

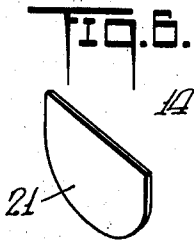
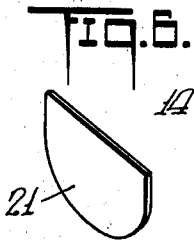
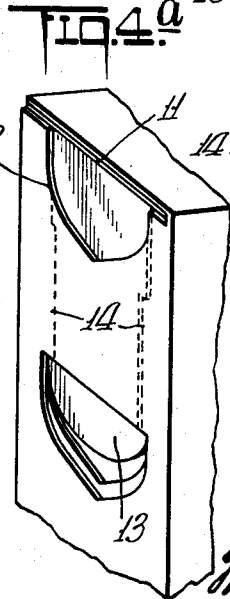
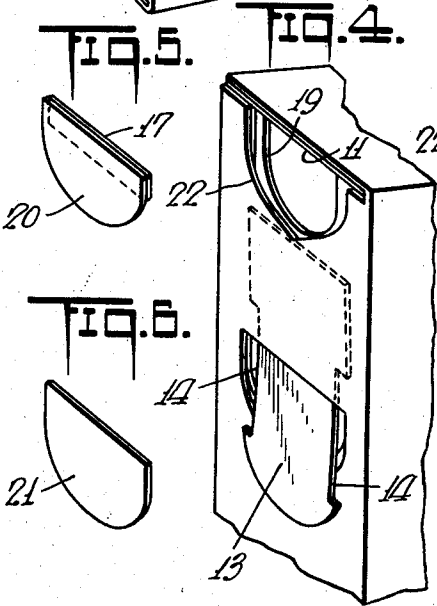
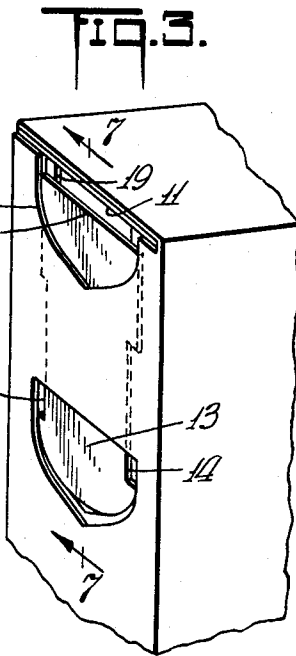
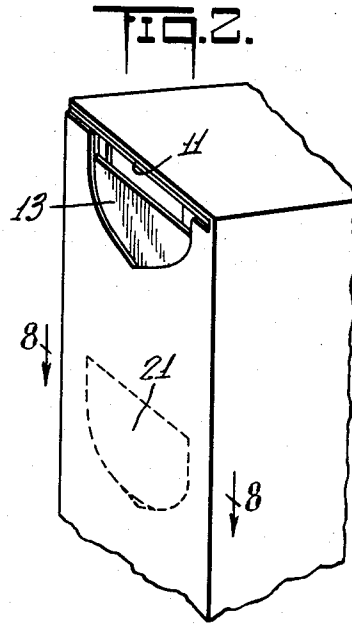
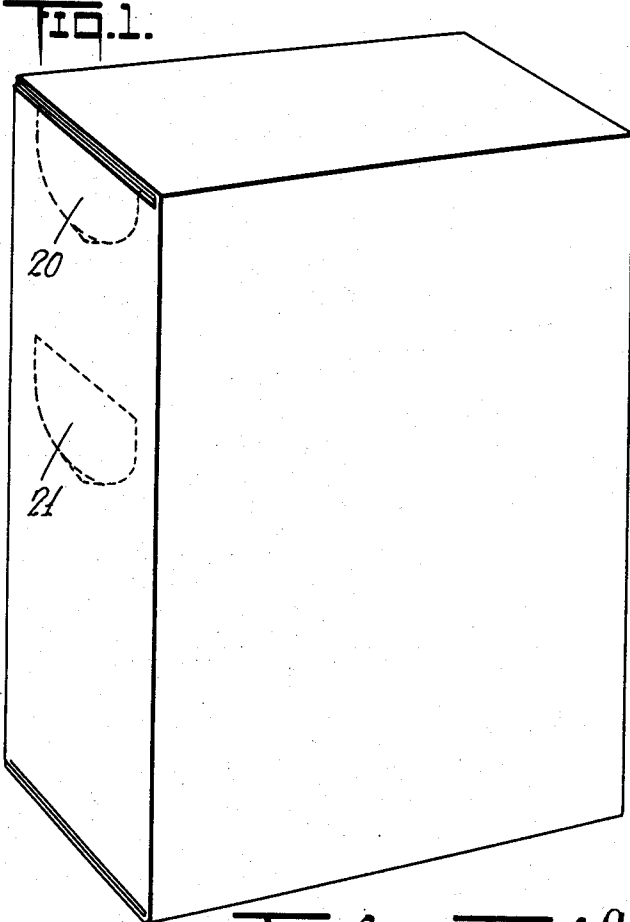
Sept. 8, 1959

