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COVER CLOSURE DEVICE FOR CONTAINERS

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FIG. 1

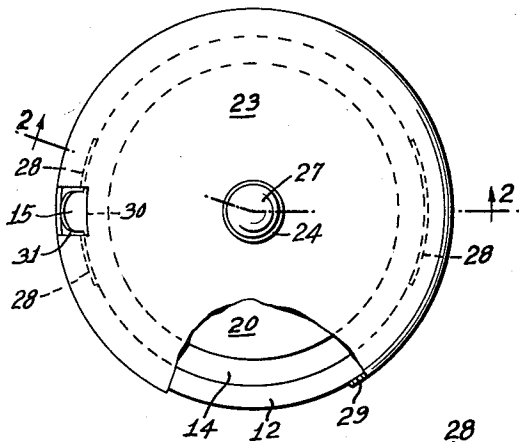


FIG. 2

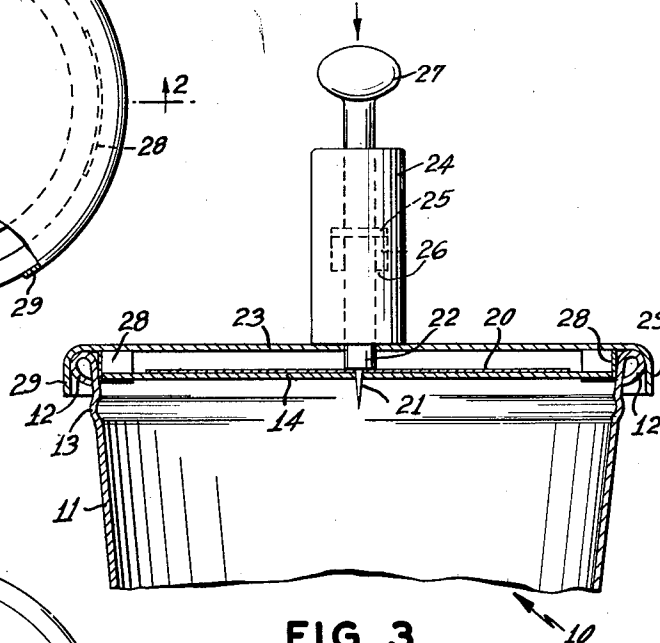


FIG. 4

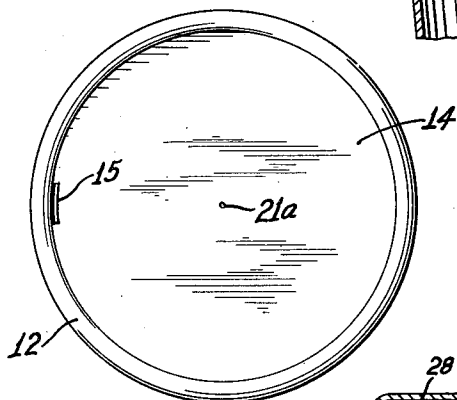
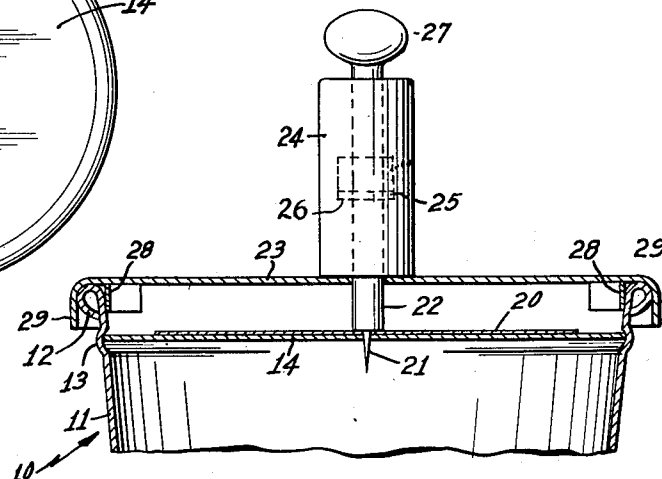


FIG. 3



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COVER CLOSURE DEVICE FOR CONTAINERS

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7 Claims. (Cl. 226—89)

This invention relates to a device for applying paper covers to paper containers.

Disposable paper containers are commonly used as packages for food or beverages and for many other articles. The type of paper container with which my invention is concerned is a cup-like structure having a flat circular bottom, frusto-conical side walls and a separate circular lid or cover, the cover usually having a small tab projecting radially therefrom to aid in removing the cover from the container after the cover has been applied thereto. Ordinarily the cover is applied to the open top of the container by placing the cover directly over the opening and then is seated by pressing the cover into place by means of manual pressure with the thumbs. The cover is held in place by a groove circumferentially formed in the side wall of the container. It takes considerable manual pressure to force the cover into this groove because of the tight fit of the cover which must be sprung into the container. Frequently the pressure is unevenly applied with the undesirable result that the cover tips or bends and the fingers of the person applying the cover become immersed in the contents of the container.

