March 23, 1954 C. A. ROSS 2,672,979

DISPENSING CARTON

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Fig. 1.

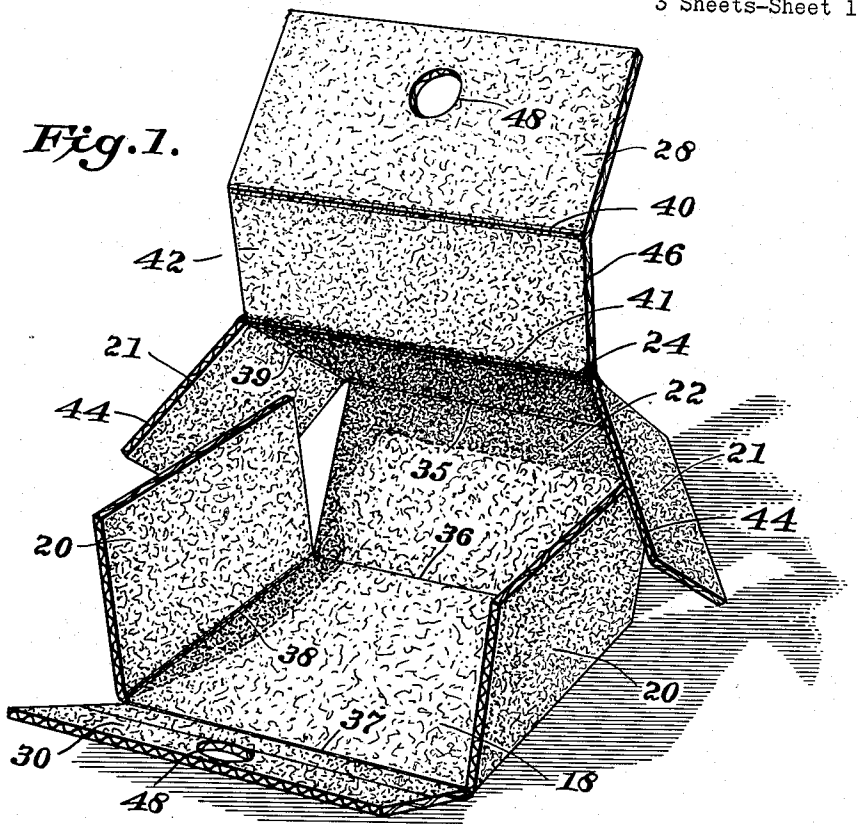
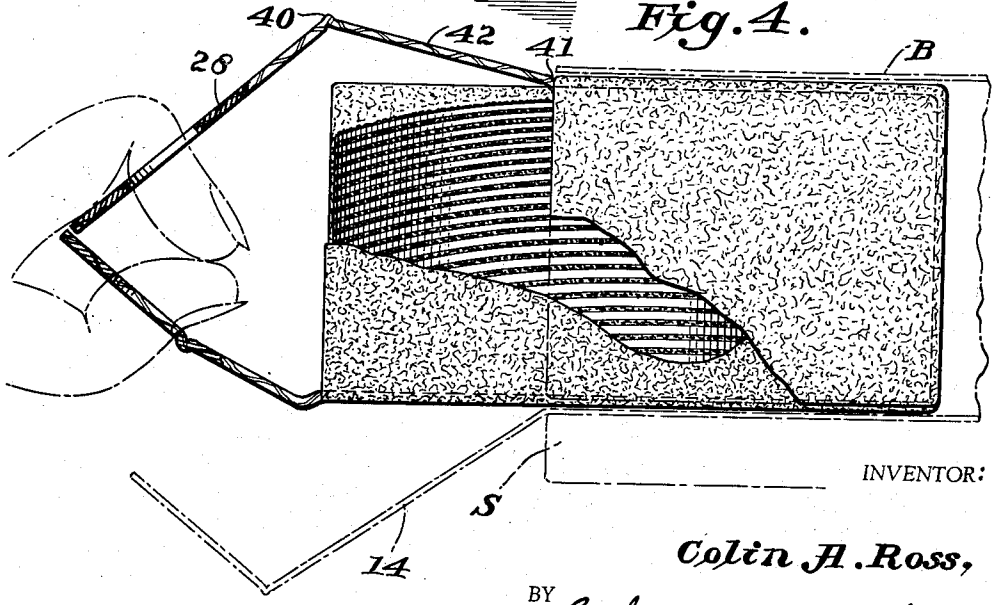


Fig. 4.



