Jan. 6, 1959 C. J. STREETER ET AL 2,867,019

DEVICE FOR HOLDING DOWN FLAPS OF CARDBOARD BOXES

Filed March 5, 1956

Fig. 1.

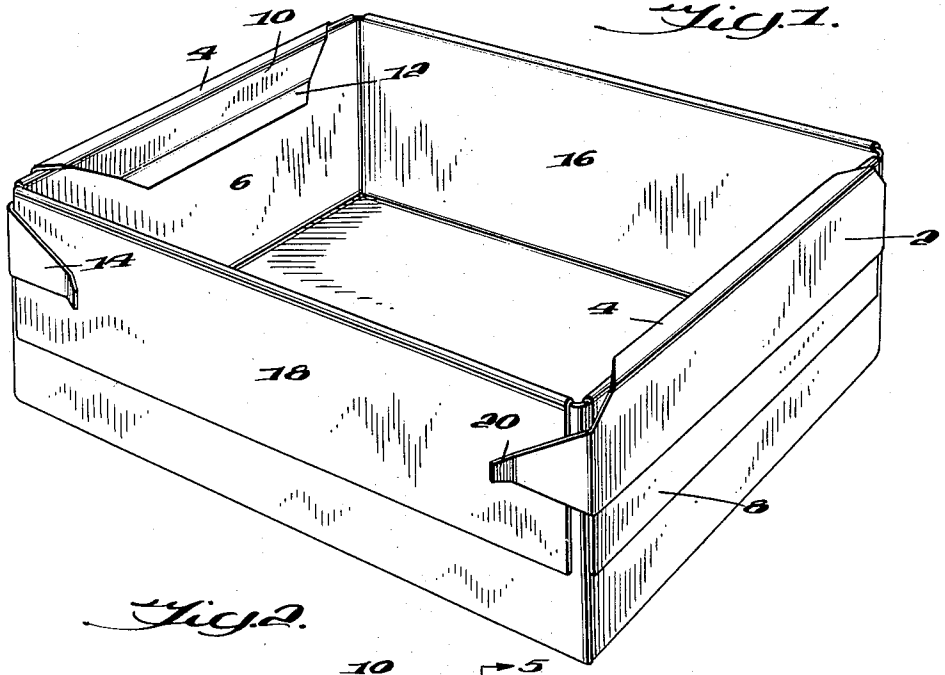


Fig. 2.

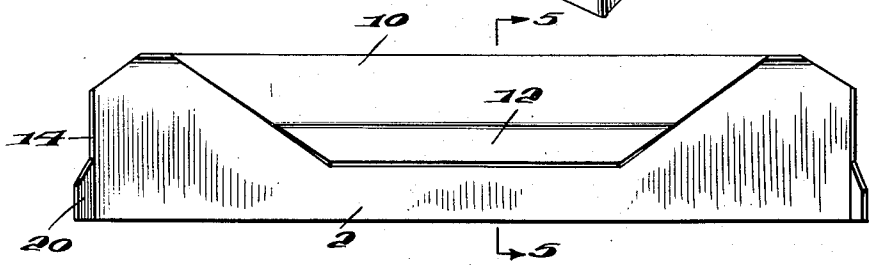


Fig. 3.

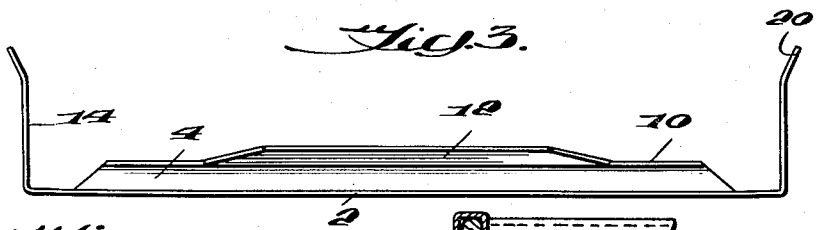


Fig. 4.

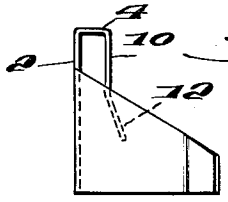
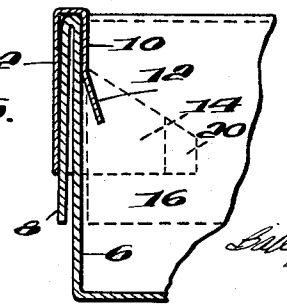


Fig. 5.



