

Oct. 27, 1970

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3,536,348

SELF-LOCKING CLOSURE FOR DRUMS

Filed June 6, 1968

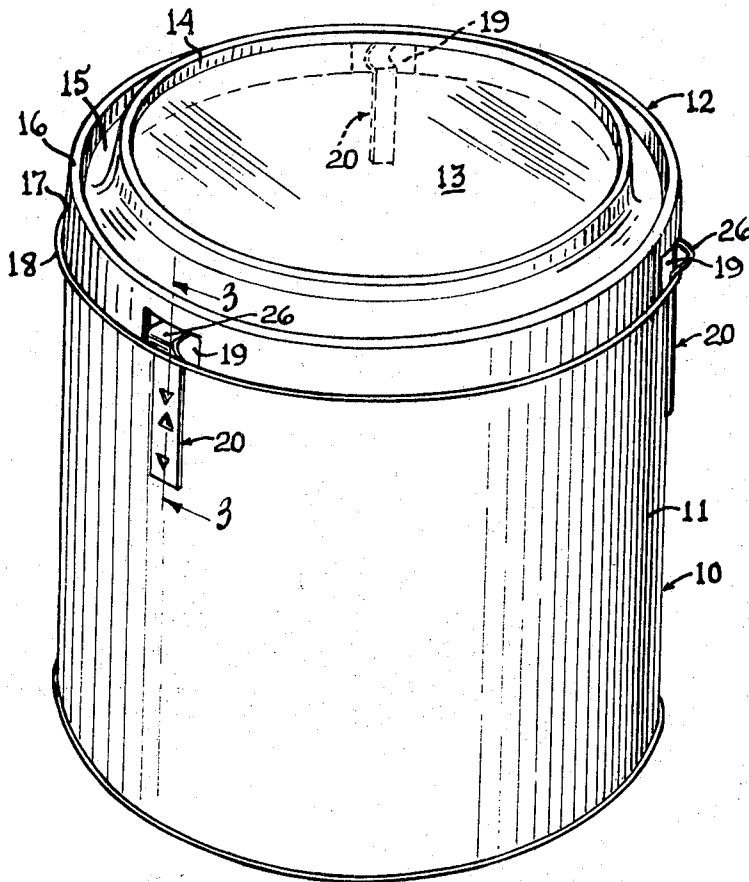


Fig. 1.

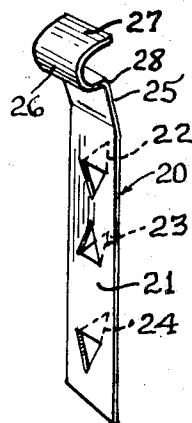


Fig. 2.

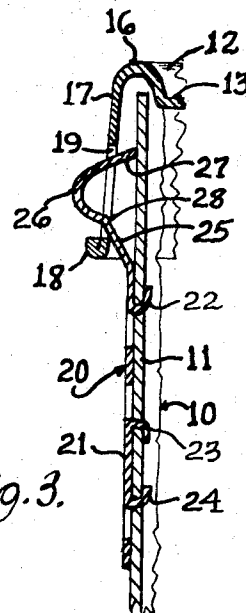


Fig. 3.

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SELF-LOCKING CLOSURE FOR DRUMS

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Filed June 6, 1968, Ser. No. 735,041

Int. Cl. E05c 19/06

U.S. Cl. 292—76

1 Claim

ABSTRACT OF THE DISCLOSURE

A spring-type fastening lug secured to the exterior wall of a drum equidistant about the periphery thereof with the lug providing a cam-like head adapted to snap into corresponding openings formed in the depending skirt of the drum cover as the same is forced thereover so as to releasably secure the cover on the drum.

SUMMARY OF THE INVENTION

A self-locking cover fastener for drums with the fastener having a spring-type cam head over which the depending skirt of the cover is adapted to snap. The fastener comprises an elongated piece of sheet metal having a plurality of deformable tangs struck therefrom out of its medial portion by which the fastener is attached to the side of the drum. A free end of the sheet metal piece is formed to provide an outwardly and upwardly directed inclined wall that terminates into a reversing curved head providing an upwardly directed cam surface. The cover is provided with a depending peripheral skirt that has notched therein, equidistant thereabout, a plurality of openings, the bottom wall of which comprises a double-beaded edge. As the cover is forced upon the open drum the fastener will snap into the opening and removably secure the cover on to the drum.

DETAILED DESCRIPTION

The invention to be hereinafter described and as shown in the accompanying drawings showing the preferred form of construction will be best understood by reference to such drawings in which:

FIG. 1 is a perspective view of a drum closed by a removable cover which is locked into place by the fastener constructed in accordance with this invention;

FIG. 2 is a perspective view of the self-locking fastener of this invention, and

FIG. 3 is a fragmentary detailed sectional view taken on line 3—3 of FIG. 1.

