Nov. 9, 1943. D. N. HALSTEAD 2,333,781

COMBINATION LID, OPENER, AND POURING SPOUT FOR CONTAINERS

Filed Aug. 24, 1939

Fig. 1

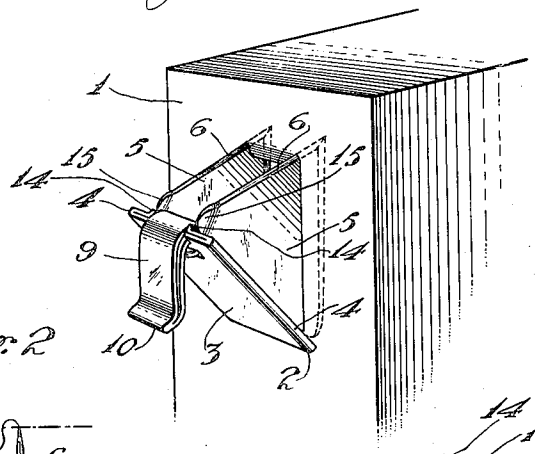


Fig. 2

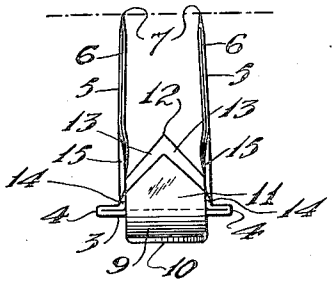


Fig. 3

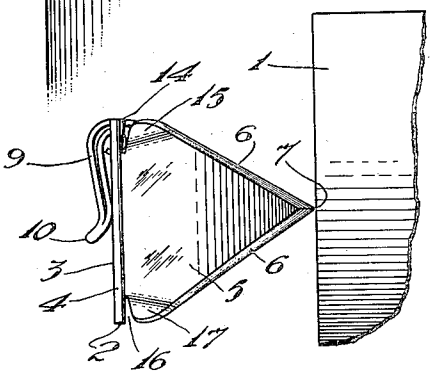


Fig. 4

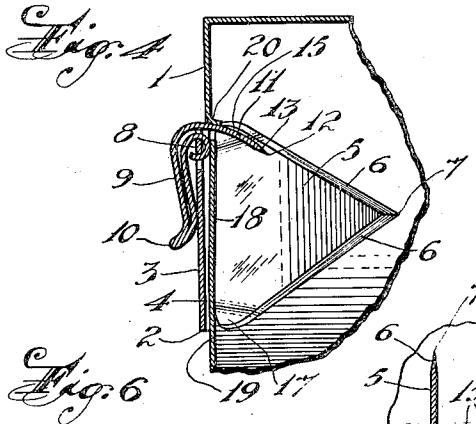


Fig. 5

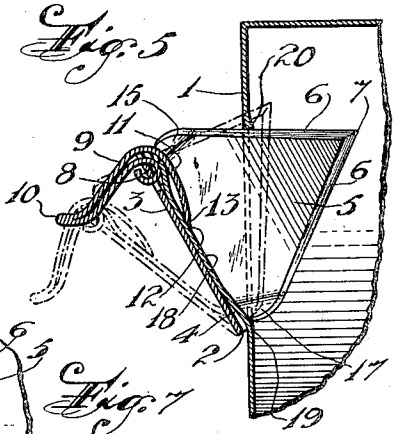


Fig. 6

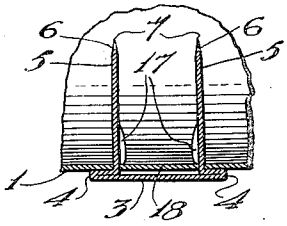
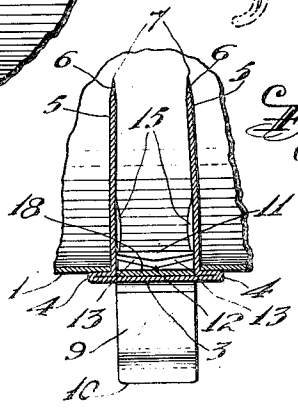


Fig. 7



INVENTOR

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2,333,781

COMBINATION LID, OPENER, AND POURING SPOUT FOR CONTAINERS

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Application August 24, 1939, Serial No. 293,249

11 Claims. (Cl. 221—23)

My invention relates to improvements in a combination lid, opener and pouring spout for containers.