S. PEIMER
FOLDING BOX

2,903,175

Filed Nov. 21, 1957

2 Sheets-Sheet 1



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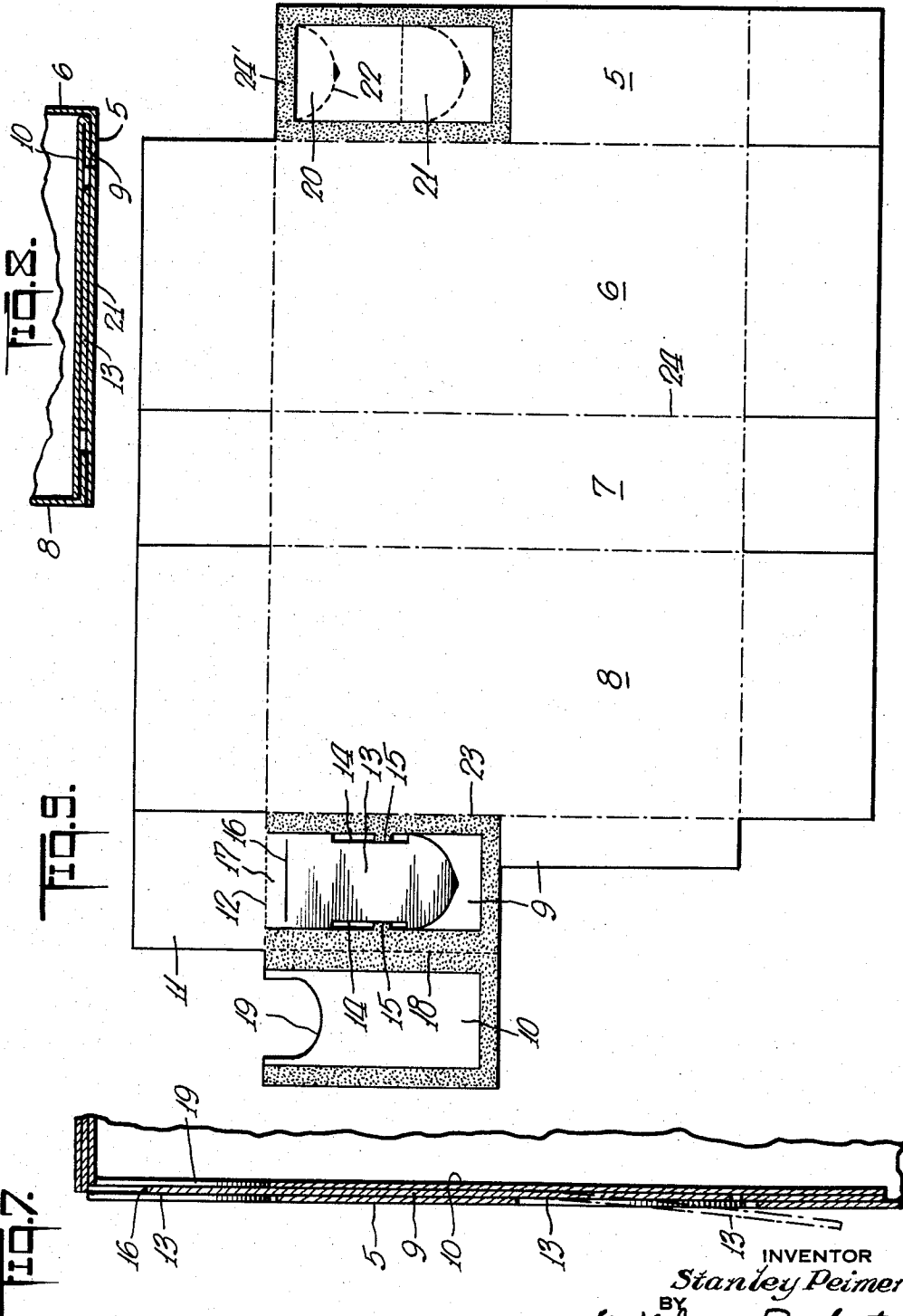
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FOLDING BOX

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Application November 21, 1957, Serial No. 697,818

5 Claims. (Cl. 229—17)

My invention relates to a folding box, and more particularly to one for containing and dispensing materials such as cereals, rice and the like.

