

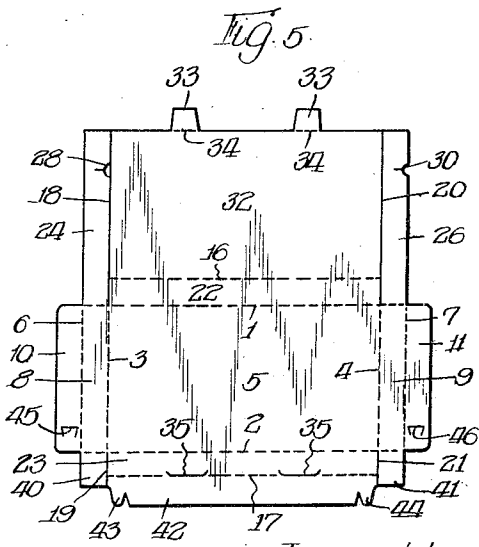
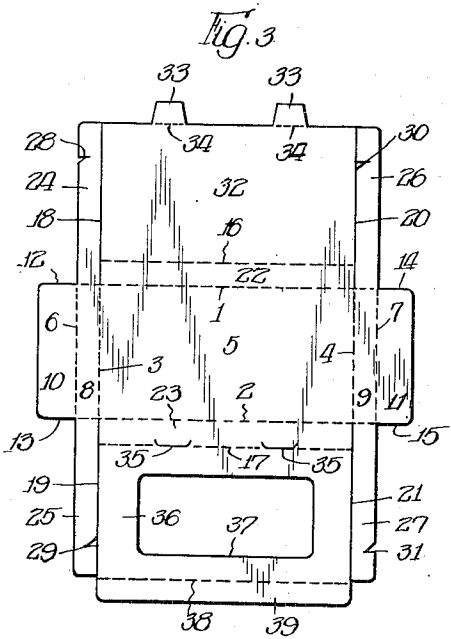
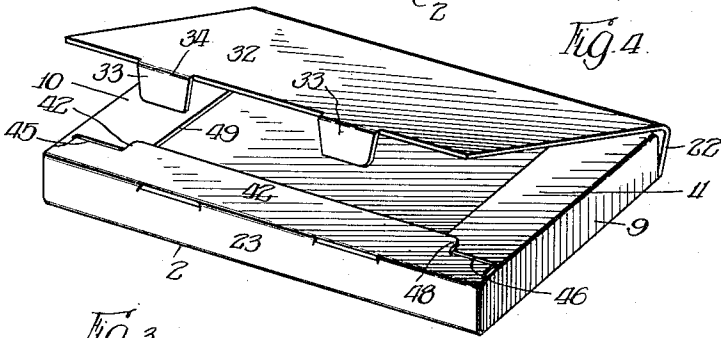
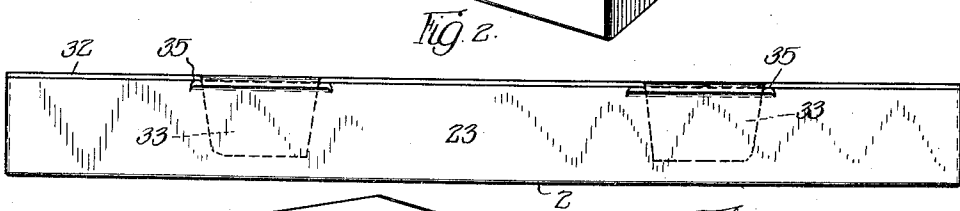
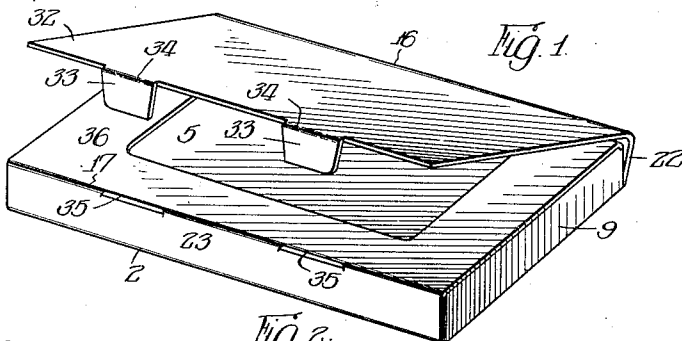
Sept. 29, 1931.

