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S. SMITH

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FASTENER FOR CONTAINERS

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Fig. 1

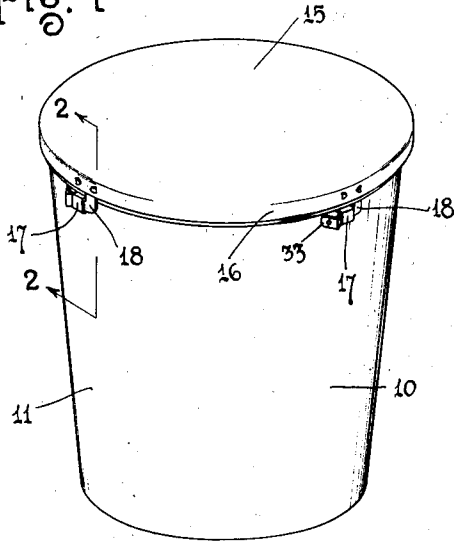


Fig. 2

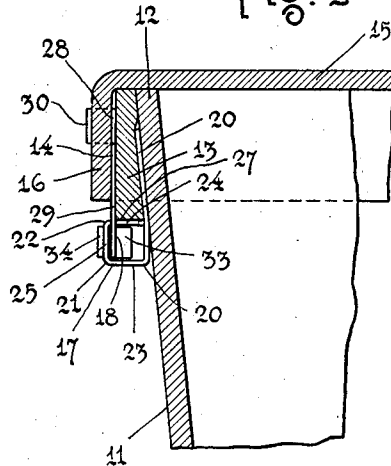


Fig. 3

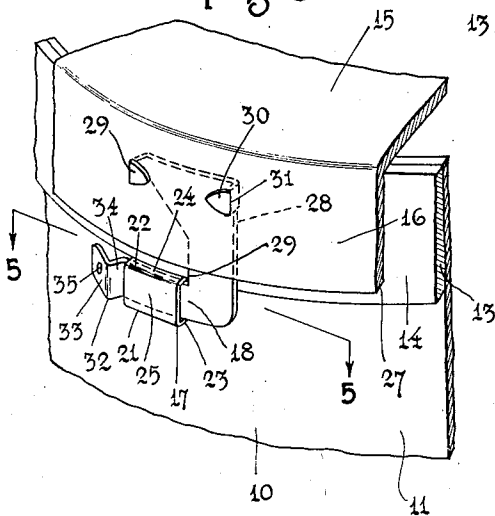


Fig. 4

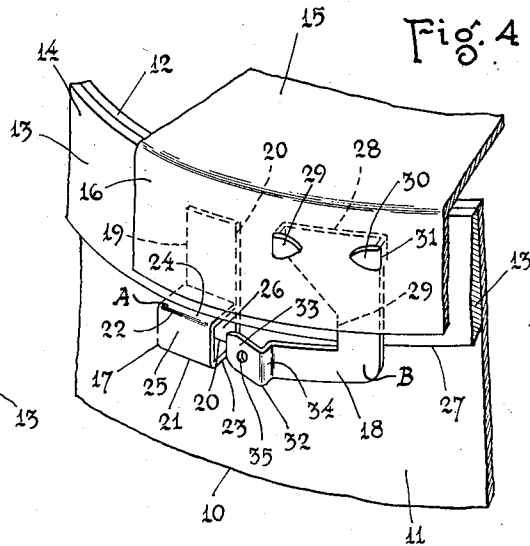
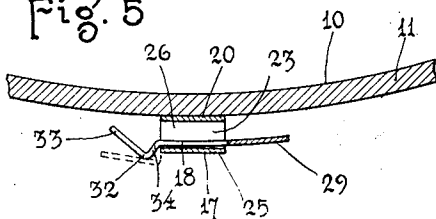


Fig. 5



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UNITED STATES PATENT OFFICE

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FASTENER FOR CONTAINERS

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16 Claims. (Cl. 229—5.7)

My invention relates to fasteners for containers and has for an object to provide a fastener particularly adaptable to a circular container, open at the top, and provided with a cover rotatable with respect to the container.

