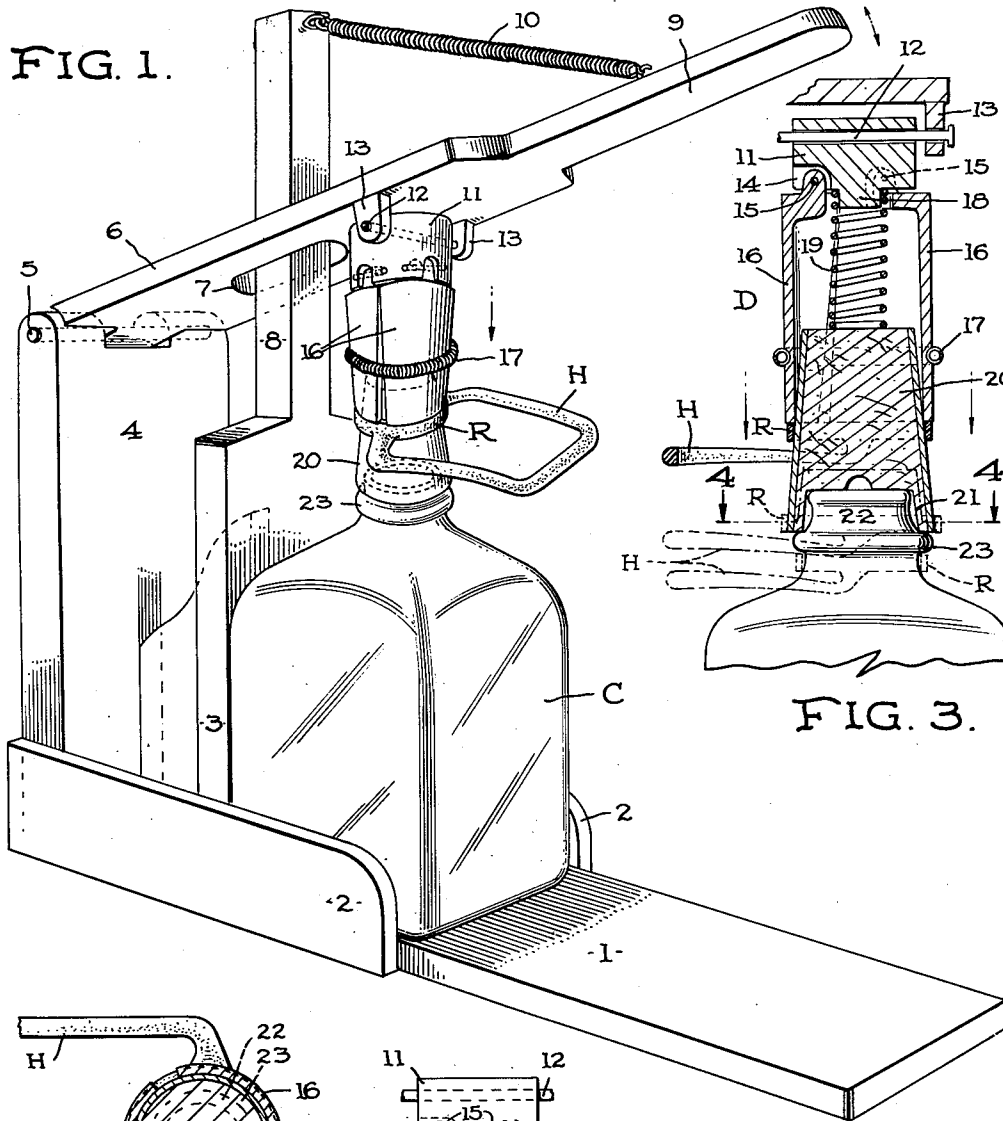


FIG. 3.

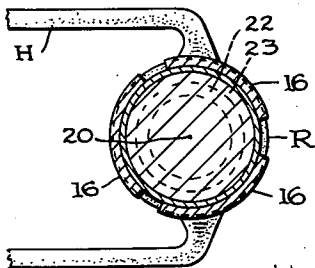


FIG. 4.