H. K. POWELL

1,824,927

FOLDING CARTON

Filed March 11, 1929



Inventor:
Henry K. Powell.

By Wilkinson, Huxley, Byron & Knight
Gills

UNITED STATES PATENT OFFICE

HENRY K. POWELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO MORRIS PAPER MILLS, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

FOLDING CARTON

Application filed March 11, 1929. Serial No. 345,936.

This invention relates to improvements in folding cartons or paper boxes in which a single blank may be folded into the completed carton so designed that the contents of the carton are retained in place but open for inspection while the cover is opened.

It is desirable to so design the blanks for forming folding cartons that a substantially rigid carton may be formed, while at the same time the amount of material used in the carton will be retained as low as possible. Various modifications have been proposed in which a blank is folded to form bottom, sides, and ends and a cover member provided with locking tabs to hold the cover in place, but most of these are open to the objection that the total area of the carton is open when the cover is lifted. For example, in packing strips of bacon, if the outer cover is lifted to inspect the bacon, the contents may become disarranged if no retaining means are used.

It is, therefore, the purpose of my invention to design a box or carton that may be formed from a single blank by suitable creases and slits whereby there is provided retaining means extending inward from the sides of the box serving to prevent the contents from being disarranged when the box is open for inspection.

My invention may be carried out by providing an inside cover member which has a central opening thereby defining retaining sides extending around the edges of the carton to hold the material within the carton in place, or I may utilize top flaps which are secured to the end members extending inward and provide a retaining strip on the forward side which overlaps the end flaps and may be secured thereto. In both forms of my invention there is also provided an outside cover member which overlies the retaining member and is held in place by provision of locking tabs received within slits

formed in the upper forward edge of the completed carton.

Other features and advantages of my improvements will be more readily apparent from a full description taken in connection with the attached drawings in which—

Figure 1 is a perspective view of one form of the carton showing the cover somewhat raised.

Figure 2 is a front elevation of the carton shown in Figure 1 with the cover in closed position.

Figure 3 is a plan view of the open blank which may be folded to form the carton shown in Figure 1.

Figure 4 is a perspective view of the cover in partially open position of another form of my invention, and

Figure 5 is a plan view of the blank which may be folded to form the carton shown in Figure 4.

The improvements shown are in connection with an ordinary form of rectangular carton but it will be apparent that the improvements may be adapted to other shapes of cartons without departing from the spirit of my invention.

In the following description reference will be made to the carton by terms such as "longitudinal", "transverse", "forward", and "rearward", and it should be understood that these words should not be construed as limitations since they are used only to more clearly describe the specific embodiment shown.

With reference first to the carton shown by Figures 1 to 3, a blank is cut to the shape shown in plan in Figure 3 and longitudinal creases 1 and 2 are provided and transverse creases 3 and 4, thus defining a bottom portion 5. Additional transverse creases 6 and 7 serve to define end members 8 and 9 and in addition end flaps 10 and 11. The end flaps 10 and 11 are adapted to be folded parallel to the bottom portion 5 after the end mem-

