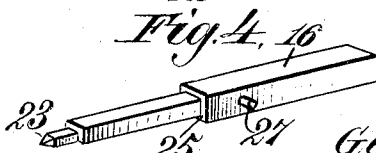
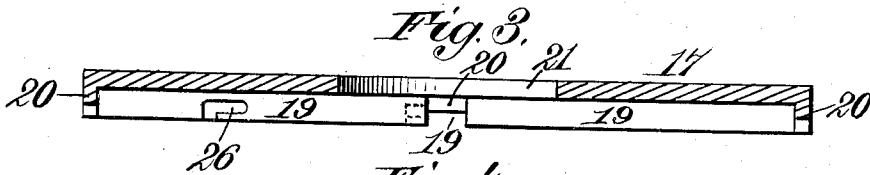
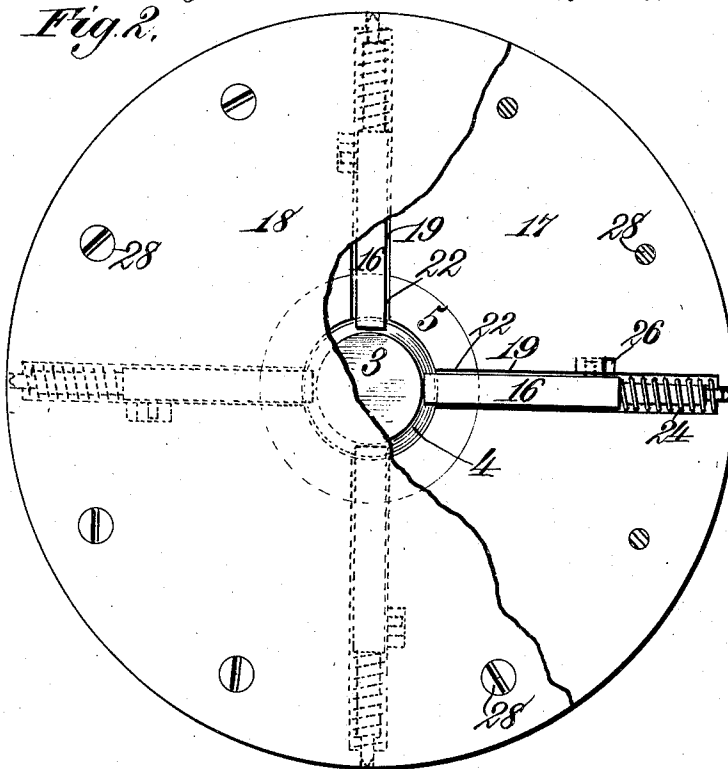
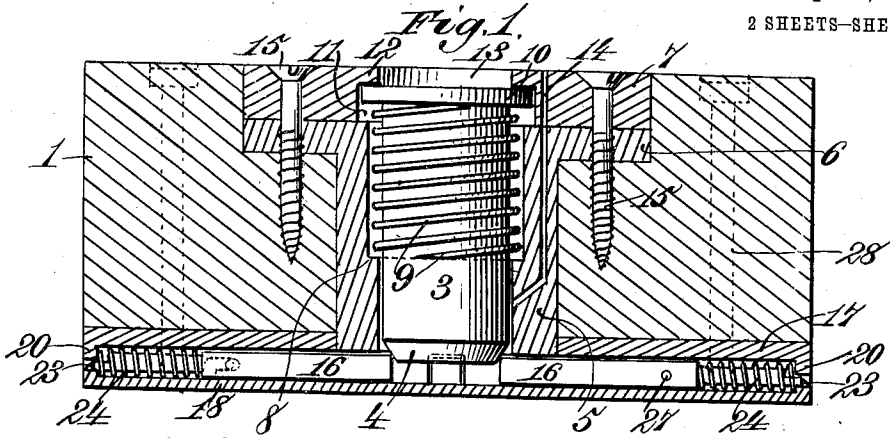


G. W. DUNBAR.
 DEVICE FOR APPLYING FRICTION TOPS TO CANS.
 APPLICATION FILED MAR. 24, 1911.

1,002,656.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.



