

No. 643,005.

Patented Feb. 6, 1900.

G. J. RECORD.

FASTENING FOR CAPS OF CANS OR OTHER VESSELS.

(Application filed Nov. 6, 1899.)

(No Model.)

Fig. 1.

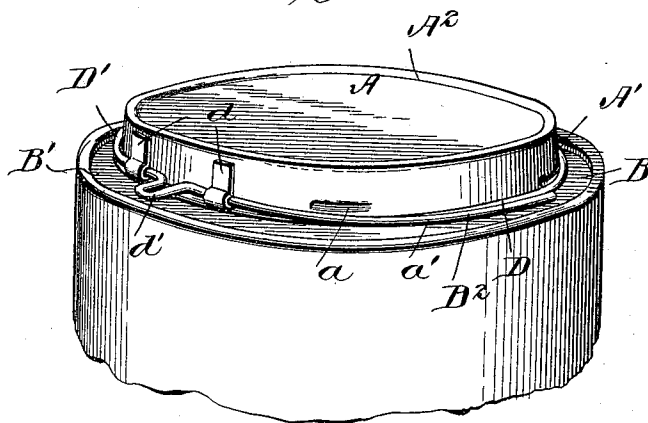


Fig. 2.

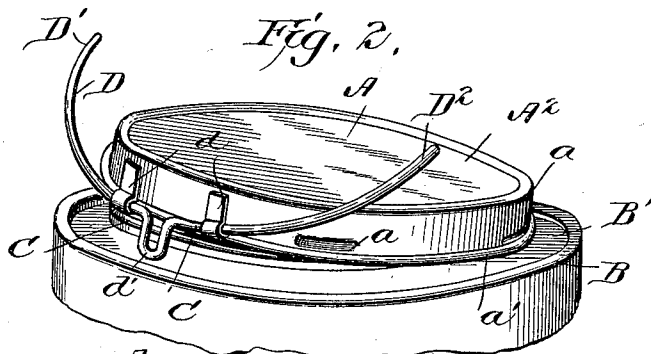


Fig. 3.

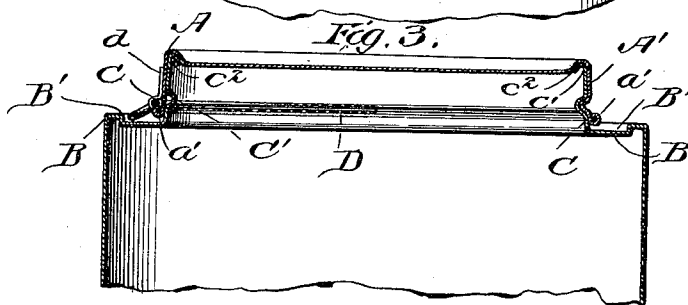


Fig. 4.

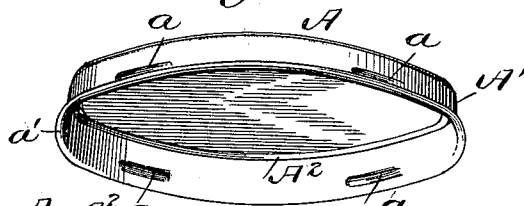
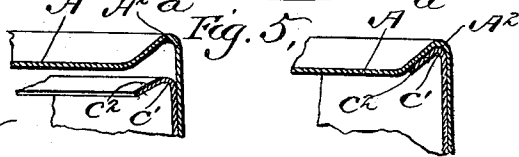


Fig. 5.



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GEORGE J. RECORD, OF CONNEAUT, OHIO.

FASTENING FOR CAPS OF CANS OR OTHER VESSELS.

SPECIFICATION forming part of Letters Patent No. 643,005, dated February 6, 1900.