The invention is particularly suited for use with containers such as fiber drums which are used to transport both bulk and viscous material. Such fiber drums include a cover which is usually placed upon or packed with the empty drum as it is supplied to the users thereof. In the past the covers have been provided with or are associated with fasteners that permit the cover to be temporarily secured on the drum during shipment. These advantages are achieved by the present invention but in a more simplified and economical manner.

Referring to FIG. 1 there is illustrated a container or fiber drum 10 which comprises in part a cylindrical wall 11 normally open at one end.

A metal cover 12 is fitted on to the open drum end and normally comprises a central plate 13 surrounded by a raised annular rib 14 which curves downward to form a channel 15 that is bound by a raised flange 16 which reverses itself into a depending skirt 17, which is the portion of the cover 12 that is adapted to be juxtapositioned with respect to the end peripheral edge of the drum 10. The skirt 17 terminates into a double beaded edge 18.

Periodically about the skirt 16 and equidistant with respect to each other are a plurality of openings 19

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formed by cutting out a portion of the skirt 17 above and without interrupting the double beaded edge 18.

As shown in FIG. 1 the embodiment of the invention discloses the use of three self-locking fasteners. Depending on the size of the drum and its associated cover this number of fasteners may be increased so as to properly secure the cover to the drum.

For each opening cut in the skirt 17 of the cover 12 there is provided a self-locking fastener 20 such as is shown in perspective in FIG. 2. This fastener 20 consists of an elongated flexible sheet metal body 21 generally rectangular in cross section. The body portion 21 of the fastener 20 has three triangularly shaped tanks 22, 23 and 24 struck therefrom along the central axis of the body 21. These tangs are forcibly inserted through the fiber wall 11 of the drum 10 and have their pointed ends swedged so as to connect the fastener 20 on to the drum 10 as shown in FIG. 3.

The upper end of the fastener 20 has a portion bent to provide an inclined wall 25 which extends outwardly and upwardly from the body portion 21. This inclined wall 25 terminates into a reversely curved head or latch element 26 and has its free end formed to provide an inwardly and upwardly directed cam surface 27. The free end of the cam surface 27 is adapted to be in contact with the wall 11 of the drum 10 as shown in FIG. 3. It should also be noted that at the junction between the curved head 26 and the outwardly and upwardly directed inclined wall 25 there is provided a relatively sharp corner 28, which functions as a stop, the purpose of which will be hereinafter explained.

After the drum 10 has been packed, the cover 12 is placed upon the open end thereof with the openings 19 formed in the skirt 17 in alignment with the fasteners 20 connected onto the side wall 11 of the drum. The beaded bottom edge 18 of the opening 19 will contact the cam surface 27, and with continuing downward force exerted upon the cover 12 will snap over the latch element 26 and pass on to the inclined wall 25 with the latch element 26 projected through the opening 19 formed in the skirt 17 of the cover 12. The corner or stop 28 between the latch element 26 and the inclined wall 25 will prevent upward movement of the beaded edge 18 and secure the cover 12 on to the drum 10.

The inclined wall 25 will bear against the beaded edge 18 of the cover and exert a slight but sufficient pressure thereon to maintain the cover 12 in a tight secured fit on the drum 10.

To release the cover 12 pressure is applied on to the latch element 26 as it is exposed through the opening 19 so as to spring the inclined wall 25 inwardly toward the wall 11 of the drum 10 a sufficient distance to permit the beaded edge 18 to be slid over the latch element 26 and be released therefrom.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention.

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

1. A self-locking fastener between a cover and a drum-type container with the cover providing a depending peripheral flush wall skirt which terminates into an annular outwardly beaded edge, wherein the improvement comprises

- (a) a fastener member including an elongated body having a medial container attached portion,
- (b) said fastener member providing an intermediate portion comprising an inclined wall extending outwardly and upwardly with respect to the wall of the container,

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- (c) an angled stop means formed at the outer end of said inclined wall and disposed laterally outwardly from the wall of the container,
- (d) a cam surface extending from said stop means and curved in the direction of the wall of the container and terminating into free angular contact with respect thereto at a point elevated from said medial portion of said fastener member,
- (e) and an opening formed in the depending flush wall skirt of the cover above said beaded edge for receiving said fastener member as the beaded edge of the cover is forcibly moved over said cam surface and beneath said stop means so that said inclined wall and cam surface of said fastener means extends substantially throughout the length of said opening so as to releasably secure the cover on the drum.

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U.S. Cl. X.R.

217—89; 229—5.7; 292—87