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Fig. 2.

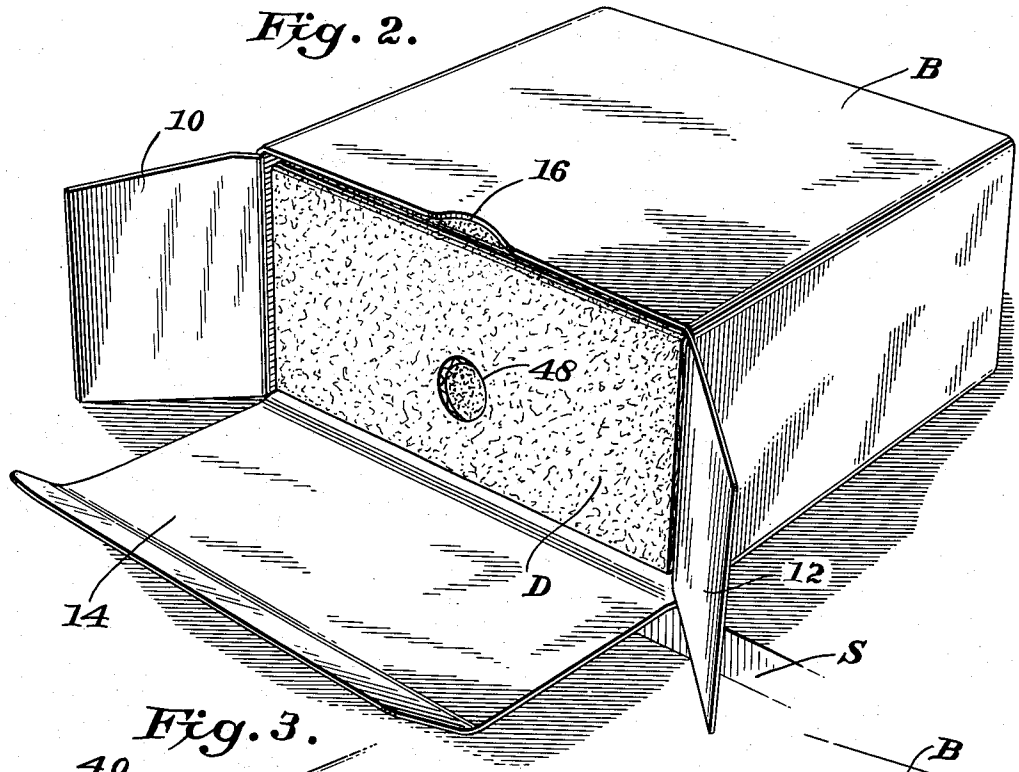
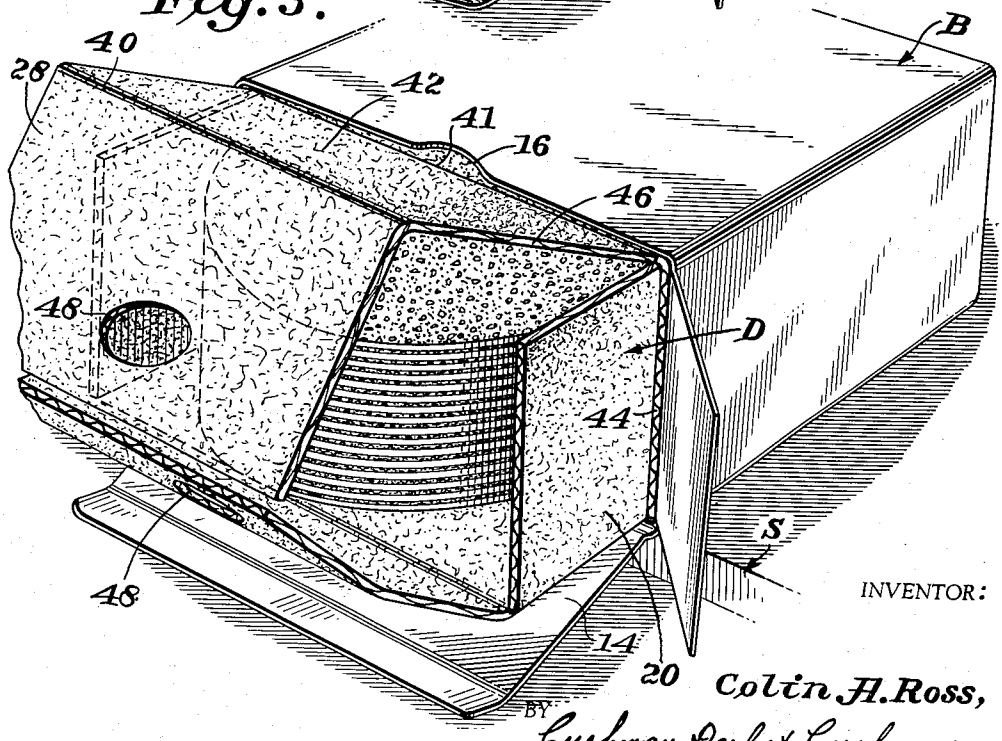