Application filed November 6, 1899. Serial No. 735,976. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. RECORD, a citizen of the United States, residing at Conneaut, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Fastenings for the Caps of Cans or other Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is an improvement on the subject-matter of my reissued Letters Patent No. 11,382, dated November 7, 1893, and also my Letters Patent No. 565,567, dated August 11, 1896, and has for its chief object to retain all the advantages of the resilient fastening therein disclosed, while permitting the entire contents of the can or other receptacle to be poured out with no obstruction, which cannot be done by the device shown in the drawings of said reissued patent, because the part G extends down into the nozzle and because a flange extends down from the top of the can into the interior thereof, forming on top an annular trough to receive the base of said nozzle. To this end I make the interlocking projections of the resilient cap extend inward and provide a groove on the outside of a neck or nozzle formed on the top of the can, there being also in the under side of the top of said cap a sealing-groove which receives a sealing-bead on the top of said neck, the said bead having a downwardly and inwardly bent resilient flange which fits against the inner wall of the said sealing-groove, so as to make a liquid-tight joint, and the said projections and the exterior groove into which they fit serving by their engagement to lock these sealing parts securely together without requiring any part or device to extend down within the said neck or can or interfere with the pouring out of the entire contents. The projections may, however, be made on the exterior of the neck and the groove on the interior of the side wall of the cap without departing from the spirit or substance of my invention, the two arrangements above described of the said interlocking devices being substantially equivalent, as indicated in a parallel case by lines 95 to 98 of said reissued Letters Patent. I also

employ a peculiar construction of lever hinged to the said cap for lifting the same and a special construction of the top of the can or receptacle, allowing the said lever to be conveniently folded down out of the way when not in use.

My invention consists in the above-described devices both broadly and specifically considered and in divers details of construction and combination, all substantially as hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of the upper part of a closed can body and cover embodying my invention. Fig. 2 represents a similar view of the said parts detached by raising the cover. Fig. 3 represents a vertical central section through the said parts arranged as in Fig. 1. Fig. 4 represents a detail perspective view of the cap, taken from the under side. Fig. 5 represents a detail sectional view of the depressed part of the cap and the resilient annular flange in contact therewith, these figures illustrating clearly the downward extension of said depressed part below the said flange. The former serves as a stopper and the resiliency of the latter insures a tight seat.

A designates the cap or cover; B, the top of the can; C, the neck raised thereon, and D the lifting-lever. The said top B is provided with an annular downward offset, forming a shoulder on the lower and on the upper side a depression B' immediately surrounding the said neck. This neck C is provided near its base with an external annular groove C', from which the exterior of said neck rises vertically to the top, where it is turned downwardly and inwardly to form a rounded annular bead c' and an inwardly and downwardly inclining resilient annular flange c².

The cap A has its annular wall A' inclined slightly outward and terminating at its lower edge in a hollow wire a'. Projections a, which may be of any convenient number, depending on the size of the can, the nature of the contents, and the degree of force with which the said cap must be fastened in place, extend inward from the said wall A' at equal distances around its periphery and are arranged to snap by the resiliency of said wall into

the annular groove C' of the said neck when the said cap is forced down far enough to bring them opposite the said groove. These projections, as shown, are preferably in the form of short beads or ribs produced by forcing inward the corresponding parts of the material of the said wall. A sealing-groove A² is formed in the under side of the said cap at the upper edge of the said wall by depressing the central part of the said cap. This groove is of course annular in form and adapted to receive the bead c' of the neck aforesaid, and its inner wall is slightly inclined to make a very tight joint with the flange c², which has a somewhat greater inclination. The resiliency of said flange insures this joint being liquid-tight; but of course cement or any other usual additional sealing substance may be employed in the said groove.

When the said cap is forced down over the said neck until the said projections engage as aforesaid, this engagement of the projections with the grooved neck will securely lock the said bead c' and flange c² into the sealing-groove, and thereby cooperate with these parts and the resiliency of the said flange in making the joint absolutely tight and secure against accidental dislodgment. As thus constructed it is obvious that no part of the cap extends down into the can or the neck, so that the can may be filled to the top of the neck and the contents entirely poured out without any difficulty or obstruction except the very slight obstacle afforded by the flange c², which is narrow and at the very edge of the neck, so that it may be practically disregarded. This external method of fastening the cap, while retaining all the advantages of the device described in the said reissued Letters Patent, provides for much more convenient opening, because any ordinary lever or suitable tool may be run in under the hollow wire a', which forms the lower edge of the cap, the latter being thereby easily pried up and removed. The broad annular groove formed by offset B' facilitates this operation, since its raised outer wall B² affords a convenient leverage for the slightly-inclined tool or lever. I prefer, however, to supply the cap with a curved lifting-lever D, which is attached thereto by clips d', allowing it to turn therein pivotally. This lever is provided in the middle with a bent offset d', which bears against the base of the groove of the offset B' forming the fulcrum. It has also two bent arms which extend around the cap without being attached thereto and which are marked, respectively, D' and D². When these arms are turned down into the said groove, the bent offset also lies therein, the entire lever, excepting the parts attached to the said cap, being thus within the said groove, which is the hollow upper side of said shoulder and protected by the exterior wall B².