It is an object of the invention to provide an improved folding box which is normally hermetically sealed, and yet has improved means for breaking the seal and opening the box for dispensing the contents and again closing the box after dispensing part of the contents.

Another object is to provide an improved folding box having improved slide closure means for opening and closing a dispensing opening.

Another object is to provide an improved folding box having improved dispensing means, all parts of the box being integrally formed from a single blank.

Another object is to provide an improved folding box having a plurality of layers or sheets folded upon each other and embodying a sliding closure member guided and sustained by inner and outer folded sheets.

Other objects and various features of novelty and invention will be hereinafter pointed out or will become apparent to those skilled in the art.

Briefly stated, in the preferred form of the invention, I form all parts of the box from a single blank, creased or scored more or less as usual, to provide sides and ends together with top and bottom flaps for closing and sealing the box. One of the sides (an end), in addition to the usual single sheet forming an end, is composed of three sheets superimposed, and the middle sheet preferably carries a top flap and also slide closure means which may slide between the outer end sheet and an inner end sheet, and all of the parts are so constructed and arranged that the closure means will be hermetically sealed so as to adequately protect the contents of the box when the latter has been filled and sealed shut.

The outer end sheet may have tear-out tabs covering parts of the slide closure and one of the tear-out tabs when torn out leaves a part of the closure side exposed so as to be readily grasped by the fingers for moving the slide back and forth to open and closed positions. The other tear-out tab is so constructed and arranged as to be secured to a part of the closure slide so as to tear away that part when that tear-out tab is removed in opening the box.

All of these parts mentioned are integrally formed of a single sheet or blank, and the box may be folded so as to be shipped flat, later to be opened up, filled and sealed in the usual manner so as to seal the contents.

In the drawings, which show for illustrative purposes only a preferred form of the invention:

Fig. 1 is a perspective view of a box illustrating features of the invention and hermetically sealed to protect the contents.

Fig. 2 is a fragmentary perspective view of the box shown in Fig. 1, a tear-out tab having been removed so as to open the box, the tear-out tab removed, being shown in Fig. 5.

Fig. 3 is a view similar to Fig. 2, but showing a second

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tear-out tab removed so as to expose a part of a closure slide to be gripped for moving the closure tab in open and closed positions, the tear-out tab being as shown in detail in Fig. 6.

5 Fig. 4 is a view similar to Fig. 3, illustrating the slide closure in wide open position.

Fig. 4A is a view similar to Fig. 3, illustrating the closure slide in fully closed position for closing the box after dispensing a part of the contents.

10 Fig. 5 is a perspective view of the upper tear-out tab removed from the box illustrated in Fig. 2.

Fig. 6 is a perspective view of the lower tear-out removed from the box of Fig. 3.

15 Fig. 7 is a sectional view, taken substantially in the plane of the line 7—7 of Fig. 3.

Fig. 8 is a sectional view, taken substantially in the plane of the line 8—8 of Fig. 2.

20 Fig. 9 is a plan view of the blank for making the folding box, all parts being shown in open or unfolded position.

The construction of the box may be best understood perhaps by describing the construction of the blank and the method of folding the same. The blank formed of the usual cardboard material includes a full end section 5 and a side section 6, a further integral end section 7 and an integral side section 8, and thereafter a partial end sheet 9 and a second partial end sheet 10. These sheets are all integral with each other. The sheets 9 and 10 are shown somewhat abbreviated as compared with the full end section 5 merely to reduce the amount of material in the blank and to permit more blanks to be cut from a sheet of cardboard. The sheets 9 and 10 could be full end sections like the section 5.