Fig. 3.



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Fig. 5.

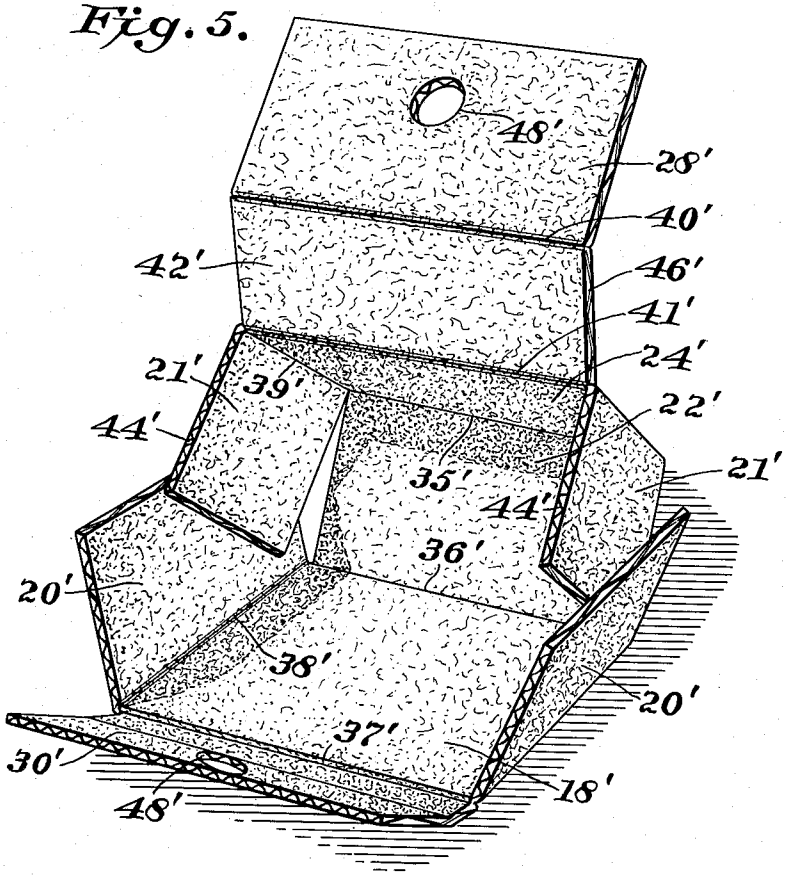
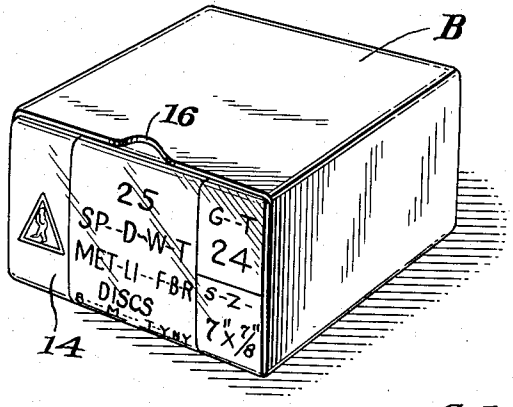


Fig. 6.