Witnesses:
 Robert G. Smith,
 Chas. K. Kuler

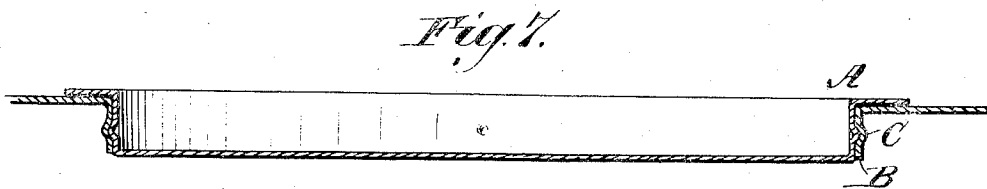
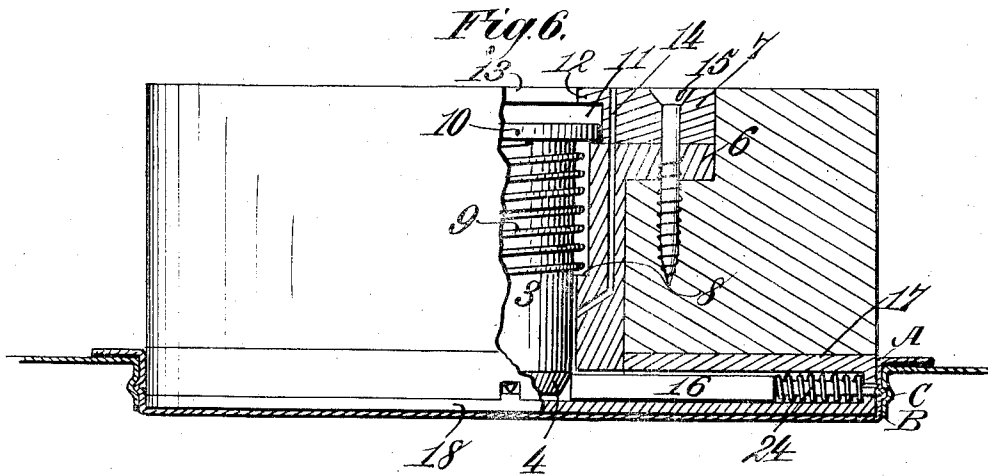
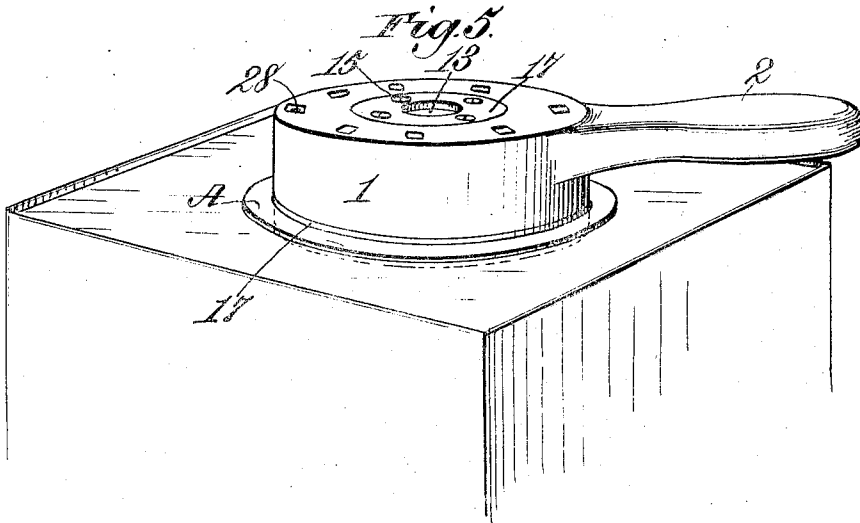
Inventor:
 George W. Dunbar,
 By Amos L. Morrissey.

G. W. DUNBAR.
 DEVICE FOR APPLYING FRICTION TOPS TO CANS.
 APPLICATION FILED MAR. 24, 1911.

1,002,656.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 2.



Witnesses.
 Robert G. Smith.
 Charles H. Nelson

Inventor:
 George W. Dunbar.
 By James L. Norris &
 Attys.

UNITED STATES PATENT OFFICE.

GEORGE W. DUNBAR, OF NEW ORLEANS, LOUISIANA.

DEVICE FOR APPLYING FRICTION-TOPS TO CANS.

1,002,656.

Specification of Letters Patent.

Patented Sept. 5, 1911.

Application filed March 24, 1911. Serial No. 616,606.

To all whom it may concern:

Be it known that I, GEORGE W. DUNBAR, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Devices for Applying Friction-Tops to Cans, of which the following is a specification.

This invention relates to improvements in devices for applying friction tops to cans or other like receptacles and it proposes a can top applying device which is provided with means for forming interengaging indentations in the annular wall of the friction top and in the adjacent wall of the seat for said top. Or, if desired, the indentations may be made only in the annular wall of the friction top, in which case they will be located below the annular wall which forms the seat for said top and will engage against the lower edge of said seat.

By the use of the device, the top is secured with greater positiveness and strength than a friction top applied in the ordinary manner, yet it may be removed just as readily as the ordinary friction top.

