Sept. 16, 1924. 1,508,878

W. A. EVALENKO

ATTACHABLE AND REMOVABLE CAP FOR MERCHANDISE CONTAINERS

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Fig. 1.

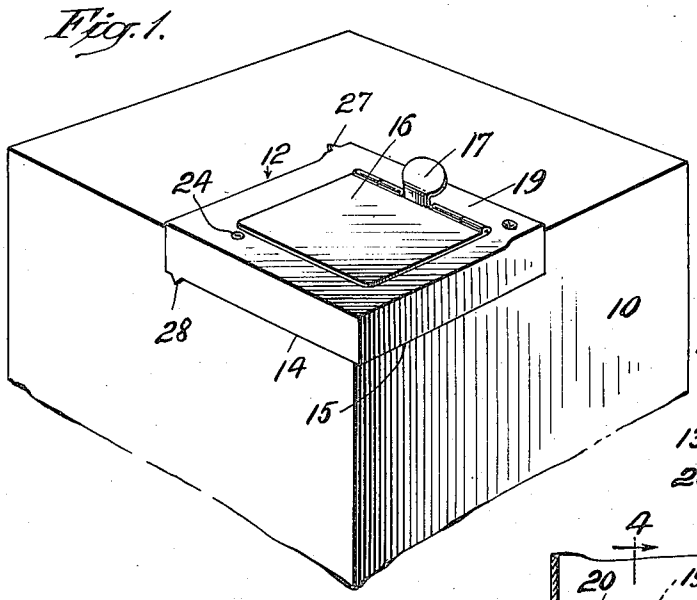


Fig. 2.

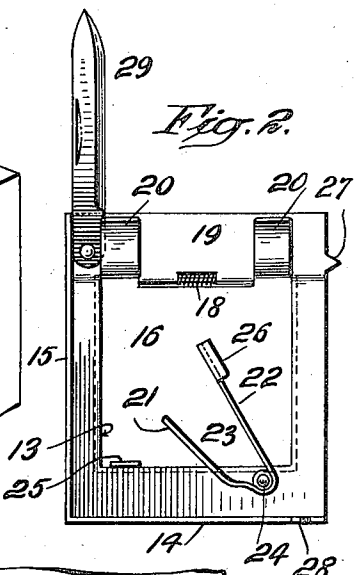


Fig. 3.

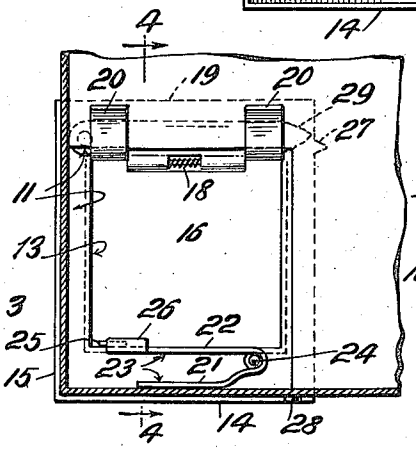


Fig. 4.

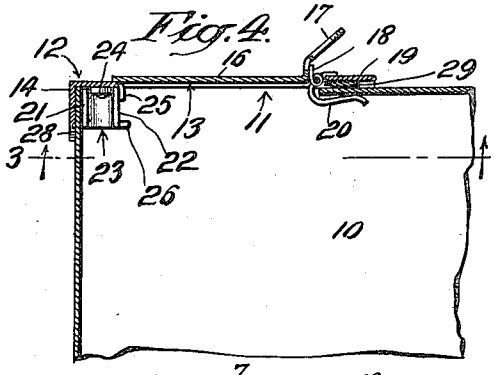


Fig. 5.

