

Feb. 20, 1934.

H. V. MARSH

1,947,865

BOX

Filed May 14, 1932

2 Sheets-Sheet 1

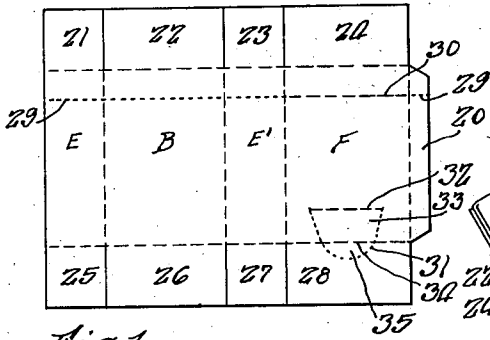


Fig. 1

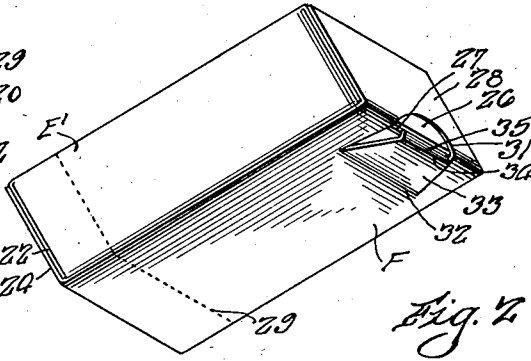


Fig. 2

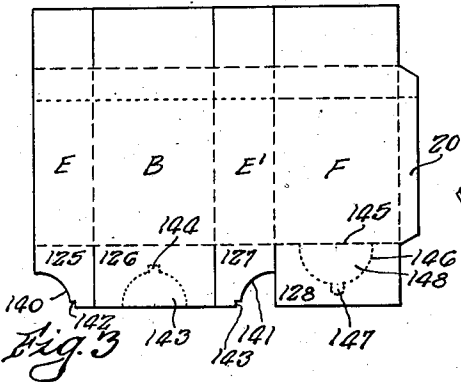


Fig. 3

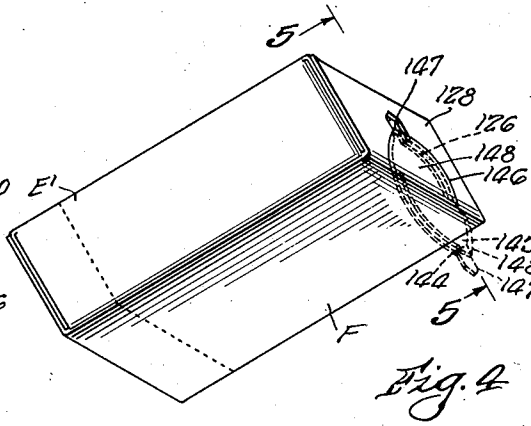


Fig. 4

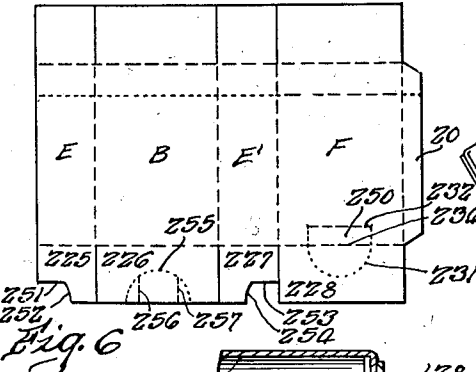


Fig. 6

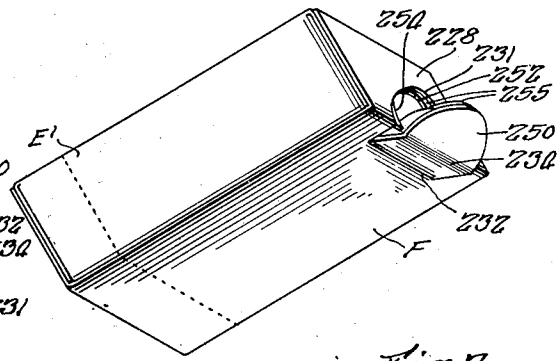


Fig. 7

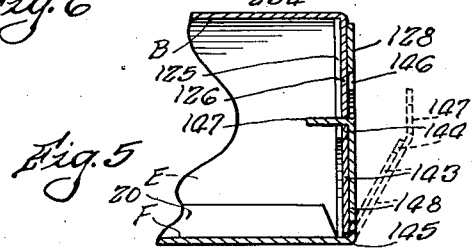


Fig. 5

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1,947,865

BOX

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2 Sheets-Sheet 2

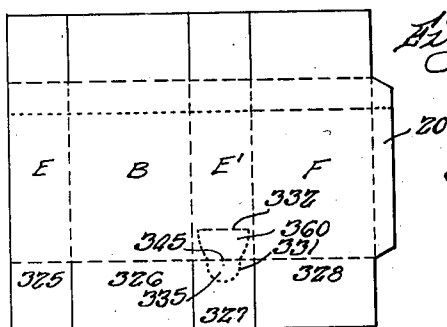


Fig. 8

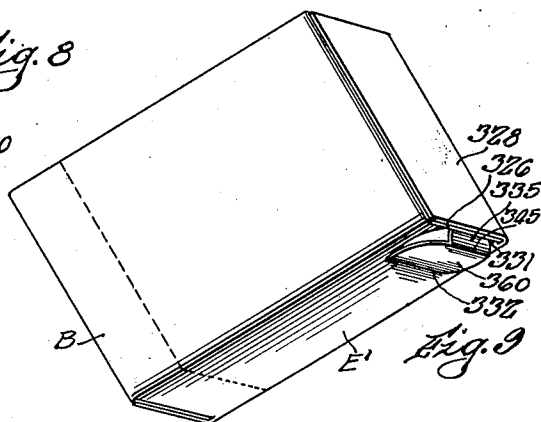


Fig. 9

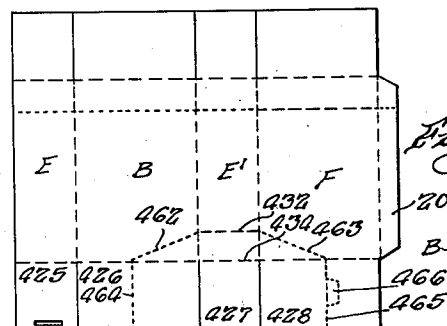


Fig. 10

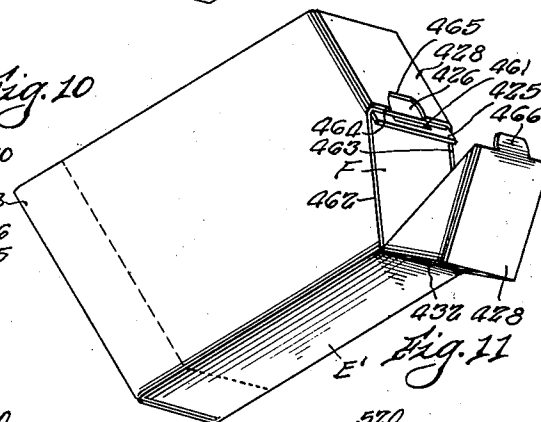


Fig. 11

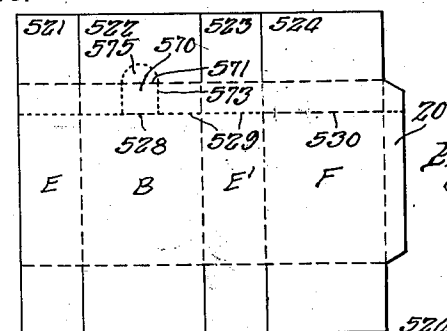


Fig. 12

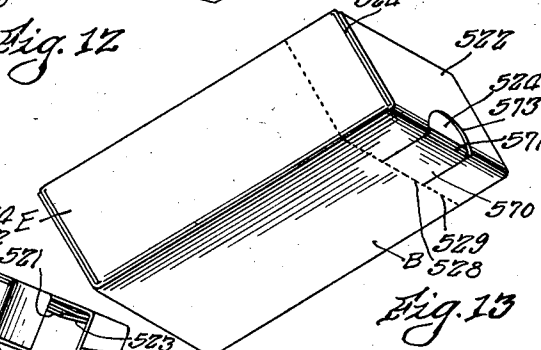


Fig. 13

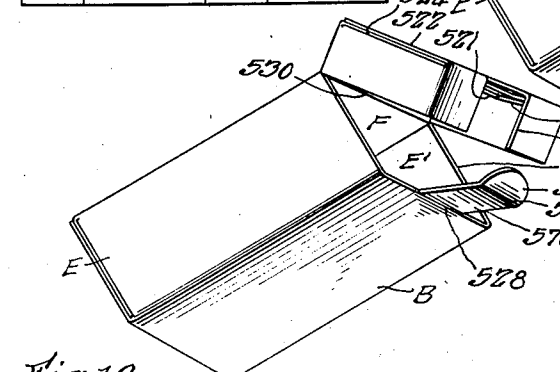


Fig. 14

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UNITED STATES PATENT OFFICE

1,947,865

BOX

Harry V. Marsh, Chicago, Ill.

Application May 14, 1932. Serial No. 611,300

3 Claims. (Cl. 229-17)

The present invention relates to cartons, paper boxes, or the like and has to do particularly with the formation of a closeable opening therein. Such device includes means for forming an opening into the box, and means for replacing the portion of the box displaced to provide access thereto. In addition, a means for holding the replaced portion in its original position is provided.

The invention may take several forms as is disclosed in the accompanying two sheets of drawings, hereby made a part of this application. Included in the objects of the invention are the following:

New and improved blanks for forming boxes, the blanks without added area or irregular shape providing means for the formation of a closeable aperture in a container, the closure part comprising a hinged section.

A new and improved form of box having a section readily detachable from the remainder along certain edges to provide an opening into the container in combination with means for maintaining the removable part in its original assembly position when the opening is not in use.

A new and unique manner of forming an opening in the containers and other packages.

A box and a blank therefor and in which access to the interior of the box may be had in several ways.

A box having a closeable pouring or other opening and which may be formed of a blank of the usual configuration without added assembly operations.

These objects and such other objects as may hereinafter appear, are obtained by the novel construction, unique arrangement, and improved construction of the several elements which are used to provide the several embodiments of the invention illustrated in the said accompanying drawings, and in which:

Figure 1 is a plan view of a blank from which one box embodying the invention may be produced;

Figure 2 is a perspective view of a box produced from the blank shown in Figure 1;

Figure 3 is a plan view of a blank for producing a second form of box embodying the invention;

Figure 4 is a perspective view of a box formed from the blank illustrated in Figure 2;

Figure 5 is a transverse section taken on the line 5-5 of Figure 4;

Figure 6 is a plan view of a blank for form-

ing a third form of box embodying the subject matter of the invention;

Figure 7 is a perspective view of a box formed from the blank illustrated in Figure 6;

Figure 8 is a plan view of a blank used for forming a fourth form of the invention;

Figure 9 is a perspective view of a box formed from the blank illustrated in Figure 8;

