J. P. WELLS.

COMBINED FRICTION TOP AND WAX SEALED CAN.

APPLICATION FILED AUG. 27, 1919.

1,432,506. Patented Oct. 17, 1922.

Fig. 1.

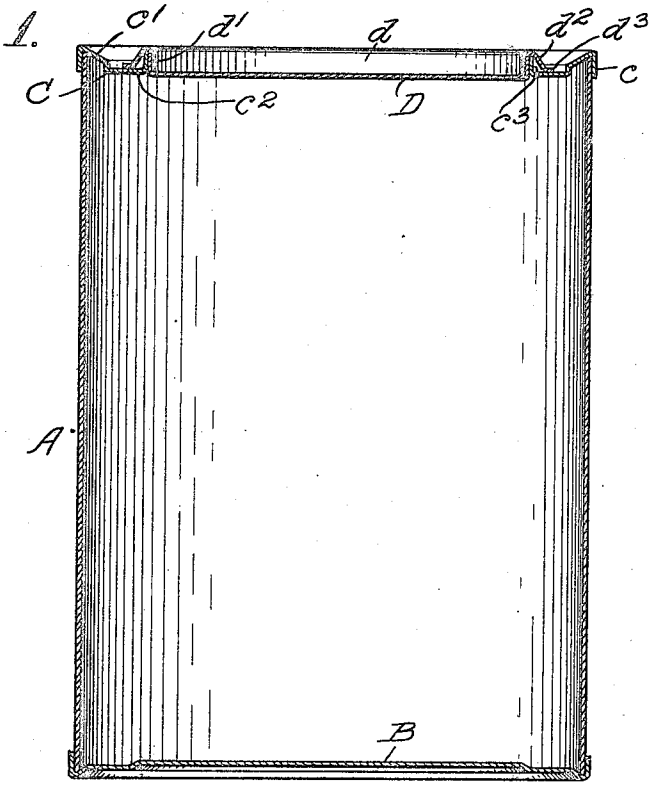


Fig. 2.

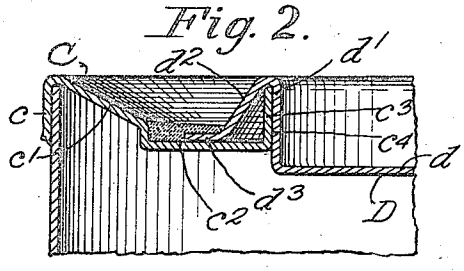


Fig. 3.

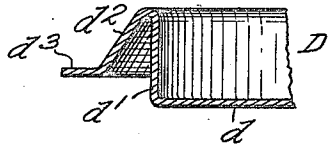
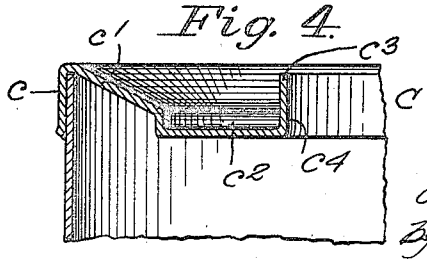


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH PATRICK WELLS, OF WHEELING, WEST VIRGINIA, ASSIGNOR TO WHEELING CAN COMPANY, OF WHEELING, WEST VIRGINIA.

COMBINED FRICTION-TOP AND WAX-SEALED CAN.

Application filed August 27, 1919. Serial No. 320,104.

To all whom it may concern:

Be it known that I, JOSEPH PATRICK WELLS, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Improvement in Combined Friction-Top and Wax-Sealed Cans, of which the following is a specification.

This invention relates to improvements in metallic cans of the kind used as containers for various kinds of commodities or for preserving perishable food stuffs.

Cans on which the tops are held by friction, such as are used as containers for coffee and other materials, can not, as ordinarily made, be used for preserving perishable materials, such as fruits, vegetables, meats, or the like and consequently after a can of this kind has been emptied it is of no further use. It is therefore, desirable to produce a can in which a friction top closure is used and which may be first used in connection with the sale of coffee or other products and then used for preserving, the cover being adapted to be hermetically sealed by means of wax or other material.

The objects of this invention are to provide a can of this kind with a top which may either be closed by friction when the can is used as a container for goods, such as coffee, baking powder, or the like, or which may be hermetically sealed by suitable means, such as wax; also to provide a can of this kind in which the top end and the cover are so formed that the can may be closed either by friction or by means of a wax or analogous seal, and that the cans may be efficiently and economically manufactured; also to improve the construction of cans of this kind in other respects hereinafter specified.

In the accompanying drawings:

Fig. 1 is a sectional elevation of a can provided with a can end and cover embodying the invention.

Fig. 2 is fragmentary sectional elevation thereof, on an enlarged scale, showing the can closed by means of a wax seal.

Fig. 3 is a fragmentary sectional elevation of the cover detached from the can end.

Fig. 4 is a fragmentary sectional elevation of a can with the cover removed.

A represents the can body, which is preferably of the usual cylindrical form, and B represents the usual end or bottom of the can which may be secured to the body in any suitable manner, solder being employed in the construction shown. A can body and end of any other construction may be employed if desired.

The can is provided at its upper end with an annular top end portion C, which may be secured to the can body in any desired manner, the top end in the construction shown having an outer downwardly extending flange c which is secured to the can body in any suitable manner, for example by means of solder. The top end is so shaped as to have a relatively shallow groove adapted to receive wax or other sealing composition and to have a friction face adapted to co-operate with a corresponding face on the cover. In the construction shown for the purpose, the top end is provided with an annular inclined portion c' which extends inwardly and downwardly from the upper part of the flange c, the lower portions of the inclined portion terminating in a wax groove c^2. The inner wall of the wax groove is formed by an upwardly-extending lip or flange c^3, having an inner friction face c^4. The wax groove is comparatively shallow and the angle between the inclined portion c' and the plane of the top end is preferably less than 45° so that a knife or other sharp tool can be inserted into the groove at an angle at which the wax or other sealing compound can be readily removed from the groove. A top end of other construction may be employed, if desired.