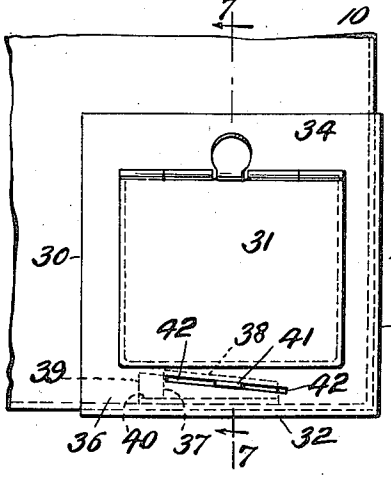
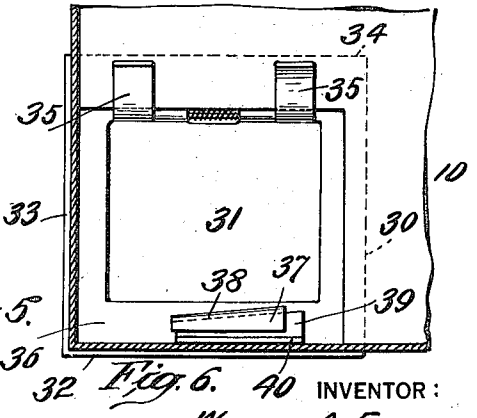


Fig. 6.



INVENTOR:
WILLIAM A. EVALENKO.
BY
Charles C. Gill,
ATTORNEY.

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Fig. 7.

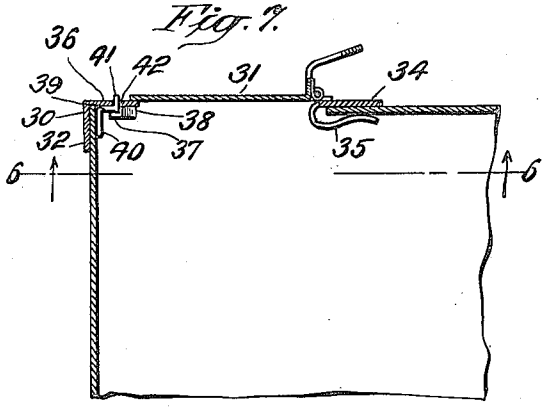


Fig. 9.

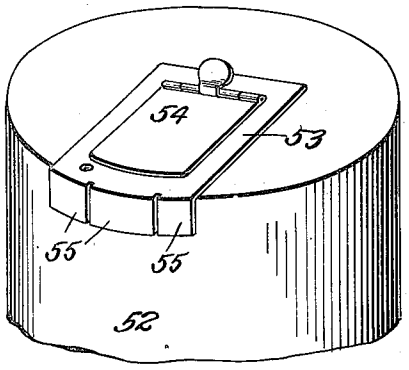


Fig. 8.

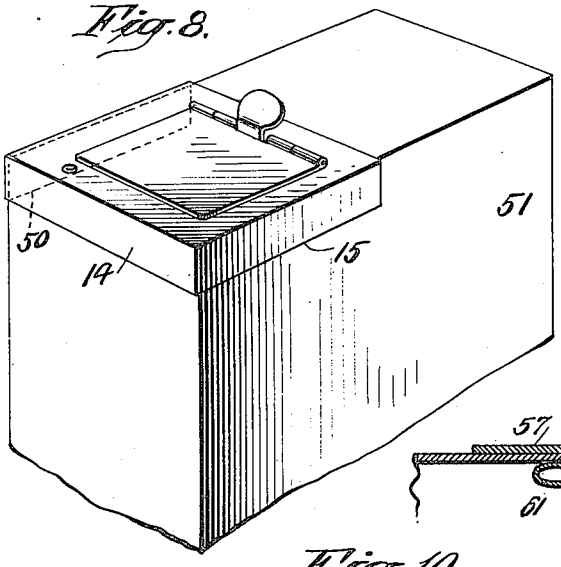


Fig. 12.

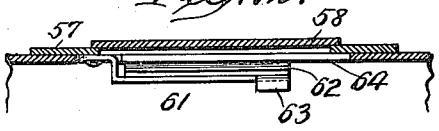


Fig. 11.