Figure 10 is a plan view of a blank for forming a fifth embodiment of the invention;

Figure 11 is a perspective view of a box formed from a blank like that shown in Figure 10;

Figure 12 is a plan view of a blank from which a sixth embodiment of the invention may be produced;

Figure 13 is a perspective view of a box produced from the blank shown in Figure 12 with the lid or cover in closed position; and

Figure 14 is a similar view of the box shown in Figure 13 but with the lid open.

Like reference characters are used to designate similar parts in the drawings and in the description of the invention which follows.

The general form of the blank in each of the several forms of the invention is substantially the same. Such general form is the characteristic form of all types of simple boxes. The blank comprises a main body having series of scores, one series being at right angles to another. The blank has at one end a lip extension to receive adhesive for the purpose of holding the assembled box in folded longitudinal arrangement.

There are, in each of the blanks, two main sections or sides, F and B, i. e., the front and back. Two ends, E and E' are provided. The heretofore mentioned lip 20 projects from the section designated F. Said sides F and B and said ends E and E' at their tops and bottoms have generally rectangular extensions, 21, 22, 23, 24, 25, 26, 27 and 28. Adjacent the score line which separates the extensions 21, 22, 23 and 24 from the sections E, B and E' and F respectively is shown a perforation 29 which extends into the material of sections E, B, E', and 21. Across section F in alignment with perforation 29 is a shallow or hinge-forming score 30. Score 30 and perforation 29 may be omitted in all forms of the invention except that shown in Figures 12, 13 and 14.

