

Sept. 1, 1925.

1,552,212

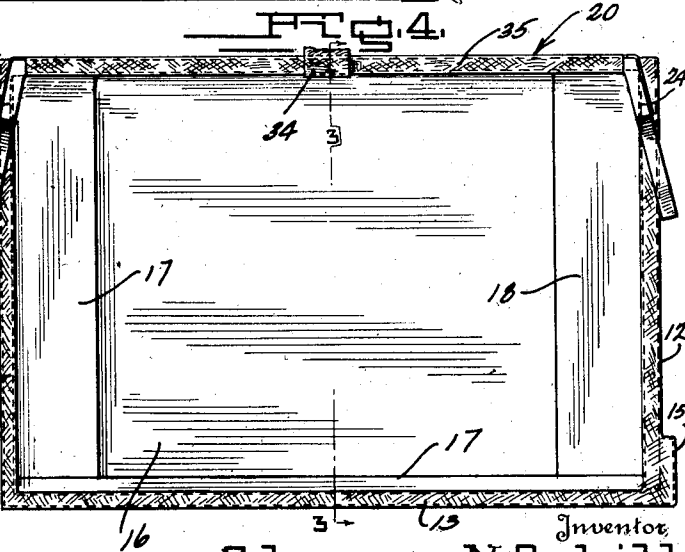
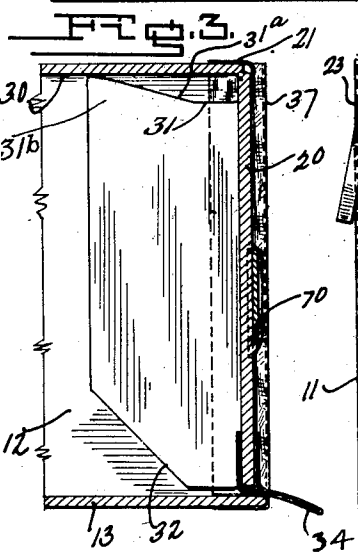
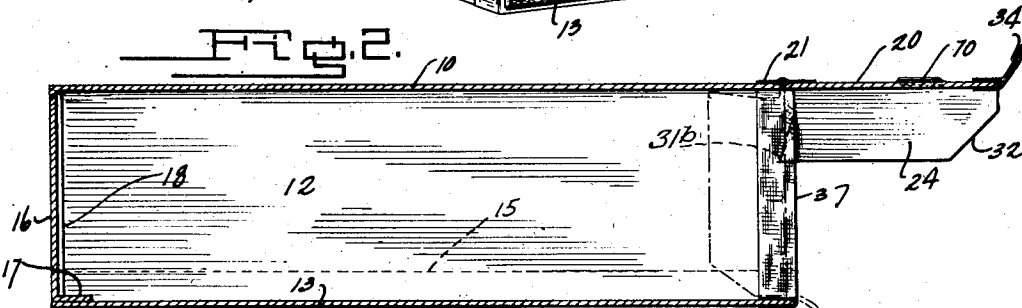
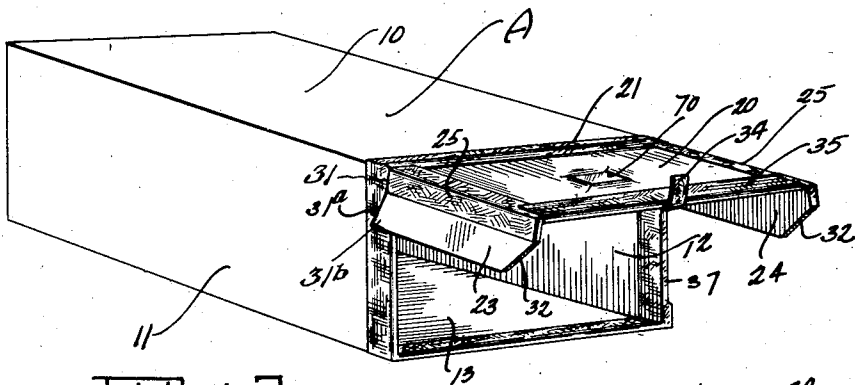
C. N. CAHILL

CARTON

Filed Nov. 9, 1922

2 Sheets-Sheet 1

Fig. 1.



Inventor
Clarence N. Cahill

Laurel A. Lawrence
Attorney

Sept. 1, 1925.