Heretofore, in the use of friction tops, especially where the cans were large and their contents heavy, it quite frequently occurred that the tops became displaced from the cans when the latter were inverted or subjected to rough treatment during transit. To overcome this objection it has been proposed and practiced to positively secure the friction top by applying solder at suitable intervals but the use of solder is objectionable because of its inconvenience and the additional expense which it entails, and also because it prevents the ready removal of the friction top.

The device which forms the subject of the present invention applies the friction top in such manner that it cannot be accidentally displaced; that its removal may be effected as readily as in the case of an ordinary friction top; and that solder or positive fastening devices are not required.

The primary object of the present invention is, therefore, to provide a device of the character stated which secures a more efficient locking engagement between the friction top and its seat.

Further objects of the invention are to provide a device which may be used with great facility and quickness; which is of simple and inexpensive nature; and which

may be readily dismantled to enable the repair or replacement of any individual part.

A preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a central vertical section of a device conforming to the invention; Fig. 2 is a bottom plan view thereof, partly broken away; Fig. 3 is a sectional view of a plate which forms a guide for the sliding pins that produce the indentations referred to; Fig. 4 is a detail perspective view of one of said sliding pins; Fig. 5 is a perspective view showing the manner of using the improved device; Fig. 6 is a sectional view showing the device in use; and Fig. 7 is a sectional view showing the locking association between the friction top and its seat. Fig. 8 is a detail sectional view showing the indentations formed in the annular wall of the friction top below the seat for the latter.

Similar characters of reference designate corresponding parts throughout the several views.

The operating parts are assembled with relation to a block 1 which is preferably of wood and has the form of a cylinder, being provided with a suitably located handle 2. The main operating element of the construction shown is a plunger 3, having at its lower end an inward bevel 4. The plunger 3 works in a sleeve or bushing 5 which is fitted in a central opening of the block 1. The said opening is enlarged at its upper end to receive an annular flange 6 projecting outwardly from the upper end of the sleeve or bushing 5 and also to receive a plate 7 which is imposed on the flange 6. The said sleeve or bushing 5 is provided at a suitable point with a shoulder 8 which affords a seat for an expansive coil spring 9. The latter surrounds the plunger 3 and bears against a flange 10 provided at the upper end of said plunger, the action of the spring 9 being to force the plunger upwardly. The flange 10 works in a recess 11 provided on the under side of the plate 7 and normally bears against a flange 12 which overhangs said recess and defines an opening 13 through which a suitable tool is introduced to effect a downward movement of the plunger 3. In order that said plunger may be readily lubricated the plate 7 and the sleeve or bushing 5 are provided

with alining ducts 14, the duct in said sleeve or bushing leading to its bore. Screws 15 pass through the plate 7 and the flange 6 and are threaded into the block 1 for the purpose of securing said plate and the sleeve or bushing 5 to said block.

The plunger 3 coöperates with a plurality of (preferably four) radially slidable pins 16 (Fig. 4). These pins 16 are mounted between plates 17 and 18, the plate 17 being positioned against the under face of the block 1 and the plate 18 being positioned against the plate 17. The plate 17 is formed with radially disposed channels 19 in which the pins 16 are fitted and with depending lips 20 at the front of said channels but of less depth. The plate 17 is also provided with a central opening 21 and the lower end portion of the sleeve or bushing 5 projects through this opening and bears against the plate 18. The said lower end portion of the sleeve or bushing 5 is provided with recesses 22 which aline with corresponding channels 19 and form in effect inward continuations of said channels. The pins 16 are provided at their outer ends with indenting points 23 and are urged inwardly by springs 24 which are positioned between the lips 20 and shoulders 25 on said pins. To facilitate the assemblage of the pins 16 and the plates 17 and 18 and to prevent the accidental displacement of said pins when the plate 18 is, for any purpose, dissociated from the plate 17, corresponding walls of the channels 19 are provided with bayonet grooves 26 and the pins 16 are provided with lateral projections 27 which engage in said grooves. The plates 17 and 18 are secured to the block 1 by bolts or equivalent fastening devices 28.

The friction top is indicated at A and its seat at B, these elements being of ordinary construction. The combined thickness of the plates 17 and 18 is equal to the depth of the top A.