My invention is a cover applicator device which overcomes the aforementioned difficulties in applying the covers by hand. The device of my invention avoids direct contact by the hands with the cover when it is being seated and applies pressure to the cover evenly and smoothly. Furthermore, my device includes means for aligning and holding the paper cover and means for aligning the device over the container in position for forcing the cover into snug closure contact therewith.

The device of the invention comprises a cover applicator assembly including a plunger, a pressure plate affixed to the plunger and means for holding a paper cover under the pressure plate, and an applicator centering assembly including a cover plate having an aperture adapted to receive the plunger and to position the pressure plate centrally on the cover plate and parallel thereto, inner cover guides for centering the cover on the pressure plate and an outer guide skirt for aligning the apparatus over the container. Where paper covers having radially projecting cover removal tabs are used provision is made to accommodate the cover removal tab by means of a cutout portion in the inner cover guide and in the adjacent outer guide skirt.

In the accompanying drawings:

Fig. 1 is a top view of a cover applicator device embodying my invention positioned over a paper container with a portion of the cover plate broken away,

Fig. 2 is a sectional view substantially along line 2—2 of Fig. 1 showing the paper cover in position for but prior to seating in the paper container,

Fig. 3 is a sectional view similar to Fig. 2 showing the paper cover seated in the paper container, and

Fig. 4 is a top view of the paper container showing the paper cover in final position.

The drawings show the preferred embodiment of my invention as it is used to apply paper covers to paper containers. The paper container 10 has frusto-conical side walls 11, the upper edge of the side walls being rolled outwardly and under to form a lip or rim 12. A circumferential groove 13 is formed in the side walls 11 a short distance from the rim 12. A circular paper cover 14 forms the closure of the container 10 and when it is applied to the container it is held in place by the groove 13. Usually the cover 14 has a cover removal tab 15 which projects radially therefrom. When the cover is

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applied to the container, this tab is turned upward as illustrated by Fig. 4 thus forming a convenient means for removing the cover from the container. Of course, some types of containers have no such tab or have a flat tab 5 stapled to the top of the cover. If my invention is to be used in connection with covers having a radially projecting tab, special provision must be made in the apparatus to accommodate the tab.

The device has a circular pressure plate 20 which may 10 advantageously be made from a flat disc of thin metal. The pressure plate 20 has a diameter slightly less than the diameter of the paper cover 14 and is designed to bear evenly against the paper cover and to force it smoothly into the groove 13 when the device is in use. Means for temporarily fastening the paper cover to the underside of the pressure plate 20 are provided. In the form of the invention illustrated, this means is a short sharp pin 21 15 projecting perpendicularly from the pressure plate 20. The paper cover 14 is forced against the pin 21 which pierces the cover and holds it against the pressure plate 20 until the pin is withdrawn from the cover. When the pin 21 is withdrawn from the cover 14 there remains a pin-hole 21a in the center of the cover which acts as a vent allowing the air to escape that was trapped and compressed inside the container 10 when the cover 14 was 25 applied.

The pressure plate 20 is affixed at its center to one end of a plunger 22 which is slidable in an opening in the center of a circular cover plate 23 so that the pressure plate 20 is centered with respect to the cover plate 30 and is parallel thereto. A hollow handle 24 is affixed to the cover plate 23 directly over the opening therein so that the plunger 22 extends through the hollow handle and protrudes an appreciable distance therefrom. A collar 25 secured to the plunger 22 impinges against a shoulder 26 inside hollow handle 24 so that the downward movement of movable plunger 22 is limited and further downward movement prevented when the collar is moved against this shoulder. Similarly, upward movement of the movable plunger 22 is limited and further upward movement is prevented when the pressure plate 20 is moved against cover plate 23. A knob 27 is secured to the upper end of plunger 22 for the convenience of the operator.

Two arcuate inner guides 28, preferably made of thin metal, depend from the underside of cover plate 23. These inner guides 28 have an inside diameter, as measured from the center of the cover plate 23, substantially the same as the diameter of a paper cover 14 and are concentrically positioned on the cover plate 23 diametrically opposite each other so as to center directly on the pressure plate 20 paper covers placed between them. The outside diameter of the inner guides 28, measured from the center of the cover plate to which they are affixed, 55 is no greater than the inside diameter of the rim 12 of the paper container 10 so that they may, with slight pressure, be fitted a short distance inside the rim 12 to ensure that the paper cover 14 will be centered directly over the open container and will be guided without break by the container walls 11 to the groove 13.

The circular cover plate 23 has a diameter substantially the same as the outside diameter of the rim 12 of container 10. A cylindrical outer skirt 29 integral with the cover plate 23 and depending therefrom has an inside diameter no smaller than the outside diameter of rim 12 and may be fitted about the rim of a container 10 and the cover plate 23 thus centered directly over the open top of the container. When the cover plate 23 is centered over the container 10, the inner guides 28 center the paper cover 14 in position for applying it to the container in the manner to be described.

When paper covers having radially projecting cover removal tabs are used a cutout portion 30 is provided in one of the arcuate inner guides 28 and a similar cutout portion 31 is provided in the outer skirt 29 adjacent thereto. Cutout portions 30 and 31 are adapted to accommodate the tab 15 and in addition serve to help align the paper cover 14 within the inner guides 28 by limiting lateral movement of the tab 15 and therefore of the paper cover of which it forms a part.