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DISPENSING CARTON

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Application March 21, 1950, Serial No. 151,005

1 Claim. (Cl. 206—60)

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The present invention relates to a carton which is adapted for the shipping and displaying of articles of commerce, particularly articles which are heavy enough to require a carton of rugged construction.

A principal object of the invention is to provide such cartons comprising an outer box and an inner drawer constructed and arranged so that the drawer may be pulled from the box for a distance sufficient to expose the contents without removing the carton from its stacked position. The drawer of the carton is of novel construction having a depending front flap and a forward top flap area connected thereto which may be turned upwardly and rearwardly to expose the contents of the drawer to view when only the front part of the drawer is moved outwardly from the box. The construction just referred to permits access to the drawer when the cartons are stacked on a shelf for inspection of the contents or to remove individual articles from the drawer, without removing the carton from the shelf and while providing firm support for the articles in the drawer.

A further object of the invention is to provide a carton capable of the above uses which is of rugged yet of simple construction and which may be manufactured at minimum cost.

In the drawings which illustrate a preferred form of the invention:

Figure 1 is a perspective view of the blank of the carton drawer, with the walls opened up in order to better illustrate the design of the cardboard blank from which the drawer is formed;

Figure 2 is a perspective view of the carton showing the drawer completely housed within the box, with the end flaps of the box opened;

Figure 3 is a view similar to Figure 2 but showing the drawer pulled outwardly from the box in order that the contents of the drawer may be viewed;

Figure 4 is a side elevational view, partly in section, showing how the finger holes in the front flaps of the drawer are used in pulling it outwardly from the box;

Figure 5 is a view similar to Figure 1, of a drawer forming blank of modified construction, and

Figure 6 is a perspective view of the carton in its closed condition.

Referring to Figure 2, the carton comprises an outer box B and a drawer D slidably mounted therein. The outer box may be of any conventional construction being closed at its rearward

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end in any conventional way, and having front side flaps 10 and 12 and a bottom closure flap 14, the flap 14 being turned in over the flaps 10 in order to completely close the carton to its condition shown in Figure 6. The top wall of the box may be centrally cut away as at 16 to facilitate the manipulation of the end flap 14.

In Figure 2, the carton is shown placed on the edge of a shelf S, with the forward end of the box in vertical alignment with the edge of the shelf, and it will be understood that a number of these cartons may be stacked on a shelf, one above another. The cartons may be used for the shipping and dispensing of relatively heavy objects such as are sold in hardware stores. In such establishments, cartons are often stacked in relatively inaccessible places such as on very high or very low shelves. The construction of the carton of the present invention is such as to encourage the storage of the product it packages in an accessible place, because of the convenience in displaying and removing the contents. However, the carton is capable of convenient use for such purposes even when stacked on very high or low shelves.

The construction of the blank from which the box D is made is shown in Figure 1. It will be understood that the drawer may be made from relatively heavy cardboard or the like and because of its heavy construction, the surrounding box may be made of a lighter cardboard or paper material. The construction of the drawer as hereinafter described is of such rugged nature as to resist the stresses encountered in shipment and use, when the properly cut and scored blank forming the drawer is folded and enclosed within the carton. The blank which forms this drawer comprises, all as an integral part thereof, a bottom wall 18, a side wall comprising upwardly folded inner panels 20 and downwardly folded outer panels 21, a hinged upwardly extending rear wall 22, a top wall 24, and a front wall comprising a depending front flap 26 and a lower front flap 30. The top wall panel is slightly longer than the adjacent rear wall panel 22 and the bottom panel 18, so that the panels 24 at the ends of panel 24 may depend therefrom in planes just outside those of the upwardly directed panels 20. Panel 22 is connected with panel 24 by a crease 35 and with bottom panel 18 by a crease 36. Panel 18 is connected with front flap 30 by a crease 37, and panels 20 and 21 are hinged to their bottom and top panels respectively by creases 38 and 39. It will be apparent that the creases 41 and 35 which define the top