In practice the plates 17 and 18 which correspond in diameter with the top are positioned in the latter and the top is forced to its seat by striking the upper face of the block 1 with a mallet or other suitable instrument. When the top is seated, resting upon its supporting flange the plunger 3 is given a blow with a suitable instrument introduced through the opening 13, *e. g.*, a hammer, whereby said plunger is forced inwardly against the tension of its spring 9. When the plunger is thus forced inwardly, its bevel 4 engages the inner ends of the pins 16 and forces the latter outwardly against the tension of their springs 24. When the pins 16 are forced outwardly their points 23 produce interlocking indentations C in the concentric walls of the top A and seat B. In case the top is of greater depth than the seat the indentations may be

formed in the top only and will engage against the lower edge of the seat, as shown in Fig. 8. These indentations, while they can hardly be referred to as positive locking devices, are effective to provide a more secure association of the top and the seat than heretofore, where friction only has been relied on for the purpose. While the indentations C efficiently provide against accidental displacement of the top from its seat they do not interfere with the ready removal of the top in the ordinary manner. After the operation of the plunger in the manner explained, the spring 9 restores the plunger to its initial position and the springs 24 perform a like function with respect to the pins 16. The device is then lifted from the assembled can and top, the handle 2 being useful for this purpose, and is ready for another operation.

While the invention has been herein shown and described as embodied in a manually operable device, it will be understood that it may be employed as an element of a machine for automatically applying friction tops and that such use will involve no changes in the essential principles of construction or operation.

Having fully described my invention, I claim:

1. A device for applying friction tops to cans comprising a body proportioned to fit into the top to be applied, pins movably associated with the body for forming indentations in the top when the body is fitted therein, and a movable member for operating said indentation forming pins.

2. A device for applying friction tops to cans comprising a body proportioned to fit into the top to be applied, means associated with the body for forming indentations in the top when the body is fitted therein, and a percussive member for operating said indentation forming means.

3. A device for applying friction tops to cans comprising a body proportioned to fit into the top to be applied, radially movable pins associated with the body for forming indentations in the top when the body is fitted therein, and a movable member for operating said pins.

4. A device for applying friction tops to cans comprising a body proportioned to fit into the top to be applied, radially movable pins associated with the body for forming indentations in the top when the body is fitted therein, and a percussive member for operating said pins.

5. A device for applying friction tops to cans comprising a body proportioned to fit into the top to be applied, radially movable pins associated with the body for forming indentations in the top when the body is fitted therein, a percussive member for operating said pins, and springs acting on said

pins and said member respectively to return them to their normal positions.

6. A device for applying friction tops to cans comprising a body proportioned to fit into the top to be applied, and consisting of a pair of superposed plates, one of the plates being formed with radial channels, pins interposed between the plates and fitted in the channels for radial sliding movement, the pins having pointed outer ends which form indentations in the top in which the body is fitted, springs which force the pins inwardly, a vertical percussive plunger which is operative when depressed to force the pins outwardly, and a spring for forcing the plunger upwardly.

7. A device for applying friction tops to cans comprising a body which is proportioned to fit into the top to be applied and which consists of a pair of plates, one of the plates having radial channels, a block to which the plates are attached, a sleeve fitted centrally of the block, the inner of said plates having an opening which alines with the sleeve, pins fitted in the channels for radial sliding movement, springs for retracting the pins, a percussive plunger fitted in the sleeve, and operable when depressed to force the pins outwardly, and a spring for retracting the plunger.

8. A device for applying friction tops to cans comprising a body which is proportioned to fit into the top to be applied and which consists of a pair of plates, one of the plates having radial channels, a block to which the plates are attached, a sleeve fitted centrally of the block, the inner of said plates having an opening which alines with the sleeve, pins fitted in the channels for radial sliding movement, springs for retracting the pins, a percussive plunger fitted in

the sleeve, and operable when depressed to force the pins outwardly, a spring for retracting the plunger, the sleeve having a flange at its upper end and a plate imposed on the flange and having a central opening, and a flange defining said opening, the plunger having a flange which normally bears against the flange of the plate.

9. A device for forming locking indentations in friction tops for cans consisting of a body which is adapted to be set into the friction top, means associated with the body for forming indentations in the top, and a percussive member for operating said indentation forming means.

10. A device for applying friction tops to cans comprising a body which is adapted to set into the top to be applied, a plurality of radially movable pins associated with the body and operable to form indentations in the top, and a movable member for operating said pins.

11. A device for applying friction tops to cans, comprising a body which is proportioned to fit into the top to be applied, a plunger wholly inclosed in the body, the latter having an opening in its upper face which alines with the plunger and through which a tool may be inserted to engage and operate the plunger; a plurality of radially movable pins associated with the body and operable to form indentations in the top, and springs for resetting the plunger and the pins after each operation thereof.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE W. DUNBAR.

Witnesses:

F. D. CHARBONNET, JR.,
J. ARTHUR CHARBONNET.