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a cap or cover, having an annular sealing-groove in its underside, a receptacle having a neck provided at its top with a bead and with an inwardly and downwardly inclining resilient flange which bears against the inner wall of the said groove, the said bead and flange accurately fitting the interior of the said sealing-groove at all points, making a liquid-tight joint, substantially as set forth.

2. In combination with a cap or cover, having an annular sealing-groove on its under side, a receptacle having a neck provided at its top with a bead which fits into the said groove and with an inwardly and downwardly inclining resilient flange which bears against the inner wall of the said groove making a liquid-tight joint while the cover is in its normal shape, the said shape being also retained after the removal of the cover, substantially as set forth.

3. In combination with a cap or cover, having an annular sealing-groove in its under side, a receptacle having an upwardly-extending neck provided with a bead adapted to fit into said groove and an annular resilient flange inclining inwardly and downwardly from the said bead, adapted to fit against the inner wall of the said groove, making a liquid-tight joint, the said cap and neck being provided with devices which interlock by resiliency, thereby detachably fastening the said cap in place and holding the said flange and bead securely in the said sealing-groove, substantially as and for the purpose set forth.

4. In combination with a cap having a sealing-groove in its under side, a receptacle having a neck provided with a bead adapted to fit into the said groove and a resilient annular flange inclining inwardly and downwardly from the said bead and adapted to fit against the inner wall of the said groove making a liquid-tight joint, the said cap and neck being provided with interlocking devices exterior to the said neck and engaging by resiliency when the said cap is pressed down over and outside of the same, so as to hold the said cap in place and the said bead and flange in the said sealing-groove, substantially as and for the purpose set forth.

5. In combination with a cap having an annular sealing-groove in its under side and projections extending inwardly from its side wall, a receptacle having a neck which is provided with an annular groove to receive such projections and also with a bead and flange adapted to fit accurately at all points into the sealing-groove of the cap, the said flange and also the side wall of the said cap being resilient in order that the projections of the said cap snapping into the said groove may hold the bead in the sealing-groove and the flange against the inner wall of the latter groove, thereby making a secure liquid-tight joint at the top of the can, free from all risk of displacement while allowing convenient removal of the said cover when needed and

the free outpouring of the entire contents of the can, substantially as set forth.

5 6. In combination with a cap or cover having the central part of its top depressed to form an annular sealing-groove around the same at the top of the side wall, and the said wall inclined downwardly and outwardly and provided with inward projections, a receptacle provided with a neck having an annular
10 external groove to receive the said projections, a vertical wall above the said groove and a bead at the top of the said wall adapted to fit into the said groove to seal the can when the said projections are thus in engagement
15 while the cover is in its normal shape, substantially as set forth.

7. In combination with a cap having an inclined surface forming a part of its under side and a receptacle having a neck provided at
20 the top with an inclined flange which is adapted to fit against the said surface and make a liquid-tight joint, the said neck and cap being provided with interlocking devices exterior to the said neck which are adapted to en-
25 gage by resiliency when the said cap is forced down over and outside of the said neck, thereby locking the said inclined resilient flange against the said inclined surface, substantially as and for the purpose set forth.

30 8. In combination with a cap having a resilient side wall and inwardly-extending projections, a receptacle having a neck adapted to receive the said cap and to make a liquid-tight seal therewith, the said neck being further provided with an annular external groove
35 adapted to receive the said projections when

they snap into the same by resiliency and the top of the said receptacle being provided with a flat annular groove or depression surrounding the said neck and cap, the outer wall of said groove or depression being adapted to
40 serve at any point as a fulcrum for a lever or tool used in prying up the said cap, substantially as set forth.

9. In combination with a receptacle having
45 a raised neck and an annular groove or depression surrounding the same, a cap adapted to fit on the said neck and make a liquid-tight seal therewith and a lifting-lever pivotally secured to the said cap and adapted to
50 fold down into the said groove or depression, the said cap and neck being further provided with resilient interlocking devices which are adapted to be disengaged by the said lever,
55 substantially as set forth.

10. In combination with a receptacle and its detachable cap, a lever of curved form pivoted to the said cap and provided with an offset at its middle which is adapted to act as a fulcrum against the top of the said receptacle,
60 the said lever having also one or two bent arms which extend around the neck and cap for a part at least of their circumference when out of action and in such circumstances lie flat upon the top of the can, substantially as
65 and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE J. RECORD.

Witnesses:

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S. R. FINDLEY.