Aug. 9, 1966 S. L. MAXWELL 3,265,282

BOX CLOSURE

Filed Aug. 3, 1964

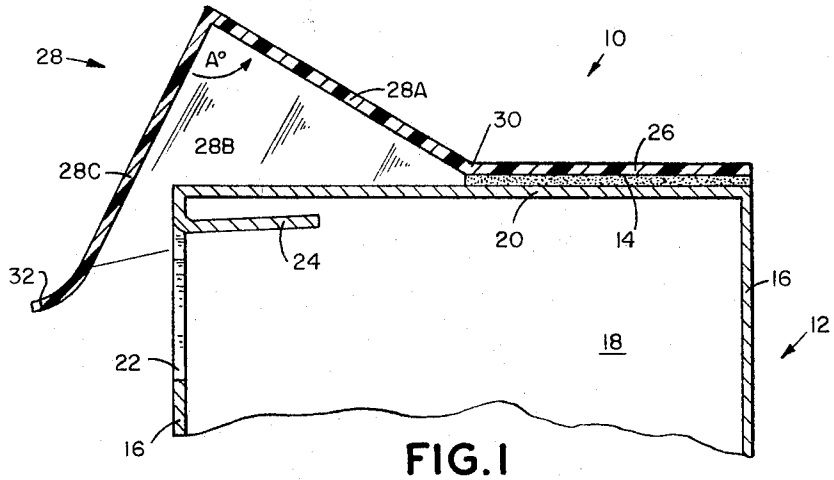


FIG. 1

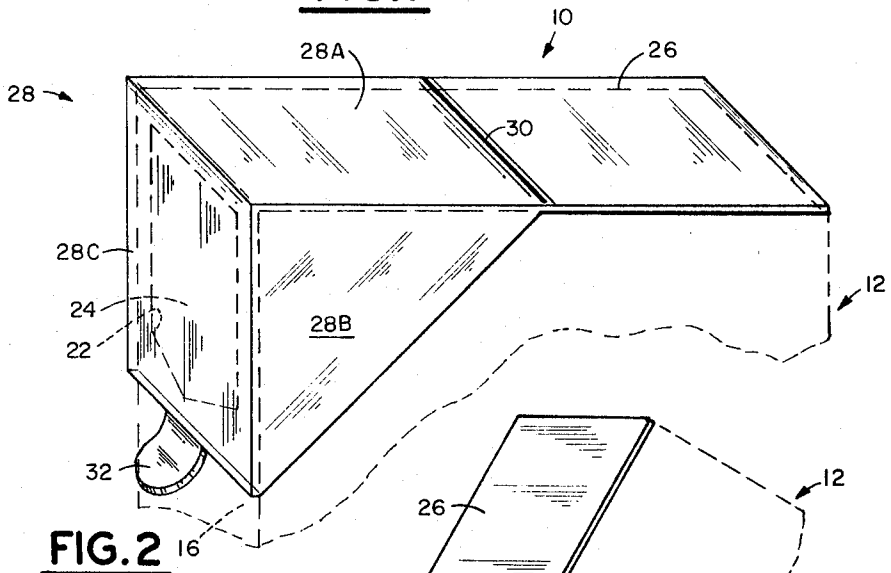


FIG. 2

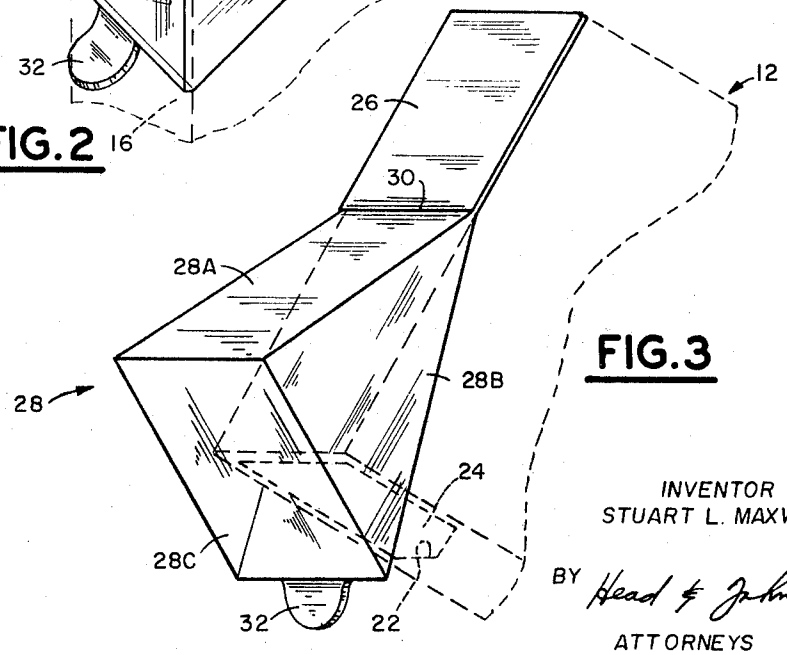


FIG. 3

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BOX CLOSURE

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1 Claim. (Cl. 229—7)