One of the objects of my invention is to provide a device which may be readily attached and detached to containers so that it can be repeatedly reused for opening and closing, and pouring out the contents of containers.

Another object of my improvement is to make a device that will readily cut a form fitting opening in containers upon being pressed against the outside thereof, and automatically anchor itself to a part thereof to provide a hinged lid and pouring spout.

These and other objects and advantages are accomplished by the simple and practical construction and arrangement of parts hereinafter described and illustrated by the accompanying drawing, in which—

Figure 1 is a perspective view of the device applied to the upper part of a container broken away in part;

Figure 2 is a front elevation view of the device;

Figure 3 is side elevation of the device as it is about to be pressed into the side of a container;

Figure 4 is a longitudinal sectional view of the device after being pressed into a container;

Figure 5 is similar to Figure 4, with the operating handle 9 extending outwardly, and the cutting tongue 11 in clamping position;

Figure 6 is a cross sectional view after the device has been inserted in a container, looking towards the rear thereof;

Figure 7 is a similar cross sectional view looking towards the front of the device, showing the tongue 11 locked in clamping position.

Referring to drawing in which like numerals indicate like parts, 1 is a cardboard container of the type generally used for cereals, salt, washing powders and other flaky and granular material which can be poured from an opening in a box.

The opener 2 is made of sheet metal of the type that can be bent or stamped into form, and which can be provided with the necessary penetrating points and cutting edges. The back 3 of the opener is provided with side gauge and sealing flanges 4, and substantially V shaped, side members 5 having penetrating points 7 and side cutting edges 6.

Pivoted on a cross bar or rock shaft 8 on the front end of the back 3 is an operating handle or rock lever 9 with an outwardly extending rear end 10, and an inwardly projecting tongue 11, having a penetrating point 12 and side cutting edges 13.

The side members 5 at the forward portion of the opener adjacent to the side flanges 4 are slotted at 14 and slightly bent inwardly to provide spring friction or engaging ratchets 15, spaced from the back member 3 as clearly disclosed by the drawing, particularly Figs. 3, 4 and 5 for the purpose more fully hereinafter described.

Also, at the rear portion of the opener, the side members 5 are slotted at 16 adjacent to the flanges 4 and bent inwardly to provide locking members 17, spaced from the back member substantially the same as the ratchet members 15 the purpose of which will be more fully hereinafter described.

In operation, the opener with the operating lever 9 lying against the back or base 3 and the tongue 11 extending inwardly as disclosed in Figures 3 and 4, is pressed into the side of a container, preferably by holding with one hand in an upright position with the penetrating points 7 against the container and then pressed inwardly with the thumb of the other hand. Upon pressing inwardly, the penetrating points 7 and cutting edges 6 of the side members 5, and the penetrating point 12 and cutting edges 13 of the tongue 11 will cut through the wall of the container to make a form fitting opening in which the wall of the container is severed on all sides with the exception at the rear portion of the opener, thereby providing a flexible tab or hinging tongue 18, to which the opener at its rear end is automatically locked by the inward bent locking members 17 passing by and engaging the sides and the rear of the tab or for providing contiguous locking or binding engagement with the back of the tongue 18 to positively provide a hinge at 19, and to also prevent the rear end from tilting outwardly upon inwardly or outwardly rocking the opener to either an opened or closed position.