My device is used to apply covers to paper containers

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in the following manner. The device is taken in the operator's hand and is turned so that the pressure plate 20 and the underside of the cover plate 23 face upward. The movable plunger 22 is withdrawn from the handle 24 as far as it will go so that the pressure plate 20 is moved against the cover plate 23. A paper cover 14 is fitted between the arcuate inner guides 28 with the tab 15 of the paper cover received in the cutout portion 30 of inner guide 28 and in the corresponding cutout portion 31 of outer skirt 29. The paper cover 14 is then forced against the pin 21 which pierces the cover and holds its firmly against the pressure plate 20. The device is now turned so that the knobbed end of the movable plunger 22 is uppermost and then the device is fitted over the open top of a paper container 10. The outer skirt 29 fits over the rim 12 and centers the device so that the paper cover 14 is aligned directly over the open container. With the device thus centered, it is pressed against the container 10 so that the cover plate 23 is in contact with the rim 12 substantially along its entire periphery. The inner guides 28 fit a short distance inside the rim of the container 10 and thus ensure that the paper cover will be guided without a break from its position as shown in Fig. 2 to its final position as shown in Fig. 3. After the device and the paper cover 14 are thus centrally positioned over the container 10, the paper cover is seated in the groove 13 by applying pressure to the movable plunger 22 in the direction indicated by the arrow. The pressure plate 20 moves downward and the paper cover 14 is forced smoothly and evenly into the groove. This sequence of operations is well illustrated by Fig. 2 and Fig. 3 of the drawing. When the cover is firmly seated in the groove, further downward movement of the plunger 22 and pressure plate 20 are prevented by collar 25 striking shoulder 26 and the plunger and pressure plate can be depressed no further.

The device is removed from the now closed container simply by lifting it therefrom. The pin 21 pulls out of the pinhole 21a without difficulty and the top of the container appears as shown in Fig. 4. The paper cover 14 is securely held in place by groove 13. Tab 15 has been bent at right angles to the paper cover and stands vertically to form a convenient means for removal of the cover.

I claim:

1. A device for applying paper covers to paper containers which comprises a cover applicator assembly and an applicator centering assembly, said cover applicator assembly comprising a movable plunger, a flat pressure plate affixed to one end of said plunger and means for holding a paper cover on the pressure plate, said applicator centering assembly comprising a circular cover plate having an aperture adapted to receive the movable plunger and to position the pressure plate centrally on the underside of said cover plate, inner cover guides depending from the underside of said cover plate adapted to receive a paper cover and to hold it centrally on the pressure plate, and an outer guide skirt for the cover plate adapted to receive the open top of a paper container and to align the cover applicator assembly over said open top of the paper container in position for applying a paper cover thereto.

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2. The device according to claim 1 wherein the inner cover guide and the adjacent outer guide skirt have cutout portions adapted to accommodate a cover removal tab projecting radially from and forming a part of the paper cover to be applied to the paper container.

3. The device according to claim 1 wherein the means for holding the paper cover under the pressure plate comprises a sharp pin projecting from the surface of said pressure plate.

4. A device for applying paper covers to paper containers comprising a movable plunger, a circular pressure plate centrally affixed to one end of said plunger, said pressure plate having a diameter slightly smaller than the diameter of a paper cover, means for temporarily fastening a paper cover to said pressure plate, a circular cover plate having a diameter substantially the same as the outside diameter of the rim of the paper container, said cover plate having a central aperture adapted to receive the movable plunger and to position the pressure plate centrally on the underside of said cover plate, arcuate inner guides concentrically and perpendicularly affixed to the underside of said cover plate and adjacent the periphery of said circular pressure plate, said inner guides having an inside diameter substantially the same as the outside diameter of a paper cover and an outside diameter less than the inside diameter of the rim of a paper container, and an outer guide skirt depending from the underside of said cover plate having an inside diameter substantially the same as but no less than the outside diameter of the rim of said paper container, whereby a paper cover may be fastened temporarily to said pressure plate in a position of alignment determined by said arcuate inner guides and whereby when the apparatus is placed over the open top of a paper container with said outer skirt surrounding the rim of said container the paper cover is centrally placed over the paper container in a position to be pushed into the container by applying pressure on the plunger.

5. The device according to claim 4 in which an arcuate inner guide and the outer guide skirt adjacent thereto have cutout portions adapted to receive a cover removal tab projecting laterally from and forming a part of a paper cover being applied to a paper container.

6. The device according to claim 4 in which the means for temporarily fastening a paper cover to the pressure plate comprises a sharp pin projecting perpendicularly from said pressure plate.

7. The device according to claim 4 in which the arcuate inner guides comprise two diametrically opposed segments of a circular cylinder having an inside diameter substantially the same as the diameter of a paper cover and an outside diameter less than the inside diameter of the rim of the paper container.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,641,743	Dawson	Sept. 6, 1927
2,366,524	Harder	Jan. 2, 1945
2,587,180	Lindstrom	Feb. 26, 1952