This invention relates to a box closure. More particularly, the invention relates to a box having closure means. Still more particularly, the invention relates to a box including means for closing an opening in the side thereof and more particularly yet the invention pertains to an invention of the combination of a box, such as a pasteboard box, having either an opening or means for forming an opening in one side near the top thereof, with a closure means affixed to the top of the box whereby the opening may be sealably closed.

Many types of boxes, particularly cardboard boxes and especially boxes of the type containing containing cereal, soap and so forth, are provided with means of forming an opening in the side of the box near the top so that the contents of the box may be poured out. Usually such boxes are rectangular in cross section and have a punched outline of an opening near the top in one of the narrow sides. The user, in order to discharge the contents of the box, by thumb pressure or the like, pushes out the opening which forces a hinged tab to the interior of the box forming an opening so that the contents may be discharged from the box by tilting the box in the direction of the opening.

While this type of means of providing an opening in a box is completely satisfactory in many respects, one of the difficulties is that after the openings is punched out there is no means of subsequently sealing the box. The contents of a box exposed to free air circulation deteriorate faster. Having open boxes on hand is especially serious when such type of boxes are used for cereal or other edible contents. Typically a cereal box, as utilized by most families, is opened when first used and may be kept in a kitchen cabinet for several weeks before the total contents are utilized. During this time the box, being open, is exposed to infestation by a variety of insects, and even rodents.

It is therefore an object of this invention to provide an improved closure means for a box. More particularly, it is an object of this invention to provide a box having a closure means for closing an opening in one of the upper sides thereof.

Another object of this invention is to provide a box and a closure means for closing an opening in one of the sides thereof in a manner such that the opening is easily and completely sealably closed to preserve the quality of the contents and prevent the entrance into the interior of the box of insects, rodents or the like.

Another object of this invention is to provide a box including a closure means affixed to the top thereof of elastic plastic material or the like to close an opening in the side of the box in a manner such that the freshness of the contents is preserved and the entrance of insects or rodents in the box is prevented.

These and other objects will be fulfilled and a better understanding of the invention will be had by referring to the following description and claim, taken in conjunction with the attached drawings in which:

FIGURE 1 is a cross-sectional view of the closure means of this invention affixed to a box, the closure means being shown in the open position.

FIGURE 2 is an isometric external view of the closure means of this invention affixed to a box as the closure means is in the closed position.

FIGURE 3 is an isometric view of the closure means of this invention in the open position as the box is tilted for discharge of contents therefrom.

This invention may be described as a closure means for a box. More particularly, but not by way of limitation, the invention may be described as a combination of

(1) a box having a rectangular top and means forming an opening in one of the narrow sides adjacent to the top, and

(2) a unitary closure member for the opening, the closure member being of flexible elastic plastic material, the closure means having

(a) a flat portion substantially of the width of the box top affixed to the box top such as by adhesive in the area of the box top opposite the side of the box having the opening therein, and

(b) a four sided closure portion having

(1) a top portion of width equal to the box top, the top portion being integral with the flat portion, the juncture of the top portion and the flat portion serving as a hinge,

(2) opposed triangular side portions and

(3) an end portion, the four sides conforming to the top corner of the box when the closure member is in closed position, the end portion completely covering the opening in the box.

Referring now to the drawings and first to FIGURE 1, the closure member, generally indicated by the numeral 10, is affixed to the top of a box, generally indicated by the numeral 12. The closure member 10 is preferably of plastic material and is so shown in cross section. The material of which the closure member 10 is preferably constructed is any type of thin flexible material having a degree of elasticity. The closure member 10 is shown affixed to box 12 by means of a coating of adhesive 14, shown in cross section. The adhesive 14 is somewhat exaggerated in thickness for purposes of clarity.