After the opener has been completely pressed inwardly to where the gauging and sealing flanges 4 contact with the outside wall of the container, the position of the parts being as disclosed in Figure 4, the lever or handle 9 is then rocked outwardly and forwardly on its pivot or shaft 8, thereby causing the tongue 11 to rock backwardly and upwardly to clamp the free end of the tab or tongue 18. The lever is held or locked in this position by the inwardly extending spring members 15, frictionally engaging the sides and back of the tongue 11, as disclosed in Figures 5

and 7. In this position, the lever 9 extends outwardly and provides a handle for rocking the opener on its flexible hinge 19, so that it may be opened to a pouring position as disclosed in dotted lines in Figure 5, in which it will be noted that the upper edges of the side members approach the top edge of the opening at 20, to limit the outward rocking movement of the opener. In this position and upon tilting the container to a suitable position. the contents thereof may be poured out, the side members 5 and back 3 with the tab 18 and tongue 11 lying adjacent thereto forming a chute for directing the contents being poured. After the desired amount of contents has been poured out, the container is brought to an upright position and the opener is rocked inwardly on its hinge 19 by the operating handle 9, so that the side sealing flanges 4 and the forwardly curved face of the cutting tongue 11 engage the edges of the opening to provide a form fitting seal proof lid. The outwardly curved portion 10 of the handle 9 enables it to be more readily grasped and operated when the lever engages the back of the opener.

It will be noted that, if the side members 5 slightly converge at their free ends, a slightly undersized opening will be cut, thereby providing a friction binding engagement of the opener with the edges of the opening when it is closed or in adjusted positions; and vice versa if the side members slightly diverge, the opener or lid will be more or less loose fitting in the opening cut into the box as may be desired.

In Figures 1 and 4, it will be seen that the curvature and form of the cutting tongue 11 is such that it cuts the end of the opening slightly inwardly or undersize so that, when the lid is closed, the curved portion of the tongue slightly bends the end portion of the wall inwardly to provide a snug engagement. This, along with the side flanges 4, make the lid substantially sealproof when closed.

To disengage the lid from the container when it has been emptied for use in another container, the lever 9 is pushed into contact with the back of the lid 3, thereby rocking it on its shaft 8 along with the binding tongue 11 to unclamp the latter from the end of the tab 18, and then with the lid in an open position, same as when pouring, the lid may be readily pulled or stripped from the tab. The spring ratchet members 15 are so shaped that they operatively hold tongue 11 in clamping position and the lever outwardly extended, but upon firmly pressing the lever towards the back 3 the tongue 11 snaps by the ratchets to disengage it from the tab.

The opener has been disclosed in use with cardboard containers; however, it may be used in connection with semi-stiff paper and any other type of containers which can be pierced and cut by the cutting edges.

It will also be noted that in the preferred form the shape of the back of the lid and arrangement of the parts and cutting edges thereon cut a substantially rectangular shaped opening upon being pressed into a container, however the size and shape of the opener, and the structure, arrangement and form of the parts and cutting edges thereon may be varied to provide a suitable opener, which may cut a square or any other desired forms and sizes of openings without departing from the scope of my invention.

When the lid is fully opened, the upper or forward cutting edges of the side members 5, near their penetrating points, will engage the upper edge of the opening to limit the outward rocking movement of the opener. In this position, the lower or rear cutting edges of the side members will be approximately flush with the inner edge of th opening, thereby allowing the contents of the container, when tilted to a suitable angle, to more or less freely run out of the opening into the directing or pouring spout arrangement.

What I claim as new and desire to protect by Letters Patent is:

1. In a combination lid and pouring device for containers, a lid, pointed side members spaced apart with cutting edges on said lid, and a pointed end member with cutting edges on said lid, whereby a form fitting opening and tab are cut when said lid is pressed against the side of a container, said pointed end member being rockably supported on said lid, and having an operating handle to rock the said pointed end to clamp the free end of the tab to the back of the lid.