FIG. 5.

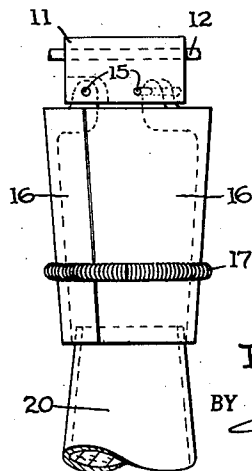
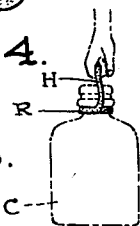


FIG. 2.

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PRESS FOR APPLYING HANDLE TO CONTAINERS

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3 Claims. (Cl. 29—235)

This invention relates to a device in the nature of a press for applying handles to containers.

In the dispensing of milk and other commodities in bottles or jugs holding a half gallon or more, it has become desirable to provide them with a carrying handle. These handles are usually made of tough and relatively stiff plastic. Under present conditions these are put on by finger pressure after being soaked in warm water which renders them relatively more pliable and slightly more elastic. This hand method of applying these rings is not only laborious, but slow, and hard on the thumbs and fingers.

Accordingly, a primary object of the present invention is to provide a press for applying handles of the type described to the neck portion of containers in a rapid and efficient manner which not only considerably speeds up the application of the handles but also avoids difficult manual manipulation of the handles during application.

Another object of the invention is to provide a handle applier, in the form of a press, which handle has suspended therefrom a chuck comprising a plurality of segments which receive a separable core on which the ring of the handle is placed so that the ends of the segments can push the ring from the core onto and over a rib below the mouth of the neck.

With the above and other objects in view which will appear as the nature of the invention is better understood, the invention consists in the novel construction, combination, and arrangement of parts, hereinafter more fully described, illustrated and claimed.

A practical embodiment of the invention is shown in the accompanying drawings, in which:

FIGURE 1 is a perspective view of the invention.

FIGURE 2 is a detail view of the chuck with the core or ring holding member and the ring displacing segments shown in elevation.

FIGURE 3 is a vertical sectional view of the chuck illustrating how it is applied to the neck of the container.

FIGURE 4 is a transverse cross sectional view on the line 4—4 of FIGURE 3.

FIGURE 5 is a detail view illustrating the manner in which the container can be carried after the handle has been applied.

Similar reference characters designate corresponding parts throughout the several figures of the drawing.

Referring to FIGURE 1 it will be seen that the press includes a base 1 for supporting the container C between the positioning side walls 2—2 and the medial upright wall 3. The rear end of the base 1 is provided with another upright wall 4 provided with a hinge 5 to which a lever 6 is connected. This lever has an opening 7 which receives the upstanding portion 8 of the wall 3 to assist in guiding the lever in its upward and downward movements. The lever has a handgrip portion 9 and is connected by a spring 10 with the upper end of the member 8 thereby to normally hold the lever elevated.

The chuck designated generally as D is pivotally suspended from the underside of the body of the lever 6. For example, the upper portion of the chuck includes a base 11 bored to receive a pivot pin 12 supported in the depending gears 13 on the handle. The lower side of the base 11 is recessed as indicated at 14 to receive the pivots 15 of a plurality of arcuate segments 16. The segments may be of any suitable material preferably metal, and are held in

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their normal contracted position by an external annular coil type spring 17.

The inner central portion of the base 11 is provided with a downwardly projecting boss 18 to which a coil spring 19 is connected. This spring extends downwardly within the arcuate segments 16 and is intended to engage the upper end of a core 20. This core is preferably of frusto-conical shape and its external surface is intended to receive the ring R of the container handle H.

The lower end portion of the core 20 is provided with a socket 21 which fits over the mouth 22 of the container the said mouth being disposed above and spaced from a rib 23 on the container neck. It will, therefore, be understood that the socket fits over and receives the mouth of the container and rests therein in a fixed position as the segments 16 descend.