bers 8 and 9 have been brought into vertical position. It is, therefore, apparent that the flaps 10 and 11 will extend inward over the contents of the box and retain it in place and at the same time serve to brace the forward and rear side members due to the abutting free edges 12, 13, 14 and 15. Additional longitudinal creases 16 and 17 and transverse slits 18, 19, 20 and 21 serve to define the forward and rear sides 22 and 23. It is to be noted that the slits 18 and 19 are continuations of the transverse crease 3; while the slits 20 and 21 are continuations of the transverse crease 4, and in cooperation with the longitudinal creases 1 and 2 define side locking members 24, 25, 26 and 27 extending from the end members 8 and 9. It will be apparent that the side locking members are slightly greater in length than half the length of the carton whereby the members 24 and 26 will overlap and the members 25 and 27 will overlap in vertical positions. Cutting notches and slits 28, 29, 30 and 31 are therefore provided in the side locking members for respective engagement, thus the notches and slits 28 and 30 of the rearward locking members 24 and 26 will be engaged to hold said members in place. The transverse slits 18 and 20 will also serve in cooperation with the longitudinal crease 16 to define an outer cover member 32 which is additionally provided on its free longitudinal edge with depending tabs 33 joined at creases 34. Correspondingly spaced in the crease 17 are formed slits 35 adapted to receive the cover tabs 33, as will be apparent from Figures 1 and 2. The slits 19 and 21 in cooperation with the crease 17 serve to define the inner cover member or retaining means 36 which is provided with a central inspection opening 37. The opening 37 in the inside cover member provides a means whereby the contents of the box may be inspected through said opening while the material is additionally retained in place besides the previously mentioned flaps 10 and 11 by the retaining edge of the inside cover member 36. A final longitudinal crease 38 is provided defining the flap 39 joined to the inside cover member and adapted to be received inside of the rearward locking strips 24 and 26 and be retained by the abutting edges 12 and 14 of the end flaps 10 and 11.

The use of the box will be apparent since the material may be placed on the bottom 5, the end members 8 and 9 being folded to a vertical position and the rearward locking strips 24 and 26 brought into engagement as are the forward locking strips 25 and 27 thereby bracing the end members. The end flaps 10 and 11 may then be folded over the ends of the material placed in the box and the inside cover member 36 folded over bringing the flap 39 into the position previ-

ously described. A very rigid carton is therefore formed even when the outer cover is entirely open and the contents of the box are open to inspection and held by the retaining members.

In order to completely close the box, the cover member 32 which is joined to the rearward side 22 may be placed against the top of the carton, bringing the depending tabs 33 into the receiving openings 35 which are formed in the upper forward edge of the carton. By forming the retaining slits 35 in the creased edge 17, the tabs 33 are held due to the resiliency of the forward side 23 without the necessity of additional locking notches.

Although the above described form of carton is preferable, the advantages disclosed may be in part carried out by a modified form with a saving in material if suitable means are provided to retain the rigidity of the box by additional securing means.

Thus in Figure 5 I show a blank which may be folded to form a carton shown in Figure 4. Similar reference characters are used in Figures 4 and 5 so far as the construction is similar to the first form described. Thus I show longitudinal creases 1, 2, 16 and 17, as before, and transverse creases 3, 4, 6 and 7 thereby defining together with the slits 18, 19, 20 and 21 the bottom 5, end members 8 and 9, and flaps 10 and 11, rearward side 22, forward side 23, rearward locking strips 24 and 26, and outer cover member 32. Notches and slits 28 and 30 are provided in the rearward locking strip 24 and 26, also tabs 33 are joined to the cover member 32 at creases 35 and are received by the slots 36 formed in the creased edge 17 but the forward locking strips are reduced to the short flaps 40 and 41 while the inside cover member is reduced to the retaining strip 42, thus there is a saving of a substantial part of the material used in the blank shown in Figure 3. However, in order to hold the forward side 23 and retaining strip 42 in place and to preserve the rigidity of the forward side of the box which had previously been secured by the flap 39 and the locking engagement between the locking strips 25 and 27, it is apparent that the retaining strip 42 will overlap the end flaps 10 and 11 at its corners, and I, therefore, show the corners of the retaining strip 42 formed with tabs 43, 44 which are suitably received within the notches 45 and 46 formed in the end flaps 10 and 11. Thus, as shown in the completed carton in Figure 4, corner portions 47 and 48 of the retaining strip 42 will remain and rest against the outside of the end flaps 10 and 11 while the tabs 43 and 44 are received in the openings 45 and 46 thereby holding the retainer strip 42 and the forward side 23 in the correct position. In this

design of box, the contents will be retained by the end flaps 10 and 11 and the retaining strip 42 which defines an inspection opening 49 shown in Figure 4.