2. In a combination lid and pouring device for containers, a lid, pointed side members with cutting edges on said lid, and a pointed member with cutting side edges on the end of said lid, whereby a form fitting opening and tab are cut when the lid is pressed against the side of a container, said pointed end member being rockably supported on said lid, and having a handle whereby said pointed end member may be rocked to clamp the free end of the tab, and inwardly extending members at the other end of the lid for engaging the base of the tab.

3. A lid opener for containers, comprising a back member having side and end members adapted to cut a tab and a form fitting opening in the side of a container for the lid to engage in, said side members having inclined slots and bent in portions adjacent to the back member for locking the said tab to the lid.

4. In a combination lid opener and pouring spout device for containers comprising a back member having side cutting members and an end cutting member whereby a tab and a form fitting opening are cut when the device is pressed against the side of a container, a pivot on said back member pivotally supporting said end member whereby it can be rocked to clamp the end of the tab, and means on said side cutting members for releasably holding the pivoted end member in clamped position.

5. In a combination lid opener and pouring spout device for containers comprising a back member having side cutting members and an end cutting member whereby a tab and a form fitting opening are cut when the device is pressed against the side of a container, a pivot on said back member pivotally supporting said end member whereby it can be rocked to clamp the end of the tab, and inwardly extending members on said side cutting members for engaging said pivoted end member for releasably holding it in clamping position.

6. In a combination lid opener and pouring spout device for containers comprising a back member having side cutting members and an end cutting member whereby a tab and a form fitting opening are cut when the device is pressed against the side of a container, a pivot on said back member pivotally supporting said end member whereby it can be rocked to clamp the end of said tab, inwardly extending members on said side cutting members for releasably engaging the pivoted end member for holding it in clamped

position, and inwardly extending members on the side cutting members for releasably engaging the tab whereby the device can be readily attached to the tab to provide a hinge and be readily detached from the container for reuse.

7. In a combination lid opener and pouring spout device for containers comprising a back member, cutting blades on said back member for cutting a tab and form fitting opening for the said device to frictionally engage in when it is pressed against the side of a container, anchoring means on said cutting blades adjacent to said back member for contiguously engaging the back of said tab for releasably binding it to the device when it is pressed against the side of the container to provide a hinge for the device to rock on.

8. In a combination lid opener and pouring spout device for containers comprising a back member having side cutting members and an end cutting member for cutting a tab and a form fitting opening for said spout device to frictionally engage in when it is pressed against the side of a container, and anchoring means for releasably binding said tab to the device when it is pressed against the side of a container to provide a hinge for the device to rock on the container, said anchoring means comprising inwardly extending members on said side cutting members adjacent to said back member for contiguously engaging the back of said tab.

9. A combination box opener and pouring spout comprising two substantially parallel cutting blades insertable simultaneously through the wall of a box to cut spaced slots therein, a base connecting said blades, and a transversely-extending pointed blade hingedly mounted at one end of said base and operable to cut in said box wall a slot joining said spaced slots adjacent one end thereof, said last-named blade being swingable to entrap between itself and said base the tongue formed by said spaced slots and joining transverse slot, and means engageable with said last-named blade, when swung into juxtaposition to said base, to hold the same against return movement.

10. In a combination box opener, lid and pouring spout device comprising two spaced cutting blades penetratable through the wall of a box to cut spaced slots, and a base joining said blades, said base being slotted at the end, and a movable cutting blade connected to said slotted end for cutting a slot in said box wall transverse to said first mentioned slots and adjacent one end thereof to provide a hinging tab and a freely flowing form fitting opening for said spout device to engage in.

11. In a combination lid opener and pouring spout device for containers comprising a base member having two spaced cutting blades insertable through the wall of a container to cut spaced slots, a cutting blade at the end of said base member for cutting a slot transverse to said spaced slots adjacent one end thereof to provide a hinging tab and a freely flowing form fitting opening for said spout device to rock and engage in, said spaced cutting blades having inwardly extending locking portions adjacent the ends of the base portions thereof, said inwardly extending portions being spaced from the said base member to hold said tab against the base.

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