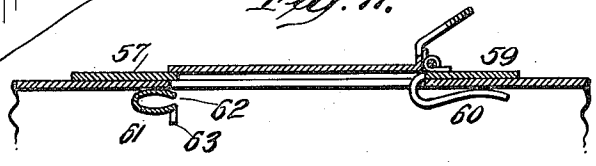
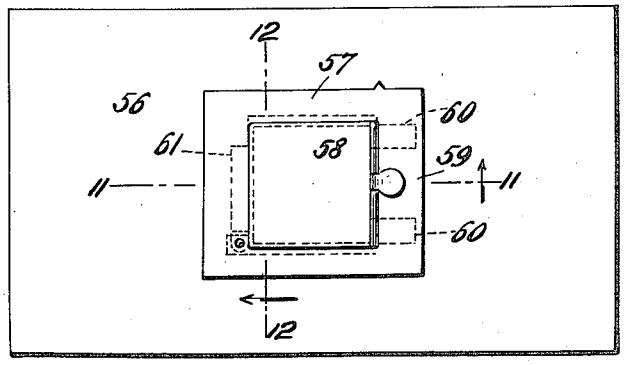


Fig. 10.



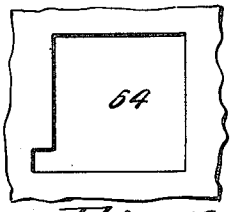


Fig. 13.

INVENTOR:
WILLIAM A. EVALENKO.
BY
Charles C. Gill.
ATTORNEY.

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UNITED STATES PATENT OFFICE.

WILLIAM A. EVALENKO, OF NEW YORK, N. Y.

ATTACHABLE AND REMOVABLE CAP FOR MERCHANDISE CONTAINERS.

Application filed October 14, 1921. Serial No. 507,712.

To all whom it may concern:

Be it known that I, WILLIAM A. EVALENKO, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Attachable and Removable Caps for Merchandise Containers, of which the following is a specification.

The invention resides in a novel cap for attachment to boxes of various kinds, such as those made of cardboard, paper and the like and containing various kinds of merchandise as, for instance, cereals, which boxes are usually not emptied at once but have portions of their contents poured therefrom from time to time as required for use.

One purpose of my invention is to provide a cap having a hinged lid and adapted to be detachably applied to the corner or other portion of the top of the box whereat an opening has been formed, for conveniently permitting the discharge from time to time of the contents of the box and to protect the contents of the box from dust, damp air and the like. It is quite usual for persons having cereal boxes to cut open the top of the box for the purpose of pouring part of the contents therefrom and then lack convenient means for again closing the box until the next time of use. My invention provides a cap which when once applied to a box may remain thereon until the entire contents of the box have been discharged, in the meantime protecting the food products from dust and the like, and after the box employing my cap has become emptied, the cap will be removed therefrom and applied on a new box for use as before.

The cap of my invention comprises a suitable frame for application to the box and having a discharge opening, means for securing it in position on the box above a hole previously formed therein and a hinged lid for opening and closing the discharge opening of the cap and said hole in the box, said lid being preferably held in normal closed position by a spring. The cap may be of various shapes to suit the conditions of its use on the corner of a box or on the whole width of a box or in the center of the top of a box, but will always possess a body frame having a discharge opening therein and carrying a hinged lid for said opening, together with means whereby the cap may be conveniently secured to the material of the box.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Fig. 1 is a perspective view of the upper end portion of a box equipped with the cap of my invention, the box shown being of the ordinary type for holding cereals;

Fig. 2 is a bottom view of the cap detached from the box and with a knife-blade I sometimes provide in the cap for cutting a hole in the box, shown in its outwardly extended or unfolded position;

Fig. 3 is a sectional view through a portion of the box taken on the dotted line 3—3 of Fig. 4 and illustrating the cap of my invention in position and showing the under surface thereof;

Fig. 4 is a vertical section through a portion of the box with the cap of my invention in position thereon taken on the dotted line 4—4 of Fig. 3;

Fig. 5 is a top view of a corner portion of a box equipped with a modified form of the cap of my invention;

Fig. 6 is a horizontal section through a portion of the box shown in Fig. 5 and taken on the dotted line 6—6 of Fig. 7;

Fig. 7 is a vertical section through the same taken on the dotted line 7—7 of Fig. 5.