panel are slightly longer than creases 36 and 37 so that bulging of the sides of the assembled drawer is avoided.

The upwardly extending side wall panels 20 are of the same size and they extend for the entire length of the drawer between the rear wall 22 and the lower front flap 30. The flap 30 is of substantially the same size as the rear wall 22 and, when turned upwardly, completely closes the front end of the drawer.

The top wall is hingedly connected with the depending front flap 28 by a lateral fold or score line 40, this scoring permitting the flap 28 to be either turned downwardly over the lower flap 30 when the drawer is closed or to be turned upwardly and rearwardly to gain access to the drawer. The material of the top wall of the drawer is scored along the line 41 for upward folding, at a distance spaced rearwardly of the line 40, thus forming a forward top flap area 42 which may be bent upwardly with the depending front flap in order to view the contents of the drawer.

The depending side wall panels 21 are not as long as the upwardly bent side panels 20, being cut away along forward vertical edges 44 in lateral alignment with the scoring line 41. Because the panels 21 are shortened, as thus described, it will be apparent that the forward top flat area 42 constitutes a simple rectangular flat sheet of material, defined on each side by cut side edges 46, rather than having any depending folded down flap portions as would be the case if the depending panels 21 were continued forwardly to the front end of the drawer. Such an arrangement is of particular advantage when the carton is stacked on a low shelf, for the contents can be immediately viewed when the drawer is pulled outwardly and when the depending front flap 28 is lifted, as is evident from an inspection of Figure 3. In particular, when the drawer contains a group of flat articles stacked one upon another, the uppermost of these articles can be immediately viewed when the front flap is lifted.

The front flaps 28 and 30 may be provided with suitable means whereby they may be grasped by the fingers to pull the drawer outwardly from the box. As shown in Figure 1, such means may be finger grip openings 48, although cut-out tabs or other equivalent means might be employed. As is evident in Figure 2, these finger grasping openings are conveniently available when the outer box is opened. The front flaps are simply opened into converging relation, as shown in Figures 3 and 4, whereby a convenient double finger grip is provided to facilitate pulling the drawer outwardly as shown in Figure 4. This means for withdrawing the drawer is particularly useful when the material or articles which are packaged are relatively heavy.

In this connection, it will be noted that the bottom wall 18 extends forwardly to the end of the drawer and has no score or fold lines therein, whereby the bottom of the drawer provides a quite rigid support for the contents when the drawer is pulled outwardly beyond the edge of the supporting shelf S, as illustrated in Figure 4. The drawer structure is further strengthened by the side panels 20 which also extend to the end of the drawer, giving rigidity to the structure when it is pulled outwardly, as well as guarding against accidental displacement of the contents of the drawer. It will be apparent that these features are of great importance, from the standpoint of protection, when the cartons are stacked on a high shelf, for instance, when the attendant or salesman must stand below the shelf and reach upwardly to open the drawer and remove articles therefrom.