D represents the top cover, which, in the construction shown, includes a body portion d which is preferably substantially flat and which has an upright friction wall or flange d' adapted to co-operate with the friction face c^4 of the flange c^3. The top cover is provided with an outwardly and downwardly inclined annular portion d^2, preferably extending at an angle of substantially 45° from the friction wall d'. The lower edge of the inclined portion d^2 is preferably provided with a lip or outwardly extending part d^3 which is adapted to rest on the bottom of the wax groove c^2 when the top cover is in its operative position on the can. The lower part of the inclined portion d^2 and the lip or part d^3 cooperate with the wax groove in such a manner as to make it possible to form a strong and durable wax seal in the groove

and on account of the shallowness of the groove, the wax can easily be removed when it is desired to open the can.

As illustrated, the upright friction wall or flange d' of the cover is of greater height than the upwardly extending collar or lip c^3 of the can end, whereby the flange d' and body portion d of the cover extend into the can below the top end and below the collar or lip c^3. This construction maintains a reliable friction seal between the cover and the top end of the can, and when the can is filled any shifting of the contents tends to bulge the body portion d of the cover outwardly, which wedges the flange d' all the more firmly onto the lip c^3. It will be seen that when the wax seal is used in addition to the friction seal, the extra height of the flange d' and the positioning of the body d of the cover below the top end of the can prevents any tendency that the lip d^3 of the cover might otherwise have to play or work loose from the sealing wax in groove c^2 when the contents of the can are shifted, as in handling, and impact with the cover D.

When the can is used with the friction closure, it is only necessary to press the top cover on the top end as shown in Fig. 1, in order to close the can. The cover can then easily be removed either by pulling upwardly on the inner face of the friction wall d' or by prying the cover off by inserting a knife or other implement under the lip d^3 in the wax groove. The shallow groove greatly facilitates the removing of the cover in this manner. When the can is used for preserving fruits and other perishable goods, the cover is placed on the can in the usual manner, care being taken that the lip d^3 rests at the bottom of the wax groove. Wax or other sealing compound, in liquid form, is then poured into the groove so as to cover the lip d^3, as shown in Fig. 2. The shape of the groove and of the cover enables the wax to contact with a relatively large amount of surface, both on the top end and on the cover, thus ensuring a thoroughly reliable seal. The shallowness of the groove also greatly facilitates the removal of the wax from the groove to open the can, and after chipping out the wax, the cover can again be pried off as hereinbefore described. When the can is used for preserving perishable goods, the cover is held on the can both by the wax and by friction, thus causing the cover to be held on the can much more securely than when only wax is depended upon to hold the cover in place.

The formation of the top end and cover as shown also imparts strength and stiffness to the upper portion of the can so that shocks or jars are not likely to cause the wax seal to be broken. This formation is also such as to require a comparatively small amount of material, so that the cans can be economically manufactured. By means of the construction shown, it is therefore possible to produce cans which can be used for the two purposes mentioned, and to do so at a comparatively slight increase over the cost of the friction top cans now used for coffee and the like.

I claim as my invention:

1. The combination with a can body, of an annular top end secured at its outer portion to said can body and having a relatively shallow annular groove, one wall of which extends at an inclination to the outer portion of the top end and the other wall of which is provided with a friction face on its inner side, and a cover having a body portion provided with an upwardly extending annular wall adapted to engage with said friction face and having an annular part extending downwardly from the upper portion of said upwardly extending wall at an inclination thereto and terminating in an annular horizontal lip in said groove to form a hermetic seal with said top end when a sealing compound is flowed into said groove.

2. The combination with a can body, of a top end having a portion secured to said can body and having a relatively shallow annular groove and an inclined portion extending from said groove to the portion secured to said can body, the inner wall of said groove terminating in an upstanding collar having an inner friction face, and a cover having a portion cooperating with said friction collar to frictionally hold said cover on the top, and a part extending over said collar and downwardly into said groove, said extending part having a horizontal lip adapted to rest upon a portion of the bottom of said groove, whereby a sealing substance may be flowed into said groove adjacent said lip and onto said lip to hermetically seal the can.

3. The combination with a can body, of a top end having a portion secured to said body and having a relatively shallow groove in its upper face and an inclined portion extending outwardly from said groove, the inner wall of said groove comprising an upstanding collar having an inner friction face, and a cover comprising a body portion having an upstanding flange adapted to contact with the inner friction face of said collar and a part extending over said collar and downwardly into said groove and occupying less vertical space than said upstanding flange, said part terminating in a lip overlying a portion of said top end in said groove, whereby a sealing substance may be placed in said groove and onto said lip to hermetically seal the can.

4. The combination with a can body, of a top end having a portion secured to said can body and having a relatively shallow an-

nular horizontal groove and an inclined portion extending outwardly from said groove, the inner wall of said groove terminating in an upstanding collar having an inner friction face, and a cover comprising an upstanding flange adapted to contact with the inner friction face of said collar and of greater height than said collar, a body portion adapted to extend into the can below said upstanding collar, and a part extending over said collar and downwardly into said groove, said part having an annular horizontal lip overlying a portion of said groove, whereby a sealing substance may be placed in said groove and onto said horizontal lip to hermetically seal the can.

Witness my hand, this 23rd day of August, 1919.

JOSEPH PATRICK WELLS.

Witnesses:

J. O. PARK,

E. ROTH.