Fig. 8 is a perspective view of the top portion of a box of elongated cross-section equipped at one end of its top with a cap embodying my invention, the cap shown in Fig. 8 differing from that shown in Fig. 1 by the addition thereto of a third depending flange so that the frame of the cap may embrace one end and two sides of the upper end of the box;

Fig. 9 is a perspective view of the upper portion of a cylindrical box equipped with a cap embodying my invention;

Fig. 10 is a plan view of the top of a box having the cap of my invention applied centrally thereon, as distinguished from said cap being applied at an outer edge or outer edges of the box;

Fig. 11 is a vertical section, partly broken away and on a larger scale, through the box and cap presented in Fig. 10, the section being taken on the dotted line 11—11 of Fig. 10;

Fig. 12 is a vertical transverse section,

partly broken away, through the same, taken on the dotted line 12—12 of Fig. 10, and

Fig. 13 is a plan view of a portion of the top of the box.

In the drawings, referring to Figs. 1 to 4 inclusive, 10 designates the upper portion of a rectangular pasteboard box of the character usually employed for holding cereals, the boxes of this type being sealed by labels and the like at the factory and reaching the consumer in that condition. My invention provides a cap to be applied over a hole formed in the top of this box by the consumer, for protecting the contents of the box and enabling the convenient discharge from time to time of such contents from the box. The box 10 may have a hole 11 cut in one corner portion of the top thereof to be used for the discharge of the cereals or other merchandise. The cap of my invention comprises a rectangular body frame 12 having an opening 13 therein preferably of rectangular outline and disposed directly above the opening 11 in the top of the box. The frame 12, in the form of the invention shown in Figs. 1 to 4 inclusive, is formed with depending right angle flanges 14, 15 to embrace the sides of the corner portion of the box 10, as shown in Fig. 1. The frame 12, as means for opening and closing the opening 13 therein, is equipped with a hinged lid 16 having a convenient operating handle or thumb-piece 17 and a spring 18, at the hinge of the lid, for normally holding the lid in closed position. The inner end bar 19 of the frame 12 is formed at its lower side with return bent lips 20 extending rearwardly from the rear edge of the opening 13 in said frame, and these lips 20 are employed as clips to receive between them and the aforesaid bar 19 the material of the top of the box 10, as shown in Fig. 4, said lips or clips thereby serving to secure the inner or rear end of the frame 12 to the box-top. The lips or clips 20 are preferably integral with the rear bar 19 and are formed from the material removed from the cap to form the opening 13 therein, whereby the provision of the clips 20 does not add to the expense of production so far as the material employed in the clips is concerned.