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DEVICE FOR HOLDING DOWN FLAPS OF CARDBOARD BOXES

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3 Claims. (Cl. 24—81)

The invention relates to a device for holding down the flaps of cardboard boxes.

Cardboard boxes, such as beer cases, can be used over and over if they are handled with reasonable care in opening, unloading and reloading them. However, the tendency of the flaps which form the cover of the box, of which there are ordinarily one on each wall, to flap back into position or to project into the space around the box cause the ordinary user to prefer to tear off these flaps rather than to be required to hold them down or push them out of the way.

The primary object of the present invention is to furnish a device which can be used to hold down the flaps of such boxes, thereby making it easier to unload and reload them and encouraging their reuse.

Another object of the invention is to provide a device of this type which is formed of a single piece of sheet material, such as sheet metal, and is therefore inexpensive and easy to manufacture.

A further object of the invention is to provide a device of this type which is easy to apply and remove, so that it can be used by relatively unskilled help.

The device is designed to hold down one flap of a box along its whole length and the two adjoining flaps at their corners nearest the first flap. By using two of the devices at opposite ends of the box, all four flaps will be held down.

Further objects and advantages of the invention will appear more fully from the following description, especially when taken in conjunction with the accompanying drawings which form a part thereof.

In the drawings:

Fig. 1 shows in perspective an opened box with two of the devices applied thereto;

Fig. 2 is a front view of one of the devices.

Fig. 3 is a bottom view;

Fig. 4 is an end view of the device; and

Fig. 5 is cross-section on the line 5—5 of Fig. 2 with the box inserted therein.

The device according to the invention includes a flat elongated main portion 2 which is, in use, arranged in a vertical plane. From the central part of the top edge of part 2 extends a part 4 of somewhat less length, and of a width substantially equal to or slightly greater than the combined thickness of the wall 6 and flap 8 of the box on which the device is to be used. At the free edge of part 4 is a depending part 10 parallel to part 2, and the lower edge portion 12 of this part is bent outward, or away from part 2, so as to assist in guiding the device into position on the box. Parts 10 and 12 are of downwardly tapering shape.

At each end of part 2 are inwardly turned flap engaging parts 14, these being bent in the same direction as part 4 but lying in planes at right angles thereto. These parts are longer than part 4, so that they will overlie the flaps 18 of side walls 16 of the box when such flaps are bent downwardly against the side walls. Part 2 is sufficiently longer than wall 6 to permit such engagement. The outer end portions 20 of parts 14 are bent outward to aid in guiding the device into engagement with the box flaps. Part 14 extends downward below the lower edge of part 12, and its upper edge may be downwardly sloped.

Fig. 1 shows two of these devices in use on a box, one at either end, holding down the end and side flaps.

In applying the device to a box, the flaps are first released and turned downwardly. The the device is moved downwardly into position opposite the top of one end wall of the box, with the lower edge of part 12 slightly above the plane of the top edge of the end wall 6. The device is pushed inwardly, with parts 20 and then 14 engaging the side flaps 16, until part 2 abuts against the flap 8. The device is then pushed downward and readily slides into the holding position shown in the drawings.

The arrangement can be removed from the box by a mere upward movement.

The structure can be made from a single piece of sheet metal or plastic bent to shape, or may be cast of some metal such as aluminum or some plastic material, or can be made of wood or some combination of materials.

While we have described herein one embodiment of our invention, we wish it to be understood that we do not intend to limit ourselves thereby, except within the scope of the claims hereto or hereinafter appended.

We claim:

1. A device for holding down three flaps of a cardboard box or the like comprising an elongated flat member having a length slightly greater than one side of the box, a first part extending from the top edge of the member centrally thereof at right angles thereto and a second part extending from the first part at right angles thereto in a plane parallel with the plane of said member and forming therewith a downwardly open groove of a width substantially equal to the combined thickness of the box side wall and one of the cover flaps, and portions extending from either end of said member in the same direction as said first part and in planes perpendicular to the plane thereof for engaging the flaps on the sides of the box, said portions being substantially shorter than said flat member and terminating in free ends, all parts of said portions being at least as far apart from each other as the width of said second part and said portions extending further from the flat member than said first and second parts.

2. A device as claimed in claim 1 having outwardly bent extensions on said second part and said portions to guide the device into position on a box.

3. A device as claimed in claim 1 formed of a single piece of sheet material.

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