The box 12 is of the typical type of paper or cardboard box in which many products for commercial and domestic consumption are packaged and distributed. The box 12 is typically of cardboard and is rectangular in cross section having opposing sides 16 which are narrower than the corresponding opposite sides 18. The top 20 of the box is normally closed.

Provided in one of the narrow sides 16 adjacent to top 20 is a means for providing an opening 22 in the box so that the contents may be discharged. The most typical means of providing such opening 22 is to provide a notched outline in the box so that the purchaser, upon first use, may punch out a portion of the box to form a hinged portion 24. In the usual arrangement the opening 22 remains open and thereby permits the entrance into the box of the free circulation of air, insects and even rodents. This invention provides means of sealably closing the opening 22 when the box is not in use.

The closure member 10 includes a flat portion 26 substantially of the width of the box and affixed to the top 20 of the box, such as by means of adhesive 14, in the area of the box top opposite the side of the box having the opening 22 therein. The other basic portion of the unitary closure member includes a four sided closure portion generally indicated by the numeral 28. The four sided closure portion 28 includes a top portion 28A of width equal to the box top, the top portion 28A being integral with the flat portion 26. The juncture of the top portion 28A with the flat portion 26 forms a hinge 30. The other portions of the four sided closure portion 28 include opposed triangular side portions 28B (only one of which is shown in the cross-sectional view of FIGURE 1), and an end portion 28C. The four sided closure portion 28, when the member is in closed position, conforms to the top corner of the box 12 in such a way that the end portion 28C sealably covers the opening 22 in the box.

Referring now to FIGURE 2, the closure member **10** is shown in closed position about the box **12** which is shown in dotted outline. In this view the flap **24** of the box **12** is shown in the position as it appears when the box is sold to the ultimate consumer and before the hinged portion **24** has been forced into the box to form the opening **22**. FIGURE 2 shows the closure member as it would appear when the box having this invention affixed thereto is received by the purchaser. By this invention the opening **22** in the box is closed in two ways, that is by the hinged portion **24** and by the closure member **10**.

Referring to FIGURE 3, the box with the closure member is shown as in use. In this view the four sided closure portion **28** has been raised exposing the flap portion **24**. The flap portion **24** has been punched out exposing the opening **22**. The box **12** is shown in a tilted position as the contents therein would be discharged through opening **22**. After the required contents are discharged, the box is set uprightly and the four sided closure portion **28** is pulled back down onto the box to close the opening **22**.

As shown in all the views integrally affixed to the end portion **28C** is a tab **32** which provides easy means of raising and lowering the four sided closure portion **28**.

In the preferred embodiment the four sided closure portion **28** is so formed that in the open position the angle between the top portion **28A** and the end portion **28C**, indicated by the letter A in FIGURE 1, is less than 90°. That is, the opposing triangular portions **28B** are so formed that in the open position they contract the end portion **28C** but, due to the elasticity of the material composing the closure member **10**, when the four sided closure portion **28** is pulled down onto the box **12** the elasticity thereof permits the closure member to stretch in such a way that the end portion **28C** is pulled into sealing engagement with the box **12** to sealably close the opening **22**.

It is acknowledged that others have provided various closure means for closing openings in boxes. The distinguishing characteristic of this invention is the provision of means whereby the opening is sealably closed achieved by the combination of the configuration of the closure member formed of a material having a degree of elasticity. Without such elasticity and the configuration wherein the normal angle between the top portion **28A** and the end portion **28C** is less than 90° the opening **12** of the box will not be sealed.

While this invention has been described with a certain degree of particularity, it is manifest that many changes may be made in the details of construction and the arrangement of components without departing from the spirit and scope of this disclosure.

What is claimed is:

The combination of

(1) a box having a rectangular top and means forming an opening in one of the narrow sides adjacent the top; and

(2) a unitary closure member, the closure member being of flexible elastic plastic material, the closure member defined by

(a) a flat portion substantially of the width of the box top affixed to the box top such as by an adhesive in the area of the box top opposite the side of the box having the opening therein, and

(b) a four sided closure portion having

(1) a top portion of width equal to the box top, the top portion being integral with the flat portion, the juncture of the top portion and the flat portion serving as a hinge, and

(2) opposed triangular side portions,

(3) an end portion, the four sides conforming to the top corner of the box when in closed position, the end portion completely and sealably covering the opening in the box,

(4) the triangular side portions are normally of dimension wherein the angle formed between the top portion and the end portion is less than 90°, and

(5) a finger flap portion integrally affixed to the end portion at the lower edge thereof.

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