The front edge of the frame 12 is secured to the vertical front thickness of the material of the box 10, the hole or opening 11 in the top of the box being extended outwardly to the front wall of the box, as well as to the adjacent side wall thereof. The means illustrated in Figs. 1 to 4 inclusive for securing the front edge of the cap to the front edge of the box, resides in a spring clamp 23 formed of a strip of metal folded near its middle portion to form a clamping member 21 and an operating member 22. At its outer or fold-end the clamp 23 is pivotally held on a rivet or pin 24, whence the members 21, 22 of said clamp extend on substantially parallel lines as shown in Fig. 3, the member 21 being adapted to impinge against the inner front wall of the box 10, as shown in Fig. 3, and the member 22 being adapted to be caught behind a depending lug 25 for securing it in flexed condition with the member 21 firmly pressing against the inner front wall of the box. The member 22 of the clamp 23 is provided on its free end with a laterally extending lip 26, which I utilize in either freeing the cap from the box or securing the cap in position thereon. When the cap is first applied to the box, the clamp 22 will be free of the lug 25 and may be in the position shown in Fig. 2, and when the cap is applied to the corner of the box, I raise the lid 16 and then with a finger, turn the clamp 23 toward the front of the box and press on the lip 26 to deflect the member 22 downwardly to slip under the lug 25 and then move said member upwardly or allow it to spring upwardly behind said lug 25, to the position shown in Figs. 3 and 4, whereby the member 21 of the clamp 23 is caused to bind the front of the box between itself and the flange 14 and the member 22 is held in locking position by the lug 25 with the result of securing the cap in position. The lip 26 provided on the member 22 is for convenience in the manual manipulation of said member from one side to the other of the lug 25. When it is desired to remove the cap from the box. the lid 16 is opened and then with a finger I push downwardly against the lip 26 to release the member 22 of the clamp 23 from the lug 25, and thereupon the clamp 23 will move or be moved outwardly from the inner front wall of the box and permit the front portion of the cap to be lifted upwardly from the box, and thereupon a slight pull on the cap will relieve the clips 20 from the portion of the box-top at the rear of the cap, the cap being thus left free to be applied to a fresh box.

I preferably provide the rear bar 19 of the cap frame 12 with a projecting dart 27 for use in scratching a line on the top of the box whereat the rear end of the opening 11 in said top should be cut, the distance between the dart 27 and the front end of the frame 12 defining the length of opening necessary. The dart 27 is of considerable convenience because with the frame 12 tilted downwardly along its inner edge and the dart 27 engaged with the top of the box and the inner end of the flange 14 with the front of the box, the line of severance for the rear end of the opening 11 may be conveniently scratched on the box-top by drawing the cap outwardly toward the side of the box. I also provide the flange 14 with a dart 28 as a convenience in scratching on the top of the box a line indicating the position for the inner side of the opening 11. At the

outer side of said opening 11 and at the front edge thereof said opening extends to the vertical corner walls of the box.

It may not always be convenient for a householder to find a tool for cutting the opening 11 in the top of the box 10, and hence I preferably equip the cap with a pivoted blade 29 arranged to be folded below the rear bar 19 of the frame 12, as indicated in Fig. 3, and to be extended outwardly, as indicated in Fig. 2, so as to be used as a means for cutting the hole 11 in the box 10, the frame 12 at such time serving as a handle for the blade 29. I do not limit my invention to the presence of the blade 29, but for convenience I consider it desirable that the cap be equipped with said blade.

In applying the cap to position on the box 10 it will first be necessary to cut the hole 11 in the box and then apply the cap over said hole and to the position shown in Fig. 1, the frame 12 being first secured at its rear edge by the clips 20 and then at its front edge by the spring clamp 23. Thereafter the contents of the box may be discharged through the opening 11 in the box and the opening 13 in the cap by turning the lid 16 upwardly and tilting the box to a pouring position. The cap will remain on the box 10 as long as may be desired. After the box 10 has been emptied the cap will be removed and applied upon a fresh box, and this course will be followed whenever necessary, it being intended that the cap shall be of durable character and adapted for continued use upon the boxes, one after another, for a considerable period. The lid 16 protects the contents of the box from the entrance of dust and the like and the spring 18 keeps said lid normally closed.