The score 30 across side F is suitable for providing a hinge effect between the part of the material above and the material below the score line 30 while the perforations 29 readily admit separation of the portions on opposite sides of said perforations 29, by a slight pull or push, or by the use of the thumb nail or of some sharp in-

strument. When the line 29 is broken, the container is divided into two sections held together by section F, the two sections being hinged at 30. Ready access to the interior is thus obtainable.

It will be noted that the extensions 25, 26, 27 and 28 upon the front, back and sides are of the full width of the top, bottom, and sides respectively. The reason for such an arrangement shortly will be made manifest. The dimensions of the blanks are such that the extensions 25 and 27 when turned inwardly to form a lamination at either the top or the bottom of the box overlap.

In one of the sections, top, front, back, or side, or in two or more sections angularly related, there is provided a tongue, cover, or detachable section. Such tongue, cover, or detachable section, is obtained by perforating the material of the blank to form three sides or edges thereof, which sides or edges may be curved, and by lightly scoring a straight or fourth side. The tongue is formed by breaking the perforated line and thus is made to depend from the body of the box at the shallow score.

In Figure 1, the perforate line is indicated 31 and the light score 32. It will be noted that the tongue 33 thus formed has across its body a light score 34 which coincides with or is actually the score 30 for separating the side F from the adjacent extension 28.

When a box is formed from the blank disclosed in Figure 1, the end extensions 25 and 27 are placed innermost to form the first of three laminations comprising the top (or bottom) of the box. Overlapping sections 25 and 27 is the extension 26 which is free from perforations. The outside lamination comprises the extension 28 from which the tongue in part is separated.

Such a box may be made to open at either end. If a whole end is to be lifted, it is opened by the finger nail or some sharp instrumentality which is adapted to break the material along the perforate score 29 upon three faces of the box whereupon the one section of the box may be separated from the other section of the box on three sides. The separated section hinges upon the light score 30 heretofore described.

At the other end of the box, there is the tongue 33 which may be separated from the box material by the use of the thumb nail or some sharp instrumentality or by pull or pressure, the shape of the tongue following the perforations 31. Such tongue 33 then is hinged upon the score 32 and when held back provides an aperture or opening through which the contents of the box may be poured.

When it is desired to close the aperture just referred to, the upper section 35 of the tongue 33, that is, the section above the score 34, instead of being replaced in its original position, is inserted between the extension 26 forming one lamination and the two overlapping end extensions 25 and 27 forming another lamination, sections of which have been printed with glue-resisting ink or otherwise treated to prevent the adhesive covering the surface. In this manner, the tongue 33 is adapted to be held in a closed position sealing the package. The container is ready for further use when required, such further use entailing the pulling of the tongue 33 from the position last described, pouring additional contents from the box, and replacing the upper section 35 of the tongue 33 between the two laminations as set forth.

The form of the invention illustrated in Figures 3 and 4 resembles that disclosed in Figures 1 and 2 in respect to all parts except the position of the tongue and the means for holding it in replaced position.

As is shown in Figure 3, the end extensions 125 and 127 have arcuate corner sections, each of the arcuate peripheries 140 and 141 terminating in rectangularly shaped cut-out sections 142 and 143 adjacent the outer edge of the blank. The two arcuate cut-out sections 140 and 141 are opposed and complementary so that when the box is folded, a small portion of the extensions 125 and 127 overlap, leaving a semi-circular opening with a short rectangular central transverse extension.

The extension 126 has a semi-circular perforate section 142. There is a tangentially arranged lip or tongue 144 within the area defined by the perforations. Said semi-circular section 143 is of less area than the semi-circular opening which is provided between the two end extensions 125 and 127.

Extension 128 has therein extending from the score fold line 145 dividing it from the front F a perforate semi-circular line 146 with a tab 147 projecting therefrom, such projecting tongue section 146 being complementary to but larger than part 143.