An object of the invention resides in providing a fastener adapted to be brought into fastening position through rotational movement of the cover.

10 An object of the invention resides in providing either the cover or the container with a fastener member having an eye and in providing the other thereof with a complemental fastener member having a circumferentially extending
15 tongue, adapted to be directed into the eye through rotatational movement of the cover.

A feature of the invention resides in attaching the fastener member having the eye to the container and in attaching the fastener member
20 having the tongue to the cover.

Another object of the invention resides in constructing the cover with a flange and in forming the complemental fastener member with a head issuing from said tongue and secured to
25 said flange.

A still further object of the invention resides in constructing the container with a hoop at the upper end thereof and in disposing said first-named fastener member with the eye beneath
30 said hoop.

A still further object of the invention resides in arranging the parts so that the eye and tongue are disposed within the confines of the flange of the cover in order that the container
35 may be rolled without causing damage to the fastener through engagement thereof with the surface on which the container is rolled.

A feature of the invention resides in constructing the fastener member having the tongue of
40 sheet metal.

Another object of the invention resides in providing the tongue with a hump near its free end, said hump forming a cam for directing the tongue into the eye and further providing an
45 abutment for preventing disengagement of the tongue from the eye.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction thereof.

50 In the drawing:

Fig. 1 is a perspective view of a container and a cover therefor, illustrating an embodiment of my invention applied thereto.

55 Fig. 2 is a vertical sectional detail view of a portion of the structure, shown in Fig. 1 and

taken on line 2—2 of Fig. 1, drawn to a larger scale.

Fig. 3 is a perspective view of the structure shown in Fig. 2, drawn to a larger scale.

Fig. 4 is a view similar to Fig. 3, showing the parts in altered position.

Fig. 5 is a plan sectional view of the structure shown in Fig. 3 and taken on line 3—3 of Fig. 3.

In the application of covers to containers, and particularly to containers constructed of paper, it becomes highly desirable to provide fasteners which may be readily applied by simple manipulation, and which may be disengaged whenever the occasion requires. The present invention provides a construction by means of which the fastener may be engaged through rotational movement of the cover, and which may be disengaged through a similar reverse movement.

For the purpose of illustrating my invention, I have shown in the drawing a container 10 which may be constructed of paper, or any other suitable material. The exact construction of the container proper however, does not form any particular feature of the invention. This container is illustrated as being frustro-conical in form, is constructed with a flaring body portion 11 and a bottom connected to said body portion but not illustrated in the drawing. The container 10 is open at the top and is provided at its free edge 12 with a hoop 13, which is secured to the same. The hoop 13 may be formed of paper or any other suitable material and is securely attached to the body 11 of the container through gluing or otherwise. If desired the hoop 13 may be constructed from a long strip of paper which is wound upon the body 11 of the container and glued or cemented to the same as the paper is applied thereto. The hoop 13 is preferably provided with a cylindrical outer surface 14 and is made to conform at its inner surface to the shape of the body portion 11 of the container. The upper open end of the container 10 is closed through a cover 15, which may also be constructed of paper and which rests upon the free edge 12 of the body portion 11. This cover is provided with a depending flange 16, which is adapted to fit about the hoop 13 and to effect a tight closure between the body portion 11 and the cover 15.

My improved fastener comprises two parts, a fastener member A and a complemental fastener member B. The fastener member A has an eye 17 and the fastener member B has a tongue 18, which are adapted to be engaged with one another to hold the cover 15 applied to the container 10. The fastener member A may be se-

cured to either the cover or the container and the complemental fastener B is secured to the other thereof. In the drawing the fastener member A has been illustrated as being secured to the container, while the fastener member B is secured to the cover. These parts will now be described in detail.

