Sept. 18, 1923.

W. F. DOWNING, JR

1,468,359

CLOSURE FOR DISCHARGE APERTURES IN PACKAGES

Filed Nov. 6, 1922

2 Sheets-Sheet 1

Fig. 2.

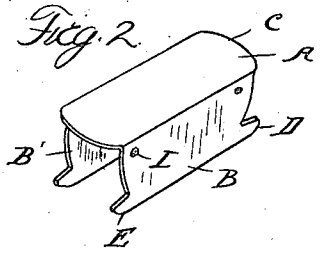


Fig. 3.

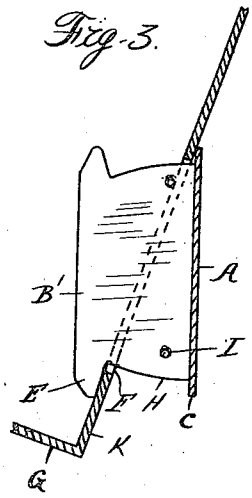


Fig. 4.

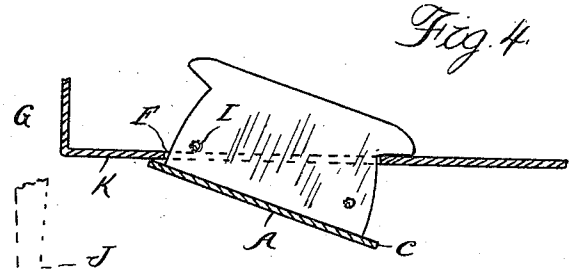


Fig. 5.

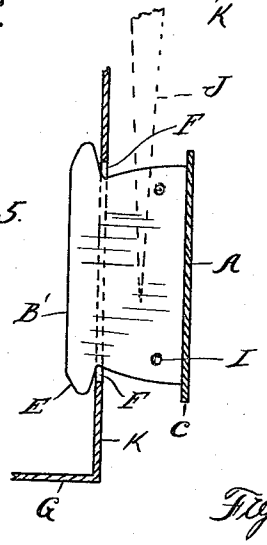


Fig. 6.

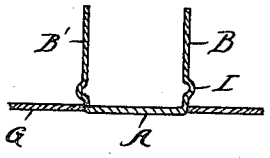
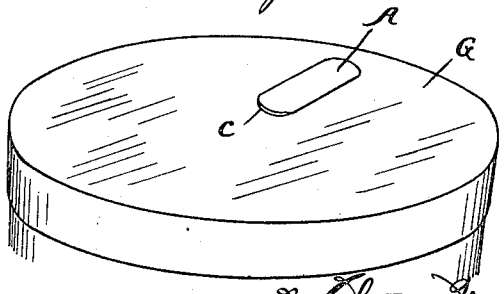


Fig. 1.



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CLOSURE FOR DISCHARGE APERTURES IN PACKAGES

Filed Nov. 6, 1922 2 Sheets-Sheet 2

Fig. 7.

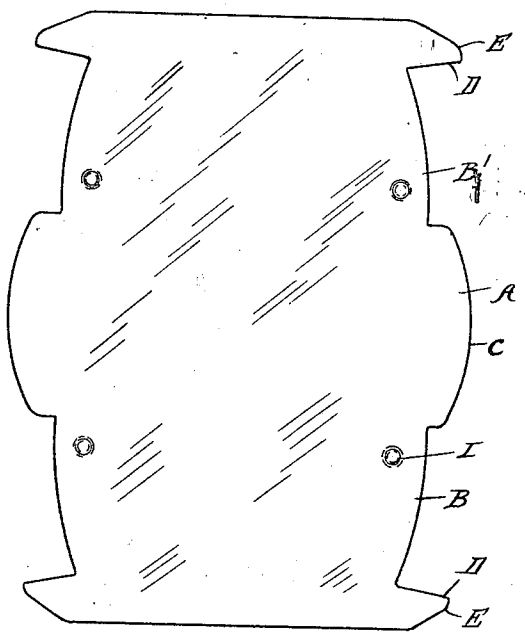


Fig. 8.