The blank shown in Figure 3 is assembled in the customary manner and adhesive applied between the several extensions. When this has been done, the box produced may be opened at one end by making a hinged closure or tongue. This closure and engagement is illustrated in Figure 5. The closure or tongue may be opened by running a sharp instrument along the curved perforate line 146 and tab section 147. As soon as the tongue section 146 is freed, the closure portion may be lifted from the box end and caused to hinge on the score line 145, the section 143 adhering to the section 148 defined by line 146 to provide a cover of two thicknesses.

Said cover of this type may not be projected into the interior of the box because of the flange which is produced by making section 143 smaller than section 148. For locking closure 148 into position, the tongue 147 may be turned inwardly of the box to engage the material in the rectangular opening 144. Frictional engagement thus obtained is generally sufficient to hold the box cover 148 against accidental displacement.

The form of the invention illustrated in Figures 6 and 7 differs from the previously described forms of the invention in the position and character of the hinged tongue. A hinged tongue 250 is disposed in side F of the member and extends into extension 228, portions thereof being on both sides of the score line 234 separating the side F from the end extension 228 depending therefrom. As in the previous forms of the invention, a score 232 is arranged for producing a hinge defining one edge of the tongue while a perforate line 231 is arranged to provide for the ready detachment of the tongue upon all edges except the hinged edge 232.

Each of the extensions 225 and 277 has complementary portions removed whereby a part of each is adapted to overlap with an opening narrower than the width of the tongue provided by the combined arcuate and straight edges 251 and 252 in one extension and 253 and 254 in the other. The extension 226 has as a part thereof projecting from the outer edge thereof a semi-circular perforation 255 which is readily broken

and parallel fold scores 256 and 257 normal to the outer edge of extension 226. The extensions 225, 226, 227 and 228 are laid one over the other with the two extensions 225 and 227 innermost, the extension 277 next thereabove, and the extension 228 outermost.

When the device is to be opened for the first time, the finger nail or any other sharp instrumentality is employed to break the score line 231 in the outer sheet 228. As tongue 250 is lifted, a break occurs in the semicircular perforation 255 in the extension 226. Thus a cover of two thicknesses of material is provided. When it is desired to replace the tongue 250, it is usual to turn the material between the scores 256 and 257 and the perforation 255 normal to the tongue 250 so that it may engage the edges 251 and 253 of the sections 225 and 227 to produce a frictional engagement to thus maintain the closure 250 in position.

In this form of the invention as in other forms herein described, it is to be noted that adhesive is to be applied wholly over the extensions forming the top (or bottom) of the box except where the adhesion of two contiguous surfaces would interfere with the manipulations described in which event spots free from adhesive are provided in the conventional manner.

The form of the invention shown in Figures 8 and 9 has the general configuration of the previously described forms of the invention. A tongue 360 is disposed in side E' and projects into extension 327. A score 332 is provided in side E' for hingedly holding the tongue 360 which may be readily detached because of the perforations 331 which define the shape and area of the tongue and which are readily broken.

In the assembly of the box shown in Figure 9, the same order which has been previously described is followed, the extensions 325 and 327 being placed innermost, extension 326 thereover, and extension 328 on the outside. In such position, the tongue 360, when separated by breaking perforations 331 is protected against accidental release because of its insertion beneath sections 326 and 328. It is necessary to use a nail or some sharp instrumentality or pressure to break a portion of the perforate line 331 to separate the tongue 360 from sections 327 and E', after which a pull will cause the entire tongue, except across the hinging score 332, to become free. The aperture opened by the tongue 360 is wholly in one side of the box and the tongue 360, which has a score 345 thereacross parallel to the hinge score 332, is replaceable beneath the two top laminations 326 and 328 of the box as often as is desired to be frictionally held in position by engagement of the short top section 335 of the tongue 360 to the under side of the lamination 326.

The form of the invention shown in Figures 10 and 11 provides a larger opening than the previously described forms. The cover forming sections are partly in the top and partly upon three side sections of the container. Extension 425 is provided adjacent its edge with a narrow slit 461. The section E' has a hinging score 432 thereacross. From the ends of the hinging score 432 and projecting in complementary opposed relationship are oblique line perforations 462 and 463. At the intersection of such perforations with the fold line 434 between the body and the extensions of the blank, the straight line perforations 464 normal to the edge of section 426 are

provided. In extension 428 a similar perforation 465, but providing a lip 466, is employed.