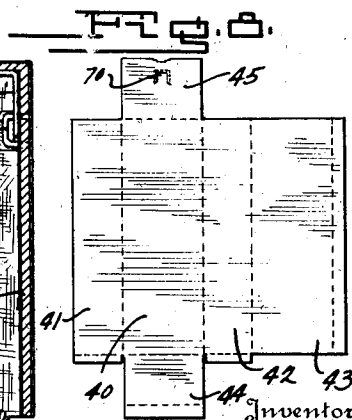
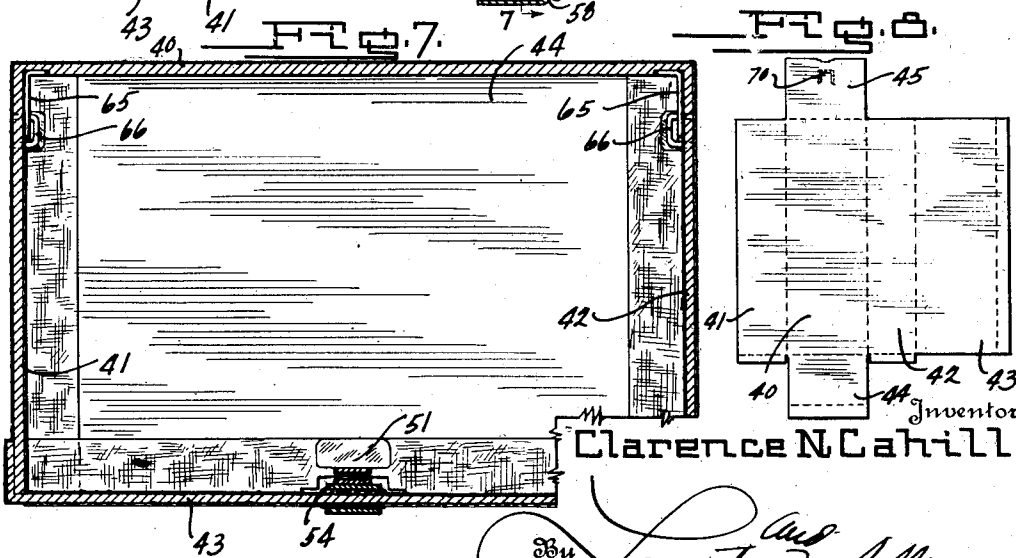
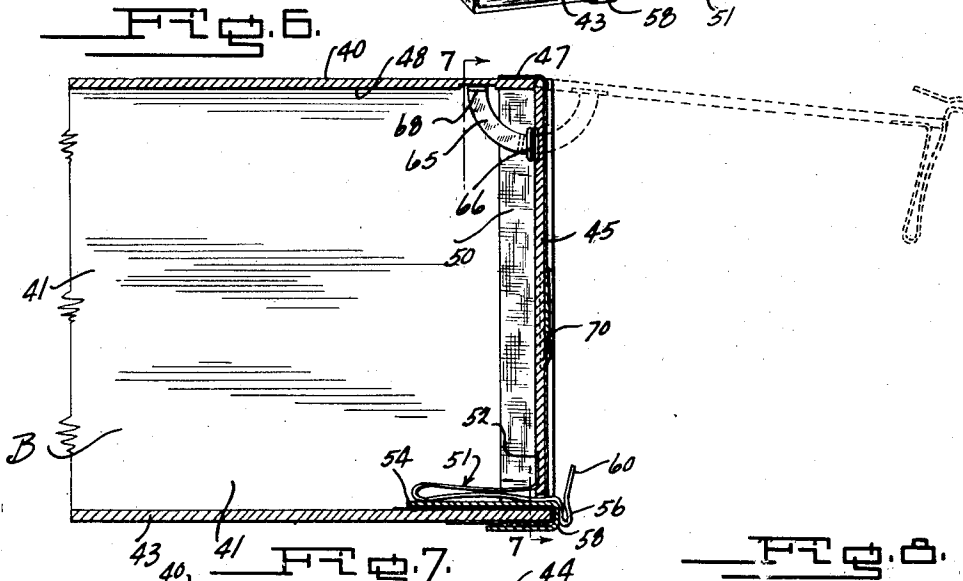
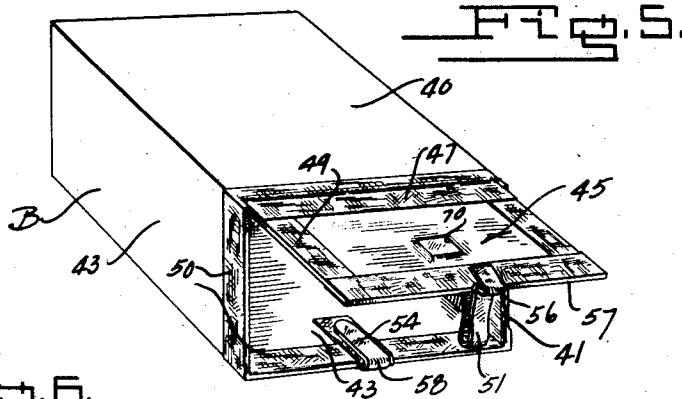
1,552,212

C. N. CAHILL

CARTON

Filed Nov. 9, 1922

2 Sheets-Sheet 2



Inventor
Clarence N. Cahill

By *Laurel A. Moore*
Attorney

UNITED STATES PATENT OFFICE.