The frusto-conical core 20 may have a metal exterior, as shown, and is provided internally with a nonmetallic portion such as wood, rubber, or soft metal which will not damage the mouth of the bottle during the handle applying operation. It may be pointed out here that the invention would be the same if the core or cone 20 was made of molded or cast material which would serve the intended purpose.

The core 20 is separable from the lower end of the segments 16 so that the ring R of the handle H may be placed thereover.

After the ring R has been applied as shown in FIGURES 1 and 4, the small end of the cone may be fitted between the segments with the lower ends of the latter in position to engage the ring R. The cone 20 being placed over the mouth 22 of the bottle, the next step is to move the lever 6 downwardly by manipulating the handle 9 against the force of the spring 10. As the chuck D moves downwardly against the ring, the segments will expand and push the ring down until it is placed behind the rib 23 on the neck of the bottle.

It will be understood that the spring 19 has the effect of cushioning the force applied to the segments 16 during the relative movement between said segments and the ring R as well as the core 20.

After the ring R of the handle H has been applied over the rib, the handle 9 of the press may be released to the pull of spring 10 and the lever 6 will pull the segments 16 upwardly: the spring 19 will be released from its compressed state; and the core or cone 20 may then be removed from the mouth of the bottle, and a new ring slipped thereon ready to again receive the segments 16 to apply another ring and handle to another container.

We claim:

1. In a device of the character set forth for applying expandable handle rings below the neck bead of container mouths, including a frusto-conical member defining at its lower and larger end a recess to receive the mouth of a container and an encircling flange to engage the neck bead thereof, a chuck including a base, a circular series of segmental chuck elements pivotally mounted on said base, said elements being engageable over said member to provide substantially continuous peripheral engagement by the lower ends of said elements with a handle ring mounted on said member, external spring means restraining said elements in contact with the surface of said member, a second spring means within said chuck, restraining movement of said chuck downwardly over said member and operable to assist in returning said chuck after the chuck has been moved downwardly to force a ring from said member and over said bead, and means for moving said chuck axially of said member against the tension of said second spring means to force a circular handle ring from said member over said bead.

2. In a device of the character set forth for applying expandable handle rings below the neck bead of container

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mouths, including a frusto-conical member defining at its lower and larger end a recess to receive the mouth of a container and an encircling flange to engage the neck bead thereof, a chuck including an operating arm, a base pivotally mounted on said arm and free to pivot independently of the pivotal movement of said arm, a circular series of segmental chuck elements pivotally mounted on said base, said elements being engageable over said member to provide substantially continuous peripheral engagement by the lower ends of said elements with a handle ring mounted on said member, external spring means restraining said elements in contact with the surface of said member, a second spring means within said chuck, restraining movement of said chuck downwardly over said member and operable to assist in returning said chuck after the chuck has been moved downwardly to force a ring from said member and over said bead, and means for moving said chuck axially of said member against the tension of said second spring means to force a circular handle ring from said member over said bead.

3. In a device of the character set forth for applying expandable handle rings below the neck bead of container mouths, including a frusto-conical member defining at its lower and larger end a recess to receive the mouth of a container and an encircling flange to engage the neck bead thereof, a chuck including an operating arm, a base pivotally mounted on said arm and free to pivot independently of the pivotal movement of said arm, a circular series of

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segmental chuck elements pivotally mounted on said base, said elements being engageable over said member to provide substantially continuous peripheral engagement by the lower ends of said elements with a handle ring mounted on said member, an external coil spring means encircling said elements for restraining said elements in contact with the surface of said member, a second spring means within said chuck, restraining movement of said chuck downwardly over said member and operable to assist in returning said chuck after the chuck has been moved downwardly to force a ring from said member and over said bead, and means for moving said chuck axially of said member against the tension of said second spring means to force a circular handle ring from said member over said bead.

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