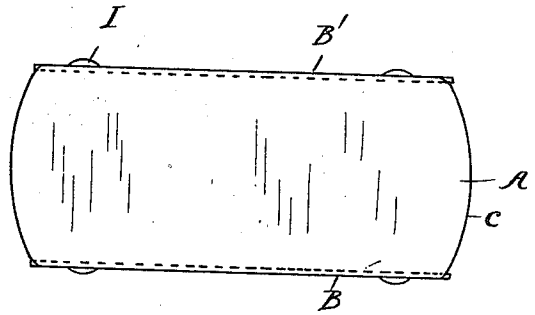
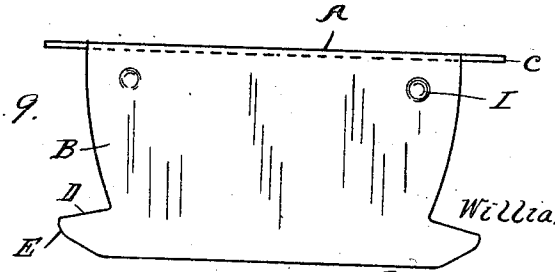


Fig. 9.



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Patented Sept. 18, 1923. 1,468,359

UNITED STATES PATENT OFFICE.

WILLIAM F. DOWNING, JR., OF ST. CLAIR, MICHIGAN.

CLOSURE FOR DISCHARGE APERTURES IN PACKAGES.

Application filed November 6, 1922. Serial No. 599,360.

To all whom it may concern:

Be it known that I, WILLIAM F. DOWNING, Jr., a citizen of the United States of America, residing at St. Clair, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Closures for Discharge Apertures in Packages, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to closures for pouring apertures in packages, and constitutes an improvement in the structure shown in Patent No. 1,268,901 to Charles L. Weil, issued June 11, 1918. In the said patent the closure comprises a member formed with a substantially rectangular flat top and substantially parallel V-shaped side wings depending therefrom, having notches therein adjacent to the apex of the head. The dimensions are such that the side wings will fit against the opposite sides of an aperture in the box or receptacle, while the length of the flat top is slightly greater than the length of said aperture so that when pressed down, it will overlap the ends thereof and close the opening. On the other hand, when the device is pulled outward, the notched ends of the wings will form a fulcrum or pivot, while lugs or flanges projecting from the large end of the V form stops for limiting the outward movement. Thus the top of the closure will assume an angling position and will act as a guide or spout for directing the material which is poured from the aperture.

It is the object of the present invention to simplify the construction and lessen the cost of manufacture of a device of the general character above described, and at the same time to obtain an improved construction having additional useful functions. To this end the invention consists in the construction as hereinafter set forth.

In the drawings:

Figure 1 is a perspective view of a box or receptacle to which my improved closure is applied;

Figure 2 is a perspective view of the closure detached;

Figure 3 is a section through a portion of the box showing the closure in one position of adjustment for pouring;

Figure 4 is a similar view showing a different adjustment;

Figure 5 is a similar view of still another adjustment;

Figure 6 is a cross-section showing the closure in closed position;

Figures 7, 8, and 9 are enlarged views showing respectively the blank for the closure and a plan view, side elevation and end elevation thereof.

One disadvantage adherent in the structure of Patent No. 1,268,901 is due to the unsymmetrical form requiring definite positioning in the pouring aperture and also limiting the opening to one end only. With my improved construction I have substituted a symmetrical form which may be reversed in position in the aperture without detriment and which is double-acting, being capable of opening from either end. Thus, as shown in detail, the improved closure comprises a flat substantially rectangular top portion A having depending wings B and B′ of symmetrical form, being cut away at each end to leave projecting portions C in the top and also projecting lugs D at the outer edges. The lugs D are rounded on their outer edges, as shown at E, and the dimension from the nose or point of one lug to the rounded or heel portion of the opposite lug on the same wing is slightly less than the length of the aperture F in the receptacle G. Thus where the receptacle is formed of paper or other slightly resilient and yielding material, the lugs D may be snapped into the aperture but will act as stops for preventing accidental detachment.