CLARENCE N. CAHILL, OF GREENSBURG, PENNSYLVANIA.

CARTON.

Application filed November 9, 1922. Serial No. 599,832.

To all whom it may concern:

Be it known that I, CLARENCE N. CAHILL, a citizen of the United States, residing at Greensburg, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in a Carton, of which the following is a specification.

This invention relates to improvements in article receiving cartons.

The primary object of this invention is the provision of an improved closure arrangement for cartons, whereby articles may be inserted or removed therefrom in facile manner, without necessity of removing the carton, from a cabinet, shelving, or other location of the same.

A further object of this invention is the provision of a carton, preferably in the general form of a rectangular shaped shoe box, having an end thereof provided as a closure member hinged as to swing upwardly so that the article in the cartons may be removed without necessity of removing the carton itself.

A further object of this invention is the provision of a carton of the above described character having one end thereof hingedly connected to the top forward edge of the carton so that said end may swing upwardly as a closure member, the improved carton embodying means to maintain the closure lid in closed or open positions.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawings, forming a part of this specification, and wherein similar reference characters designate corresponding parts throughout the several views.

Figure 1 is a perspective view of the preferred form of improved carton.

Fig. 2 is a longitudinal cross sectional view taken through the improved carton, showing the end thereof in open position as a closure member.

Fig. 3 is a fragmentary cross sectional view taken through the closure end of the improved carton.

Fig. 4 is an end elevation of the improved carton, showing the hinged end or closure lid thereof in open position.

Fig. 5 is a perspective view of a modified form of improved carton.

Fig. 6 is a fragmentary cross sectional view taken through the closure end of the improved carton, illustrated in Figure 5.

Fig. 7 is a cross sectional view taken substantially on line 7—7 of Figure 6.

Fig. 8 is a plan view illustrating the developed or blank form of the carton illustrated in Figure 5, showing mainly the one piece construction thereof.

In the drawings, wherein for the purpose of illustration are shown preferred and modified forms of this invention, the letter A designates the preferred form of carton, and B the modified form of carton, it being preferred that certain details illustrated in the preferred and modified forms be susceptible of interchanging.

Referring to the preferred form of carton A, the same is preferably adapted for receiving shoes or like articles, and in this respect is of polygonal or rectangular formation, including the relatively long rectangular shaped top wall 10 upon the longitudinal marginal edges of which the side walls 11 and 12 are bent at substantially right angles thereto. The lower marginal edge of the side wall 11 has the bottom 13 bent at right angles to the plane of said side wall; being of substantially the same dimensions as the top wall 10 above mentioned. An upstanding attaching strip 15 is bent upwardly and outwardly of the side surface of the wall 12, preferably being attached thereto as by stay stripping. The rear end wall 16 is preferably bent downwardly from the rear marginal edge of the top wall 10, having the lower portion 17 thereof inturned upon the inner surface of the bottom 13, substantially as illustrated in Figure 2 of the drawings, and suitably attached thereto in any approved manner. The rear portions 17 and 18 of the side walls 11 and 12 respectively are preferably bent inwardly over the inside surface of the end wall 16, as is illustrated in Figure 4 of the drawings, and attached thereto in any approved manner. In this construction it is obvious that the top, bottom, side, and rear end walls are rigidly and permanently affixed against detachment in any manner whatsoever.

Referring to the closure arrangement of the preferred type of carton, the front end wall 20 is preferably bent downwardly from the forward marginal edge of the top wall

10, as by being formed integral therewith. Since this end wall 20 is to be hingedly connected for vertical swinging to the top wall 10, it is preferred to provide a stay strip or similar binding 21 upon the outer surfaces of the top wall 10 and end wall 20 at the hinged juncture thereof, substantially as is illustrated in the drawings. Stay stripping or binding material may likewise be preferably disposed upon the interior and exterior surfaces of the side walls 11 and 12, and the bottom 13, at the forward marginal portions thereof, substantially as is illustrated in Figure 1 of the drawings.