The fastener member A is constructed from a strap 19 of sheet metal which is provided with a shank 20. The shank 20 is adapted to be imbedded between the hoop 13 and the body portion 11 of container 10, and thus held attached to the container proper. The lower end of the strap 19 is formed with a number of bends 20, 21 and 22, which provide a lower wall 23, an upper wall 24, and a connecting wall 25. These walls form, in conjunction with one another, the eye 17 previously referred to, and with which the tongue 18 cooperates. The opening through the eye 17 is designated by the reference character 26, and is bounded by the said walls and the shank 20. The construction of the eye 17 is such that the said eye lies well within the confines of the outer surface of the flange 16 of cover 15, when attached to the container, so that injury to the eye is prevented when the container is rolled on its side in the customary manner. The shank 20 of fastener member A is so situated between the hoop 13 and the body portion 11 of container 10 that the wall 24 of said eye abuts against the under surface 27 of the hoop 13.

The fastener member B is constructed from sheet metal which is stamped into the form illustrated. This fastener member is constructed to form the tongue 18 and has a head 28 connected to said tongue through a connecting portion 29. The head 28 is constructed with two ears 29 and 30. The fastener member B is secured to the flange 16 of the cover 15 upon the inner surface thereof. For this purpose the said flange is formed with two openings 31, through which the ears 29 and 30 may extend. After the said ears have been inserted into the openings 31 and the head 28 brought into close contact with the inner surface of the flange 16, said ears are clinched upon the flange 16 to hold the head rigidly attached to the same, as shown in Fig. 4.

The extreme end of the tongue 18 is provided with a hump 32, which is formed through bending of the end of the said tongue in the manner shown. By means of this hump, a cam 33 is provided at the tip of the tongue, by which the said tongue may be directed into the opening 26 in eye 17. At the same time an abutment 34 is provided, by means of which the tongue 18 is held from disengagement from the eye 17. The fastener member B is preferably constructed of a material having a certain degree of resiliency so that the tongue 18 may move toward and from the body of the container, being normally urged outwardly whereby the abutment 34 is held in the position shown in full lines in Fig. 5 when the parts have been properly applied.

Although I have described but a single fastener, it can be readily comprehended that a number of fasteners may be used with each container, the said fasteners being symmetrically disposed about the circumference of the cover and rim of the container. The container shown in Fig. 1 is equipped with four fasteners, two of which are visible.

The operation of the invention is as follows:

When it is desired to apply the cover, the same is placed over the open end of the container with

the tongues 18 out of register with the eyes 17. The cover is then pressed down until the same engages the free edge 12 of the body portion 11 of container 10, as shown in Fig. 4. The cover is then given a clockwise rotation, which causes the cams 33 to direct the tongues 18 into the openings 26 in the various eyes 17. The connecting portions 29 of the fastener members B form stops for limiting the movement of the tongues into the eyes. When the parts have been properly engaged, the same occupy positions such as shown in Fig. 3. It can be readily comprehended that with the parts so arranged, the cover is securely fastened to the container and that disengagement of the cover can be procured only through rotational movement of the same in the opposite direction. When the parts are disposed as illustrated, the abutment 34, which is slightly beveled as shown in Fig. 5, forms another cam which is somewhat more abrupt than the cam 33 and which permits of disengaging the cover by applying considerable force to rotate the same in a counter-clockwise direction. Through the resiliency of the spring material from which the fastener member B is constructed, the tongue 18 is normally forced outwardly towards the outer wall 25 of eye 17. This causes the abutment 34 to engage the edge of the said wall and to normally hold the parts in assembled position, and to prevent accidental disengagement of the parts.