In Figs. 5, 6 and 7 I illustrate a modification of the cap, but mainly in respect to the means for securing the front edge of the body frame against the inner front wall of the box. Figs. 5, 6 and 7 showing a modification, I number the cap frame 30, the lid 31, the front flange 32, and the side flange 33. The rear bar 34 of the frame 30 is secured to the material of the box-top in rear of the discharge opening therein by means of the return lips or clips 35 which correspond with the clips 20 of Fig. 2. The front bar 36 of the frame 30 has upon its lower side a horizontal seat or flange 37 held to the underside of the bar 36 by a vertical flange 38 whose outer face is inclined or of wedge-shape, as shown by dotted lines in Fig. 6. The flanges 37, 38 form a guide for a slidable wedge-plate 39 which is seated upon the flange 37 and has a depending flange 40 to engage the front wall of the box, as shown in Fig. 7. The plate 39 has an upwardly extending thumb-piece 41 arranged within an inclined slot 42 in the bar 36, as shown in Fig. 5. When the cap has been applied to position at its rear end and it is desired to secure the front edge of the same to the front wall of the box 10, the thumb-piece 41 will be manually pressed against to slide the plate 39 toward the narrower ends of the flange 37, and this will have the effect of binding the flange 40 against the inner front wall of the box and the inner edge of the plate 39 against the inclined flange 38 connected with said flange 37. When it is desired to detach the cap from the box, pressure will be applied to the thumb-piece 41 to move the plate 39 toward the wider end of the flange 37, and this will permit the flange 40 on said plate to release its grip against the front wall of the box. In the construction shown in Figs. 5, 6 and 7 I omit the knife-blade 29 and substitute the wedge clamping devices described for the spring clamping devices 23 shown in Figs. 2 and 3, and in other respects the cap shown in Figs. 5, 6 and 7 is substantially the same as the cap shown in Figs. 1 to 4 inclusive.

The construction shown in Fig. 8 differs from the construction shown in Fig. 1 only in the provision of a third depending flange 50 in addition to the flanges 14, 15 of Fig. 1 so as to adapt the cap for boxes of oblong cross-section, the three flanges 50, 14, 15 being adapted to engage the two sides and front end of the box. The additional flange 50 is not required absolutely, as will be understood on reference to Fig. 1, but for a box 51 of the type shown in Fig. 8 I deem it preferable to add the flange 50 to the cap structure shown in Fig. 1.

In Fig. 9 I illustrate a cylindrical pasteboard box 52 with the cap of my invention thereon. The cap shown in Fig. 9 comprises the usual frame 53 and lid 54 corresponding with the frame 12 and lid 16 of Fig. 1, and the cap shown in Fig. 9 will also be equipped on the underside of its rear end with the clips 20 and at its front end with the clamp 23 embraced in Figs. 1 to 4 inclusive. The difference between the cap shown in Fig. 9 and that shown in Figs. 1 to 4 inclusive resides in the omission of the side flange 15 of Fig. 1 and in shaping the forward flange to engage the arcuate surface of the side of the box 52. In this instance instead of employing the flange 14 of Fig. 1 I employ a forward flange composed of three depending segmental members 55, these members being adapted to engage the outer side wall of the box 52. I form the forward flange in segments 55 as means for more readily adapting the cap to cylindrical boxes 52 which may be more or less irregular as to size or surface. The construction shown in Fig. 9 is provided to indicate that the cap disclosed in Figs. 1 to 4 inclusive may be applied upon circular boxes 52, these boxes being in use for holding granular ma-

terial and well adapted to receive the cap of my invention.

In Fig. 10 I show the cap of my invention applied upon the center of the top of an oblong paste-board box 56, the cap shown in Fig. 10 being identical with that shown in Fig. 1 with the exception that I omit from the body frame thereof the depending flanges 14, 15, said flanges not being being necessary or permissible when the cap is to be applied upon the center of the top of the box. Since Fig. 10 illustrates something of a modification of the structure shown in Fig. 1, I number the body frame of the cap 57 and the hinged lid 58. The frame 57 has no downwardly depending flanges, but its rear bar 59 is equipped with clips 60 corresponding exactly with the clips 20 of Figs. 1 to 4 inclusive.