Lateral retaining flanges 23 and 24 are hingedly connected to the side marginal edges of the closure end 20, as by the stay strip material 25, so that the inherent tendency of the flanges or wings 23 and 24 is to spring outwardly to be disposed in a plane at an acute angle with respect to the plane of the closure lid 20. In cartons of ordinary material the resiliency of the wings 23 and 24 for connection with the lid 20 will be sufficient to tend to assume such position. However, it is contemplated to provide slightly resilient springs or other devices so that the wings or flanges 23 and 24 may perform the object of retaining the lid 20 in closed or open positions, as will be now described.

It is to be noted, from Figure 3 of the drawing that when the end 20 is closed, the same will lie in a plane inwardly of the outer marginal edges of the side and bottom walls 11, 12 and 13 of the improved carton A. When in such position the retaining wings 23 and 24 are folded inwardly of the carton, in respective abutting contact with the inside surfaces of the carton side walls 11 and 12; the resiliency with which the wings 23 and 24 are affixed to the lid or closure end 20 being sufficient to force them into such frictional engagement with the side walls of the carton, as to maintain the end 20 closed. In order to limit the amplitude of swinging of the end 20 within the compartment 30 of the carton, the top marginal edges 31 of the retaining wings 23 and 24 have been so arranged that the same will contact the inside surface of the top wall, to prevent too far inward swinging of the lid or end 20, as is apparent in Figure 3 of the drawings. The inner marginal portions of the retaining wings 23 and 24 are so cut away as to each provide a straight edge 31 which lies parallel with the top of the container and in spaced relation therewith when the lid is closed, and an upwardly sloping diagonal edge 31^a. This provides a tail portion 31^b, so to speak, at the inner end of each of the retaining wings, which lies rearwardly of the front marginal edges of and exteriorly of the sides of the container when the wings 23

and 24 are spread apart for holding the lid in open relation. The relation which this tail portion 31^b has is illustrated in Figures 1 and 2 of the drawings, wherein it is shown that the retaining wings 23 and 24 are held in a positive relation with the sides of the container, to hold the lid open against liability of accidental closing. The lower marginal edges 32 of each of the side wings 23 and 24 are preferably beveled to permit free unobstructed swinging of the closure member in or out of the carton.

In order to facilitate upward swinging of the end 20 a flexible tab 34, preferably of fabric, may be affixed to the free marginal portion of the end 20, as by the reinforcing stay strip material 35. In closed position this tab 34 is in such outward position from the carton A as to permit an operator to grasp the same for upward swinging of the end 20. Due to the resiliency of the retaining flanges 23 and 24, which tend to swing outwardly from the hinged end 20, it is obvious that when the end 20 is in its open position, said flanges will swing so that the marginal edges 31 thereof will engage the forward marginal edges 37 of the side walls 11 and 12, adjacent the top wall 10, substantially as is illustrated in Figures 1 and 4 of the drawings, and in which position the end wall 20 will be maintained open so that access may be had to the articles within the compartment 30 of the carton A.

Referring to the modified form of carton B, the same is preferably of the same formation as the preferred form of carton A, as to the formation of the various walls thereof from a single piece of material. Thus, the top wall 40 preferably has certain side walls 41 and 42 bent upon the longitudinal edges thereof, and a bottom 43 bent upon the longitudinal edge of the side wall 42; rear end, and front end walls 44 and 45 respectively being preferably formed integral and bent downwardly from the rear and forward marginal edges of the top wall 40. The top, bottom, and side walls, and rear end 44 are preferably rigidly affixed in permanent manner against disconnection. The front wall 45 on the other hand is preferably hinged, as by an exteriorly affixed strip of stay material 47 to the top wall 40 in order to permit its vertical swinging to have access to the compartment 48 of the modified form of carton B. It is preferred that the outer and inner surfaces of the lid or hinged end 45, adjacent the margins thereof be provided with the stay strip or binding material 49, and to likewise provide the adjacent outer and inner surfaces of the side and bottom walls 41, 42 and 43 with similar binding 50.

In order to facilitate retention of the lid or hinged end 45 in closed position, in-

wardly of the outer marginal edges of the side and bottom walls, it is preferred to provide a spring metal or other resilient member 51, which may be attached, as by an end 52, to the inside surface of the hinged end 45, so that a double portion thereof extends outwardly of the inner surface of the end 45, adjacent the free marginal edge thereof, adapted for engagement with a wear or retaining strip 54, when the lid 45 is in closed position. The strip 54 is preferably attached to the inside surface of the bottom 43 in any approved manner. The spring member 51 is also provided with a loop projecting portion 56 which extends outwardly from the free marginal edge 57 of the hinged end 45, and which when the end 45 is closed, engages the outer marginal edge 58 of the wear strip 54, or in the absence of the wear strip 54 may engage the forward marginal edge of the bottom 43. A finger engaging end 60 is upturned from the projection 56, whereby an operator may grasp the same to effect opening or closing of the end 45.