If it be desired to latch the cover to the container, the same may be accomplished by bending the hump 32 outwardly, as shown in dotted lines in Fig. 5. This causes the abutment 34 to lie at right-angles with respect to the tongue, which prevents the disengagement of the tongue with the eye through rotational movement of the cover. It can be readily comprehended however, that if all four of the tongues provided on the cover be simultaneously pressed inwardly through engagements with the cams 33, that the cover can be again rotated and the same removed from the container. If it is desired to completely prevent removal of the cover from the container, a seal can be applied to one or more of the tongues 18. For this purpose a hole 35 is drilled in each of the cams 33, through which the wire of the seal may be inserted.

My invention is highly advantageous in that an extremely simple and practical fastener is provided, which may be easily applied to any form of circular container, and particularly to a container constructed of paper. The cover is applied or removed by simple manipulation as by rotational movement of the cover with respect to the container. Retention of the cover in closing position is afforded through lateral engagement of the eye with the tongue and not through the spring-controlled hump at the end of the tongue. With my invention the tongues are readily directed into the eyes and similarly disengaged therefrom. By bending the tongues, the cover can be held from disengagement and by the use of a seal the cover can be locked in closing position. The eyes used with the invention may be applied to the same in the formation of the hoops on the container when the container is constructed of paper. The fastener members are readily applied to the cover through the ears formed on the same, which can be clinched in position to securely hold the fastener members attached. When the parts are arranged as shown, the container may be rolled upon the floor or any other similar surface in

the customary manner, without injuring the fastener.

Changes in the specific form of my invention as herein described may be made within the scope of what is claimed, without departing from the spirit of my invention.

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

1. In combination, a circular container open at the top, a cover therefor, one thereof having an eye and the other having a circumferentially extending tongue, said tongue being engageable with said eye through rotational movement of the cover with respect to the container and latching means on said tongue for holding the tongue in engagement with said eye.

2. In combination, a circular container, open at the top, a hoop encircling the upper end of the container, an eye attached to the container below the hoop, said eye having an opening extending in the same direction as the hoop, a cover for the container and a tongue on said cover extending parallel with said hoop and being adapted to be directed into said eye through movement of the part of the cover having the tongue in the same direction as the hoop.

3. In combination, a circular container, open at the top, a hoop encircling the upper end of the container, an eye attached to the container below the hoop, said eye having an opening extending in the same direction as the hoop, a cover for the container, a flange on said cover overlying said hoop, a member having a head secured to said flange upon the inner surface thereof, a tongue issuing from said head and extending in the same direction as the flange, said tongue being adapted to be directed into said eye through rotational movement of the cover relative to the container.

4. In combination, a circular container, open at the top, a cover therefor, one thereof having an eye and the other thereof having a circumferentially extending tongue formed with a hump near one end, providing a cam for directing the tongue into said eye upon rotational movement of the cover with respect to the container, and further forming an abutment for holding the tongue in engagement with the eye.

5. In combination, a circular container, open at the top, a cover therefor, one thereof having an eye and the other thereof having a circumferentially extending tongue, said tongue being constructed of sheet-metal, the end of said tongue being bent to form a hump, providing a cam for directing the tongue into said eye and an abutment for holding the tongue in engagement with said eye.

6. In combination, a circular container, open at the top, a cover therefor, one thereof having an eye and the other thereof having a circumferentially extending tongue, said tongue being constructed of sheet metal, the end of said tongue being bent to form a hump, providing a cam for directing the tongue into said eye and an abutment for holding the tongue in engagement with said eye, the extreme end of said tongue having an opening therein disposed outwardly of said hump through which a member may be inserted to latch the tongue from movement with respect to the eye.

7. In combination, a circular container open at the top, a flat hoop encircling the upper end of the body of said container and attached thereto, a strap of metal having a shank lodged

between said hoop and body and extending below said hoop, said strap being bent to form a part extending substantially at right-angles to said shank, a cover for the container, and means on said cover for engagement with the underside of said last-named part for holding the cover in place upon the container.

8. In combination, a circular container open at the top, a flat hoop encircling the upper end of the body of said container and attached thereto, a strap of metal having a shank lodged between said hoop and body and extending below said hoop, said strap being bent back upon itself to form an eye, said eye being disposed in the bight formed by said hoop and body, a cover for said container, and means on said cover engaging said eye to hold the cover in place.