As specifically shown, the cut-away ends of the side wings B and B′ are of segmental form, as indicated at H. This permits the swinging of the closure outward at one end with the opposite end acting as a pivot and the center of the segment H. However, this segmental form is not essential to the operation. The side wings B and B′ are further provided with struck-out knobs I adjacent to the top K, which may be snapped by the opposite edges of the aperture F and will tend to hold the closure normally in its closed position.

The structure as above described may be more easily manufactured than the structure of the former patent, and the assembly of the closure with the boxes or cartons is greatly simplified. Thus, in assembling the old structure, the operator, in picking up the closures from a pile, was required to ar-

range each in a definite relation to the aperture in the box. Such manipulation materially increases the time required for the engagement of a closure with the box. On the other hand, with the improved structure both ends are alike, and consequently the work of assembling is expedited.

Aside from the advantages in manufacture, the improved construction has advantages in use. With the old construction, only one end of the closure could be opened, which required the definite arrangement of the box in relation to the receptacle (such as a salt shaker) to be filled therefrom. With the new structure either end may be opened, so that, as shown in Figure 3, the pouring may be effected from the outside of the aperture, or, as shown in Figure 4, from the inside thereof. Again, it sometimes happens that material within the box, such, for instance, as salt, will form lumps, clogging the pouring aperture. If this is the case, both ends can be opened, as shown in Figure 5, and any pointed instrument, as indicated in dotted lines at J, can be inserted to clear the opening.

The provision of the knobs or bosses I is also a distinct advantage, in that the closure is held from accidental opening. Thus the force required to snap the knobs past the edges of the aperture is enough to hold the flat top A normally in contact with the top of the receptacle, but this does not interfere with easily drawing out either end.

What I claim as my invention is:

1. The combination with a receptacle having a pouring aperture therein, of a closure for said aperture having inwardly extending side wings, the opposite ends of said wings being movable transversely of the sides of said aperture to permit either end of the closure to be opened.

2. The combination with a receptacle having a pouring aperture therein, of a closure for said aperture comprising an outer portion of slightly greater length than the aperture, and inwardly extending side wings having portions cut away at opposite ends to less than the length of said outer portion and providing projecting lugs at the inner edges thereof.

3. The combination with a receptacle having a pouring aperture therein, of a closure comprising an outer portion of the width of said aperture and of slightly greater length, and parallel inwardly extending side wings, the opposite ends of said wings having portions cut away to form a portion of a length less than said outer portion and less than the length of said aperture, said wings having at their inner edges projecting lugs forming a portion slightly greater in length than said aperture.

4. The combination with a receptacle having a pouring aperture therein and a closure for said aperture comprising an outer portion of the width of the aperture and slightly greater length, side wings extending inward and a knob or outward projection from said side wings adapted to snap past the edge of the aperture to retain said closure in closed position.

5. The combination with a receptacle having a pouring aperture therein, of a closure for said aperture comprising an outer portion of the width of the aperture and slightly greater length, parallel side wings projecting inward and having similar projections at opposite ends and projecting knobs or bosses on said side wings for cooperating with the edges of said aperture to retain the closure in closed position.

6. A closure for an apertured receptacle formed from a flat blank having a central portion of the width of the aperture and slightly greater length, side portions struck up into planes perpendicular from the central portion, the ends of said side portions having portions cut away with similar projecting lugs at their inner edges, for the purpose described.

7. The combination with a receptacle having a discharge outlet therein, of a closure for said aperture having side wings extending into said aperture, and pivots upon said side wings alternately engageable with the side walls of said aperture whereby an outlet may be provided at either end of said aperture.

In testimony whereof I affix my signature.

W. F. DOWNING, JR.