In order to assure an open or closed position of the lid or hinged end 45, it is preferred to provide a segment 65, which may be suitably attached to the inside surface of the hinged end 45, adjacent a marginal edge thereof, which is adapted for frictional engagement with a portion of the binding strip 50 of a side wall, in order to maintain the lid 40 in a position in which desired. A guide staple 66 may be carried by the side wall adjacent the segmental member 65, within which the latter operates. It is preferred that the free end 68 of the segmental friction supporting member 65 be outturned, to limit the amplitude of upward swinging of the hinged lid 45, as by engaging the guard staple 66, and to limit the amplitude of inward swinging of the lid or closure end 45, as by engaging the inside surface of the top wall 40.

In conjunction with the hinged end of the improved carton forms A and B, the front surfaces thereof may be conveniently slotted, as at 70, for the detachable reception of cards which may indicate the character of the contents of the carton, the condition of the same, and other information. This forms an easy method of determining at a glance whether the carton has a desired article therein, as when the carton is empty the card may be removed from the slot 70.

From the foregoing description of this invention it can be seen that a type of carton has been provided which will find a general use in connection with various trades, such as shoe retailers, manufacturers, and the like, as by means of these cartons it is possible for a clerk or other person to not only determine at a glance the character of article within the carton, but to remove the

article merely by swinging the end into open position, without having to remove the carton itself, such as is the inconvenient procedure at present. There are no detachable parts in connection with the improved carton, hence there will be no liability of displacement of lids. The lids may, of course, be hingedly connected to the forward marginal edges of either the top or bottom walls, although the connection of the same to the top wall is preferred, as thereby dust and foreign material is prevented from access to the compartment of the carton.

Various changes in the shape, size, arrangement of parts, and substitution of equivalents may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the claims.

I claim:

1. As an article of manufacture a container including top, bottom, side and rear end walls connected in permanent relation, a forward end wall hingedly connected to the forward marginal edge of the top wall for vertical swinging, and retaining flanges laterally carried at the side marginal edges of said forward end wall resiliently supported by said end wall so that the same will frictionally engage the side walls to normally maintain the forward end in closed position, or will swing outwardly upon complete opening of the forward end wall so that end marginal edges of said retaining flanges may engage the forward marginal edges of the side walls to maintain the forward end wall in an open position, said end wall when in closed position being prevented from too far inward swinging by the end marginal edges of the said retaining flanges engaging the inside surface of the container top wall.

2. As an article of manufacture a carton comprising side, top, bottom, and rear end walls permanently affixed and providing an opening for the forward end of said carton, a closure member, a stay strip exteriorly attached to the forward portion of the top wall and to said closure member for hinged connection of the latter to said carton, lateral retaining flanges, stay strips exteriorly connecting said lateral retaining flanges to the lateral edges of said closure member for resilient mounting thereon, said closure member when in closed position on said carton adapted to have the lateral retaining flanges swung inwardly to position them in frictional engagement with the inside surfaces of the carton side walls to maintain said closure member in shut position, the top marginal edges of said lateral retaining flanges when in said position being positioned adjacent the inside surface of the carton top wall to prevent too far inward swinging of said closure member, said

closure member when opened adapted to be supported in open position by the automatic lateral swinging of said retaining flanges incident to their inherent tendency so that
5 the upper marginal edges of the same will engage the forward marginal edges of the carton side walls.

3. As an article of manufacture a polygonal shaped box including top, bottom,
10 sides and one end wall fixedly connected in permanently closed relation to provide one open end for the box, an end wall hingedly connected to the forward marginal edge of the top wall for the opening of the box,
15 said hinged end wall when in closed position lying inwardly for a short distance of the forward marginal edges of the side and bottom walls, and means by which the hinged end wall may be frictionally held
20 in a closed position inwardly of said marginal edges of the side and bottom walls,

said means upon opening of the hinged end wall being in engagement with an adjacent side wall to hold the end wall in an adjusted open relation.

4. As an article of manufacture a container including permanently affixed walls, and an end wall hingedly connected to one of the permanently fixed walls, said end wall including lateral movable wings with rearwardly extending tail pieces, said retaining wings when the hinged end wall is open being adapted to open outwardly and engage the marginal edges of adjacent walls of the container to hold the hinged end wall
35 open with the tail pieces lying in rearwardly extending overlapped relation with the walls which the retaining wings engage and preventing accidental closing of the hinged end wall when in such open relation.

CLARENCE N. CAHILL.