At its forward portion the frame 57 is provided on its lower side with a pivoted clamp 61 formed from a thin strip of metal folded over longitudinally to create, transversely considered, a spring loop whose upper member 62 is free at one edge and which, when pressed below the material of the top of the box, serves to clamp the forward portion of the frame 57 in position. The clamp 61 is equipped at its free end with a lip 63 for convenience in manipulating the same. In applying the cap shown in Figs. 10, 11, 12 to the box, the clips 60 are forced under the material of the box at the rear end of the opening 64 therein, the same as the lips 20 are utilized in the construction shown in Figs. 1 to 4 inclusive, and thereafter the clamp 61 having previously been turned below the lid 58, the frame 57 is pressed down against the top of the box and, the lid 58 having been opened, the clamp 61 by the pressure of the finger may be turned in an outwardly direction below the forward portion of the plate or frame 57 and the material of the box lid adjacent thereto, said clamp then serving to press said material upwardly against the front bar of the plate or frame 57 and securing the forward end of the said frame in position; said clamp then taking the position shown in Figs. 10, 11 and 12. Any suitable form of clamp or catch 61 may be made use of, the only requirement being that the front portion of the plate or frame 57 be temporarily held down upon the top of the box. The cap shown in Figs. 10, 11 and 12 may be transferred from one box to another, said cap being intended for repeated use on boxes as they successively become empty. I prefer the constructions shown in Figs. 1 to 9 inclusive, because, among other reasons, of the greater convenience they present in permitting the discharge of the contents from the boxes to which they may be applied.

In all the constructions shown there is a metal plate or frame to lie flat against the box-top and having an opening therein to align with a discharge opening or hole the consumer will form in the box-top, and said plate carries the lid and also the means for clamping the plate to the material of the box, the whole being a self contained unit adapted for repeated application and use, and the clamping members being adapted for insertion within the hole in the box and to engage the material of the box adjacent thereto for holding the plate or frame down against the flat top of the box.

What I claim as my invention and desire to secure by Letters-Patent, is:

1. In combination with a pasteboard box of the character described having sides and a fixed top and in which top at a convenient location for pouring from the box is formed a discharge hole, leaving the other portion of the top intact and rigid with said sides, an attachable and removable cap applied against said top over and surrounding said hole comprising a plate having an opening therein aligned with said hole, a lid on and carried by said plate normally closing the opening therein and the hole in said top, and clamping members carried by said plate and extending downwardly through said hole for engaging the material of the box at the sides of said hole and removably securing the plate stationary on said top, one of said clamping members being a lip integral with said plate and bent outwardly from said opening and below the plate and to be slipped below the material of the box-top and bind the same against said plate.

2. In combination with a box of the character described having a discharge hole formed in the top thereof, an attachable and removable cap applied against said top over said hole comprising a plate having an opening therein aligned with said hole, a lid on and carried by said plate for normally closing the opening therein and the hole in the box and clamping members carried by said plate at opposite sides of the opening therein for removably attaching said plate to the material of the box at opposite sides of the hole therein, the clamping member at one side of said opening being bent outwardly from said opening and below the plate to be slipped below the material of the box-top and bind the same against said plate, and the clamping member at the other side of said opening being adapted for manual operation after the plate has been positioned against said box-top.

3. In combination with a box of the character described having a vertical side and a discharge hole formed in its top adjacent thereto, an attachable and removable cap applied against said top over said hole and having a depending positioning flange engaging said side, said cap comprising a plate having an opening therein aligned with said

hole and at its outer edge said flange, a lid on and carried by said plate for normally closing the opening therein and the hole in the box-top, and clamping members carried by said plate at opposite sides of the opening therein for removably attaching said plate to the material of the box at opposite sides of the hole therein, the clamping member at one side of said opening being bent outwardly from said opening and below said plate to be slipped below the material of the box-top and bind the same against said plate, and the clamping member at the other side of said opening being adapted for manual operation and to bind the material of the box-side against said flange.

Signed at New York city, in the county of New York and State of New York, this 13th day of October A. D. 1921.

WILLIAM A. EVALENKO.