5 Various modifications may be made in the particular construction, thus I might provide tabs on the end flaps 10 and 11 engaging within slits formed in retaining strip 42, or in other ways securing the same results, without departing from the spirit of
10 my invention as expressed in the appended claims.

I claim:

1. In a folding paper box, a blank having
15 longitudinal and transverse creases defining a bottom portion, additional transverse creases defining end members joined to the bottom portion and end flaps joined to the end members, said end flaps being
20 adapted to lie parallel to the bottom portion when the box is folded, additional longitudinal creases and transverse slits defining forward and rearward sides joined to the bottom portion, an outside cover member
25 joined to the rearward side, and a relatively narrow member joined to the forward side adapted to overlap said end flaps and form longitudinal retaining means for the contents of the box when the box is folded, and
30 means for holding said member and said flaps in position when the outside cover is open.

2. In a folding paper box, a blank having longitudinal and transverse creases defining
35 a bottom portion, additional transverse creases defining end members joined to the bottom portion and end flaps joined to the end members, said end flaps being adapted to lie parallel to the bottom portion when
40 the box is folded, additional longitudinal creases and transverse slits defining forward and rearward sides joined to the bottom portion, an outside cover member joined to the rearward side, a relatively narrow
45 member joined to the forward side adapted to overlap said end flaps and form longitudinal retaining means for the contents of the box when the box is folded, and securing tabs on the free forward edge of the
50 outer cover member and slits in the creased edge between the forward side and the retaining member adapted to receive said cover tabs.

3. In a folding paper box, a blank having
55 longitudinal and transverse creases defining a bottom portion, additional transverse creases defining end members joined to the bottom portion and end flaps joined to the end members, said end flaps being adapted
60 to lie parallel to the bottom portion when the box is folded, additional longitudinal creases and transverse slits defining forward and rearward sides joined to the bottom portion, an outside cover member joined to the
65 rearward side, a relatively narrow member

joined to the forward side adapted to overlap said end flaps and form longitudinal retaining means for the contents of the box when the box is folded, means for attaching said narrow member to said flaps, and rearward locking strips joined to the end members and adapted to be overlapped and locked together at the center of the box when said box is folded.

4. In a folding paper box, a blank having longitudinal and transverse creases defining a bottom portion, additional transverse creases defining end members joined to the bottom portion and end flaps joined to the end members, said end flaps being adapted to lie parallel to the bottom portion when the box is folded, additional longitudinal creases and transverse slits defining forward and rearward sides joined to the bottom portion, an outside cover member joined to the rearward side and a member joined to the forward side adapted to overlap said end flaps and form longitudinal retaining means for the contents of the box when the box is folded, means adapted to retain the forward side and the retaining member in folded position when the cover member is open, securing tabs on the free forward edge of the outer cover member, and slits in the creased edge between the forward side and the retaining member adapted to receive said cover tabs.

5. In a folding paper box, a bottom, end portions joined to the bottom, flanges folded inwardly from the upper edges of the end portions, a forward side joined to the bottom, a narrow retaining flange folded inwardly from the upper edge of the forward side whereby the corners overlap the corners of the end flanges, locking tabs formed in the corners of the front flange, said end flanges having slots to receive said locking tabs, a cover member folded inward forming a folded extension from the back side of the bottom member, said cover member having tabs extending from its forward edge, and slits in the folded edge between said front side and said flange adapted to receive said tabs.

Signed at Chicago, Illinois, this 2nd day of March, 1929.

HENRY K. POWELL.