The assembly and use of the carton will be apparent from the above description. The drawer blank, cut and folded as shown in Figure 1, may be filled with the articles to be packaged when in the general condition of Figure 1. For instance, a stack of abrading discs made of sandpaper or the like may be placed in the drawer and then the top and side walls may be closed around the articles to form a box-like structure. As can be seen from Fig. 4 of the drawings, the abrasive discs have a bowed shape, i. e., one of their diameters represents the arc of a circle while the diameter which runs perpendicular thereto represents a straight line. Consequently, when a stack of the abrading discs is enclosed within the drawer, the weight of the stack is supported only upon the two bow ends of the lowermost disc in the stack which places a greater weight upon the bottom of the drawer at these two points than would be the case if the discs were completely flat and the weight of the stack was supported evenly over the entire surface of the bottom disc. Thereafter, the assembled drawer and contents may be simply inserted into the open end of the outside box after which the flaps of the latter may be closed and sealed, providing the carton as shown in Figure 6 in readiness for shipment. In ordinary use, the outer face of the flap 14 of the box will have advertising printing thereon designating the contents and other useful information. When the cartons are stacked on shelves with the front ends thereof flush with the edges of the shelves, the flaps of the outer box may be opened, thus exposing the finger gripping holes 48 in the front flaps of the drawer which may then be pulled outwardly to the limited extent shown in Figures 3 and 4, to expose the contents of the drawer without completely removing it from the box. The front flap 28 and the forward top flap area 42 may be pulled upwardly to any desired extent, for further inspection of the contents or for the removal of articles from the drawer.

In Figure 5 the dimensions of certain of the panels of the drawer are altered so that the short depending side wall panels 21' will fit inside the longer side wall panels 20', rather than being disposed exteriorly thereof as in the Figure 1 embodiment. In this modification of Figure 5, the top wall panel 24' and the creases 41' and 35' which define this panel, are made somewhat shorter in length than the bottom panel 18' and its associated creases 36' and 37', so that the panels 21' can be folded to a position inside of and in contact with the panels 20', with both sets of panels in vertical planes, when the drawer is assembled. In other respects, this modified drawer is substantially the same as the embodiment of Figure 1, and it operates in substantially the same manner, the drawer being pulled outwardly, in use, until the crease 41' and the vertical edges 44' are just beyond the front edge of the box, whereupon the front flap 28' and the forward top flap area 42' may be lifted to expose the contents of the drawer in the manner previously described. In all other respects, the drawer of Figure 5 is substantially identical with that of Figure 1, and the similar parts have been given

the same numerals as in Figure 1, but designated with the prime.

It is, of course, possible to fill the drawer after it has been inserted into the box, and the articles may be initially packaged in this manner if found to be convenient. Obviously, the drawer may be refilled in this manner without entirely removing it from the box. As is apparent from the above description, the construction is of such nature that it is not essential that the walls of the inner drawer be secured to one another when folded into box-like form, as by the use of adhesive tapes and other well-known means.

I claim:

A package of abrading discs which may be stored upon a shelf and from which the discs may be partially drawn out beyond the shelf edge without dropping from the package for inspection or display while the package remains upon the shelf comprising an outer box made of cardboard or like sheet material, a pull-out drawer slidably enclosed within said box, a stack of bowed abrading discs having a diameter slightly less than the interwall distance of said drawer enclosed within said drawer with the weight of the stack being supported upon the two bow ends of the lowermost disc in the stack, said drawer being formed from a blank of sheet material having a series of spaced lateral parallel folds therein which define the bottom, rear and top walls of the drawer, a depending rectangular front flap hingedly attached to the forward end of said top wall, an overlapping front flap hingedly attached to the forward end of said bottom wall, said flaps forming the front end wall of the drawer when they are closed, said front flaps each being provided with a finger grip opening for use in pulling the drawer outwardly from said box, a lateral score line in said top wall spaced rearwardly from the forward edge forming a rectangular forward top

flap area which may be folded upwardly to expose said discs to full view when the drawer is pulled out of the box sufficiently to bring the score line beyond the front edge of the box, rectangular side wall panels depending from both sides of the top wall along the edges located between the rear edge and the last mentioned lateral score line leaving said forward top flap area without depending side panels, rectangular side wall panels folded upwardly from the side edges of the bottom wall extending substantially from the rear edge to the forward edge of the bottom wall constituting supporting means for the bottom wall enabling it to support the weight of said discs when the drawer is pulled partially out from said box over the edge of a shelf and one of the two bow ends of the bottom disc in the stack extends over the edge of the shelf, and a tuck-in end flap on said box forming an enclosure over said overlapping front flaps.

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