9. In combination, a circular container open at the top, a flat hoop encircling the upper end of the body of said container and attached thereto, a strap of metal having a shank lodged between said hoop and body and extending below said hoop, said strap being bent to form a part extending substantially at right-angles to said shank from the lowermost portion thereof, another part extending upwardly from said first-named part and a third part extending inwardly from said second-named part and toward said shank, a cover for said container, and means on said cover engaging said last-named part to hold the cover in place.

10. In combination, a circular container open at the top, a flat hoop encircling the upper end of the body of said container and attached thereto, a strap of metal having a shank lodged between said hoop and body and extending below said hoop, said strap being bent to form a part extending substantially at right-angles to said shank from the lowermost portion thereof, another part extending upwardly from said first-named part and a third part extending inwardly from said second-named part and toward said shank, a cover for said container, means on said cover adapted to engage said last-named part upon rotation of the cover to restrain longitudinal movement of the cover, and means on the cover engaging said second-named part for restraining rotational movement of the cover.

11. In combination, a circular container open at the top, a flat hoop encircling the upper end of the body of said container and attached thereto, a strap of metal having a shank lodged between said hoop and body and extending below said hoop, said strap being bent to form a part extending substantially at right-angles to said shank from the lowermost portion thereof, another part extending upwardly from said first-named part and a third part extending inwardly from said second-named part and toward said shank, a cover for said container, a tongue on said cover adapted to engage said last-named part upon rotation of the cover and a shoulder on said tongue adapted to engage said second-named part for restraining rotational movement of the cover.

12. In combination, a circular container open at the top, a cover for the container having a flange encircling the upper rim of the container, a fastener member constructed of sheet metal and having a head disposed upon the interior of the flange, means on said head for engagement with the flange to hold the same attached to the cover, a tongue issuing from said head, and means on said container engaging said tongue to hold the cover in place.

13. In combination, a circular container open at the top, a flat hoop encircling the upper end of the body of said container and attached thereto, a strap of metal having a shank lodged between said hoop and body and extending below said hoop, said strap being bent to form a part extending substantially at right-angles to said shank, a cover for the container, a flange on said cover encircling said hoop, a fastener member constructed of sheet metal and having a head disposed upon the interior of the flange, means on said head for engagement with the flange to hold the same attached thereto, and a tongue issuing from said head and engaging said part of the strap to hold the cover attached to the container.

14. In combination, a circular container open at the top, a cover for the container having a flange encircling the upper rim of the container, a fastener member constructed of sheet metal and having a head disposed upon the interior of the flange, ears on said head extending through said flange for holding said head attached to the flange, a tongue issuing from said head, and means on said container engaging said tongue to hold the cover in place.

15. In combination, a circular container open at the top, a hoop encircling the upper end of said container, an eye attached to said container below said hoop and being substantially con-

finied to the space between the outer surface of the hoop and container, said eye having an opening extending in the same direction as the hoop, a cover for the container and a tongue on said cover extending parallel with said hoop and being adapted to be directed into said eye through movement of the part of the cover having the tongue in the same direction as the hoop.

16. In combination, a circular container open at the top, a flat hoop encircling the upper end of the body of said container and attached thereto, a fastener member comprising a strap of metal having a shank lodged between said hoop and body and extending below said hoop, said strap being bent to form a part extending substantially parallel to said shank and another part issuing from said first-named part and disposed at substantially right-angles to said shank, a cover for the container rotatable relative thereto, a complemental fastener member carried by said cover and including movable means movable relative to the cover, and a member carried by said movable means for latching engagement with said first-named part of said strap, said member moving into and out of engagement therewith upon movement of said movable means, said second-named part further engaging said tongue and resisting removal of the closure from the container.

SWAN SMITH. 30