The box shown in Figure 11 is produced in the blank shown in Figure 10 in the usual manner, i. e., with the extensions 425 and 427 innermost, the extension 426 with the straight line perforation 464 therein thereover, and the side extension with the lip-forming perforation 465 therein outermost. By breaking the lip 466 free and pulling thereupon, a cover section of three top laminations is produced, one lamination being the extension 427 and a part of E', and the other two laminations being formed in part of extensions 426 and 428 and sections B and F. For replacement, the lip 466 is bent inwardly of the slot 461 in the other end extension.

Another form of the invention is illustrated in Figures 12, 13 and 14. In this form of the invention, the first-described form of providing an opening is combined with a tongue with locking means, the tongue and locking means being of a nature similar to hereinabove described tongues used to provide openings into a container. The horizontally disposed perforations 529 otherwise extending across the entire blank are interrupted over two sections, over sections 528 and 530 which are hinge-forming scores. The latter is entirely across section F while the former (528) defines the width of a tongue 570. The tongue 570 projects upwardly in section B and extends into the extension 522. Across its body extends the score 571 separating the body of the blank from its top extension.

Assembly is had in the usual way with the extensions 521 and 522 innermost, the extension 524 thereabove and the extension 522 outside. In use, it is usual to free the tongue 570 by breaking through the perforations 573 defining it from the remainder of the box and grasping the material of the tongue in a way to rupture the whole of it from the main body of such box except at its hinged portion 530. Thereafter, the perforations 529 are broken through. Such rupture permits of the lifting of the entire top section of the box so that the whole interior of the box is open.

When the released section of the box is replaced, the short end 575 of the tongue 570 above the score line 571 is placed intermediate the lamination formed by the overlapping extensions 521 and 527 adjacent lamination comprising the extension 522. Adhesive is kept away from the portions of the extensions between which the tongue projects. The frictional engagement between the tongue and the said laminations is generally sufficient to maintain the tongue in the cover section in such a manner that the cover is maintained in its original position against accidental displacement.

What is claimed as new and is desired to be secured by Letters Patent of the United States is:

1. A box having an opening therein and comprising a blank, said blank having sections providing the several walls of the box including the top, side walls and bottom thereof, the top of said box comprising a plurality of thicknesses of said blank, and the outermost of said thicknesses having perforations therein defining a tongue, a portion of said top and portions of a plurality of said side walls adjacent thereto being displaceable to effect said opening, a cover for said opening comprising said displaceable portions, said cover being removable incidental to the breaking of said blank along said perforations to free said tongue, and said tongue being adapted for engagement with the material forming the other

thickness of said blank in said top section for maintaining said cover over said opening.

2. A box having an opening therein and comprising a blank, said blank comprising sections providing the several walls of the box including the top, side walls and bottom thereof, the top of said box comprising a plurality of thicknesses of said blank, there being a perforate outline in said blank to provide for the breaking away of a portion of the top of said box and adjoining portions of a plurality of said side walls to effect said opening, a cover for said opening, and a tongue formed from the outermost of said top thicknesses and projecting from said cover, said tongue and cover being formed of the portions defined by said outline, said cover being removable incidental to the breaking of said blank along said perforate outline, and said tongue being adapted for engagement with the material forming the under thicknesses of said blank in said top section for maintaining said cover over said opening.

3. A box having an opening therein and comprising a blank, said blank comprising sections providing the several walls of the box including the top, side walls and bottom thereof, the top of said box comprising a plurality of thicknesses of said blank, there being a perforate outline in said blank to provide for the breaking away of said top and adjoining portions of a plurality of the sides of said box to provide said opening, a cover for said opening, and a tongue formed from the outermost of said top thicknesses and projecting from one of said side walls, said tongue and cover being formed by portions separated by the breaking of said blank along said perforated line, said cover being removable from said opening incidental to the breaking of said blank along said perforated line, and said tongue being adapted for engagement with the material forming the under thicknesses of said blank in said top section for maintaining said cover over said opening.

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25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	
70	
75	