25 The end sheet 9 is provided with a top flap 11, of usual construction, integrally formed therewith, and there is a scored fold line 12 shown between the side 9 and the top flap 11. This line 12 is preferably only partly as wide as the sheet 9 itself, and the line 12 may be a perforated type of joint which, however, is a sealed joint in that the perforations do not pass all the way through the sheet. The sheet 9 is slitted so as to form the slide closure 13 which is formed integrally with the end flap 11. This slide closure 13 is only partly as wide as the sheet 9, as illustrated and is severed substantially completely from the sheet 9 at all points, except across the top (line 12). The slide 13 preferably has cutaway grooves 14 therein and the sheet 9 has tongues or abutments 15 to fit in such grooves for partially guiding the slide closure 13 and preventing its withdrawal, as will be later described. The slide closure 13 near the top and removed from the frangible joint 12 has a frangible transverse joint or is severed at 16 leaving a section 17 between these two lines 12, 16. The joint 16 preferably does not extend completely across the tongue, but is attached to the tongue at parts which may be broken away when the carton is opened. The section 17 may be more or less cut away and separated at the sides from the sheet 9 principally to prevent the collection of glue in the joint between the section 17 and the adjacent sides of the sheet 9.

30 The sheet 10 is of about the same width as the sheet 9 and there is a fold line 18 between the two sheets. The sheet 10 also has a dispensing opening 19 or is perforated at the top so as to provide a dispensing opening as soon as the perforated part is removed.

35 The third and full end flap or sheet 5 at the opposite end of the blank is provided with a pair of tear-out tabs 20 and 21 connected as by frangible joints which, however, are preferably sealed joints, but the tabs may be torn out when it is desired to break the seal of carton and open the same for dispensing the contents of the carton. The upper tab 20 when removed provides a dis-

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pensing opening 22 registering with the opening 19 or the opening which would be formed by removal of the material defining the opening 19. The lower tear-out tab 21 is merely for the purpose of enclosing the bottom portion of the slide closure 13, as will be described.

When the box is to be assembled, the sheet 9 or the sheet 10, or possibly both, will be glued, as shown along the stippled areas. The sheet 10 is folded over along the folded line 18 on to the sheet 9. It will be observed that this folding over and gluing of the sheets 9 and 10 together does not glue the slide closure 13 to either of the sheets because the glue is merely around the edges and not at any point overlapping the slide closure 13. These two folded flaps are then folded over along the folded line 23 on to the side or end 8 and the reverse side of the sheet 9 then becomes the obverse after folding. Thereafter the obverse of the sheet 9 or the sheet 5 is glued, as indicated by stippling, and is further glued down along the bottom portion, not shown as stippled, and the blank is then folded along the fold line 24 so as to place the side 5 over the obverse of the sheet 9 and glue the sheet 5 to the sheet 9. Here again, it will be observed that the sheet 5 is not glued to the slide fastener 13 because the glue is only along the side and not in any overlapping position relative to the slide 13. However, the upper end of the tear-out tab 20 is glued as indicated at 24' to the section 17 between the frangible lines 12 and 16 shown on the sheet 9. In this glued position the box blank is complete and may be shipped in that flat condition to the filler who may open the box out to rectangular form, turn in the usual end flaps shown and fill and seal the carton in the usual fashion. This carton will then have one end, or what is more generically termed one side, formed of three sheets superimposed with the middle sheet 9 interposed between the sheet 10 which is then at the inside, and the sheet 5 which forms the outside of the box. The sealed box 6 is as shown in Fig. 1.

It will be seen that the box will be hermetically sealed when all of the flaps are turned in and properly glued, and since the cover flap 11 is integral with the sheet 9, there can be no leakage through the end involving the cover flap 11 or the sheet 9.

When it is desired to open the box and unseal the same, the tear-out tab 20 is torn out and since the upper end of this tab is glued solidly to the section 17 between the frangible lines 12-16, this section 17 comes away with the tear-out tab 20 and leaves the box in the form as shown in Fig. 2, namely, with a slight opening at the top where the section 17 has been torn out by the tab 20. Tearing out of the tab 20, of course, exposes the top portion of the slide closure 13, as illustrated in Fig. 2. Thereafter the tab 21 is torn out and when this tab is torn out, it exposes the bottom portion of the slide 13, as illustrated particularly in Fig. 3, so that the bottom finger section of the slide closure 13 may be grasped and pulled down, as indicated in Fig. 4, so as to completely open the dispensing opening formed by the registering openings 19 and 22 on the inner and outer sheets of the box end. When a part of the contents of the box has been dispensed, the slide closure 13 may be moved upwardly from the position shown in Figs. 2, 3 and 4 into the position shown in Fig. 4A where the slide 13 fits just beneath the two top closure flaps and forms a tight closure for the box.

The tear-out tabs 20-21 when once torn out are discarded since they have no further function in closing the box. Of course, they could be put back in place if desired instead of discarding them entirely.

It will be seen then that the box may be shipped in flat condition and later opened up into rectangular form and when the usual end flaps have been glued down the entire box will be hermetically sealed. Pulling out the tear-out tabs 20-21 for the purpose of unsealing the box and permitting it to be opened and closed is a simple matter and the closure slide may be operated for opening

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this dispensing opening or closing it completely so as to securely hold the contents in the box, but, of course, after the tabs 20-21 are removed, the box is no longer hermetically sealed regardless of the position of the slide closure 13.

All of the parts are integrally formed from a single blank and there are no complicated sealing operations to be done and, to all intents and purposes, the box appears to be the usual rectangular box. The dispensing opening is located at an edge or corner so as to greatly facilitate the dispensing of the contents of the box. In the claims the term "side" means an end as well as the usual side of the box.

While the invention has been described in considerable detail and a preferred form illustrated, it is to be understood that various changes and modifications may be made within the scope of the invention, as described in the appended claims.

I claim:

1. A folding box, said box having one side comprised of three sheets superimposed, the middle sheet having a top cover flap integral therewith, said middle sheet having a long tongue closure slide integrally secured to said top cover flap by a frangible joint, the outer of said sheets having a frangibly connected integral tab secured to a part of said closure slide, said closure slide having a frangible joint therein, whereby said tab may be removed from said outside sheet and take with it the part of said closure slide secured thereto, the inner sheet having an opening to be exposed when said closure slide is moved to open position.

2. A folding box, said box having one side composed of three sheets superimposed, the middle sheet having a top closure flap integral therewith, a closure slide severed from said middle sheet and integral with said cover flap and having a frangible joint between the two, said closure slide having a further frangible joint therein leaving a section between said frangible joints, the outer of said sheets having an integral frangibly connected cover tab covering a part of said slide closure and secured to said section, whereby when said cover tab is removed from the outer sheet said section of the closure slide will come with it, said outer sheet having a second cover tab frangibly connected thereto and covering a pull part of said slide closure, said inner and outer sheets serving to confine said slide closure between them for sliding movement to open and close the opening left when said first mentioned cover tab is removed, said inner sheet having an opening registering with the opening left by the removal of said cover tab.

3. A blank for a folding box, an end sheet at one end of the blank and having a dispensing opening therein, a second sheet adjacent the end sheet, said end sheet to be folded over onto said second sheet, said second sheet having a slide closure severed therefrom, a top closure flap on said second sheet and integral with the end of said closure slide, a frangible joint between said closure slide and said top closure flap, said closure flap adjacent the top having a cross frangible joint leaving a section between said two frangible joints, an outside end sheet at the opposite end of the blank to form an outside end for the box, said first end sheet and said second sheet when folded together being bodily folded over onto the blank and said outside end sheet being folded over said said folded end and second sheets, said second end sheet having a pair of frangibly connected tear-out tabs over said slide closure.

4. In a folding box, a top cover flap, a slide closure integral with said top closure flap and bent down at right angles to said cover flap, inner and outer end sheets covering the inner and outer sides of said slide closure and guiding the same in its sliding movements, said top flap and said slide closure having a frangible joint at the right angle bend between said top flap and slide closure, said slide closure having a second transverse frangible

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joint having a transverse section between said two frangible joints, said outside end sheet having a tear-out tab frangibly connected to said outside end sheet and permanently secured to said section, whereby when said tear-out tab is torn out said section will be removed, said inside sheet having a dispensing opening registering with the opening left by said tear-out tab, and said slide closure serving to close and open said dispensing openings by being moved in the space between said end sheets.

5. In a folding box, a top cover flap forming part of a hermetic seal for the top of the box, said cover flap having an integral slide closure thereon at right angles to said cover flap and extending along the side of the box, said cover flap and slide closure having a hermetically sealed but frangible joint at the bend between the two, said slide having a second frangible joint therein extending across the same and below said first joint and leaving a section between said joints, an outer end sheet and an inner end sheet at opposite sides of said closure slide and guiding the same, said outer sheet having a

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sealed but frangible connected tear-out flap permanently secured to said section, said outside sheet and said slide closure and integral top flap forming a hermetic seal between the inside and outside of the box, said inner end sheet having a dispensing opening registering with the opening formed by tearing out said tear-out tab, said outside end sheet having a second tear-out tab covering a part of said slide closure to be grasped for moving the slide closure to open and close the openings aforesaid, whereby when said tear-out tabs are intact said box will be hermetically sealed at said end and adjacent top.

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