June 8, 1954 G. C. CURRIE 2,680,556

CARRIER FOR CYLINDRICAL OBJECTS

Filed Aug. 15, 1950

3 Sheets-Sheet 1

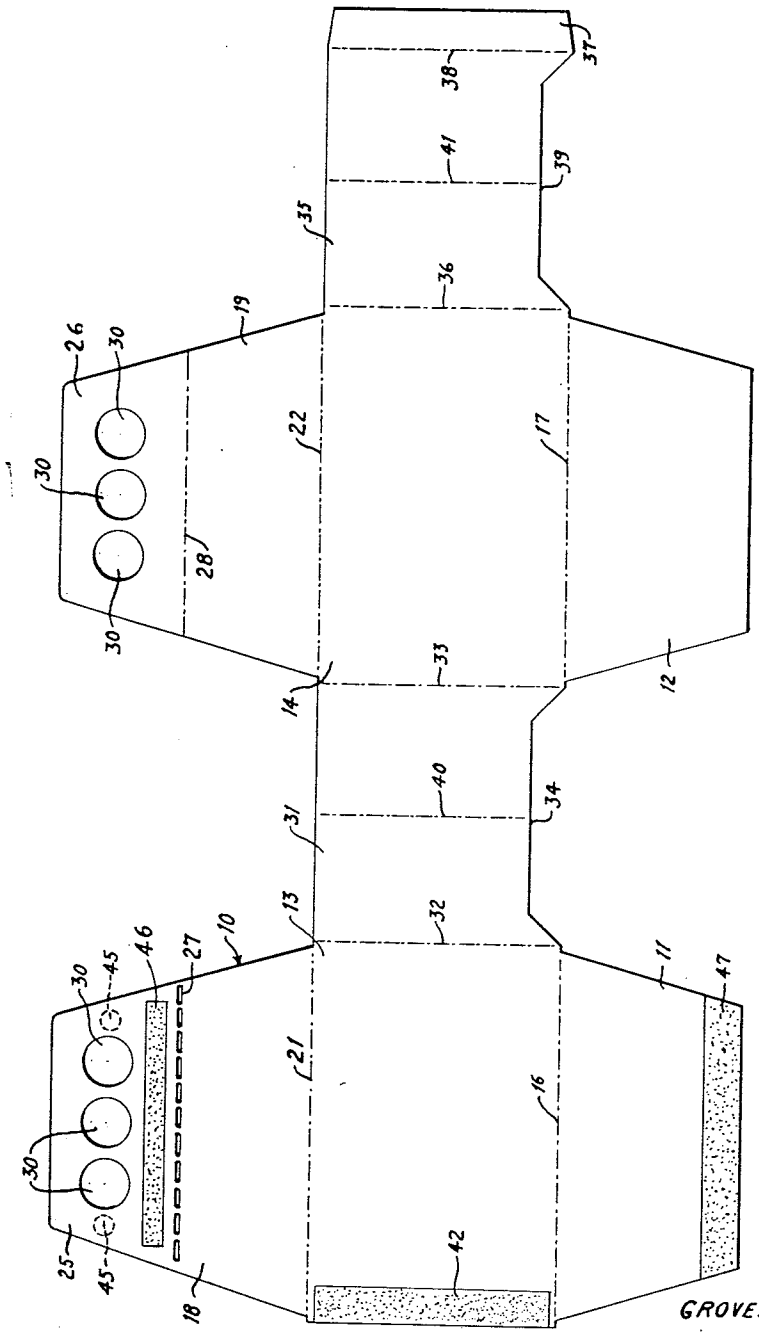


FIG. 1

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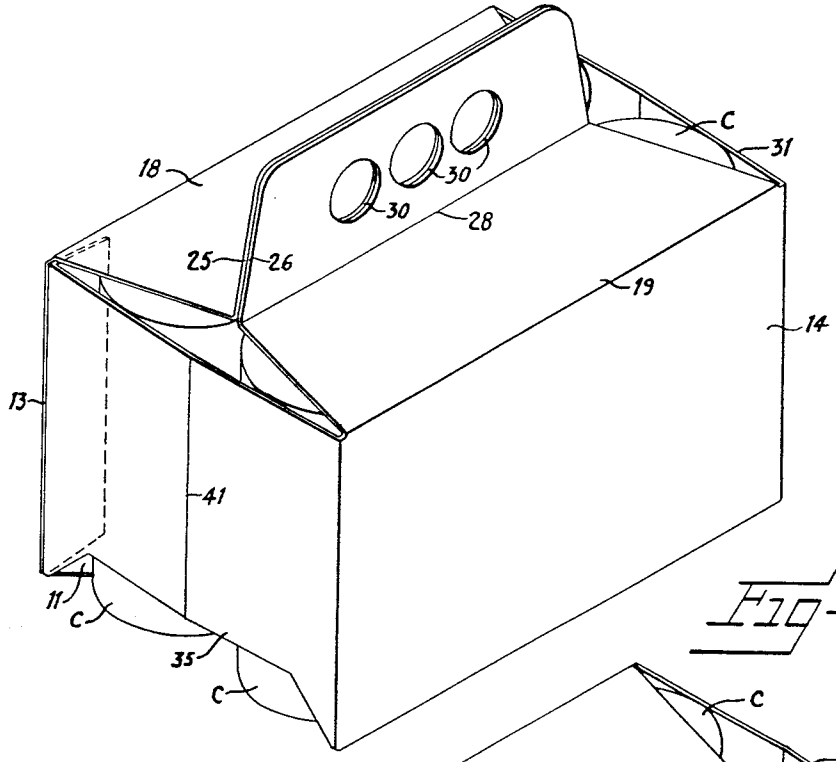


Fig- 2

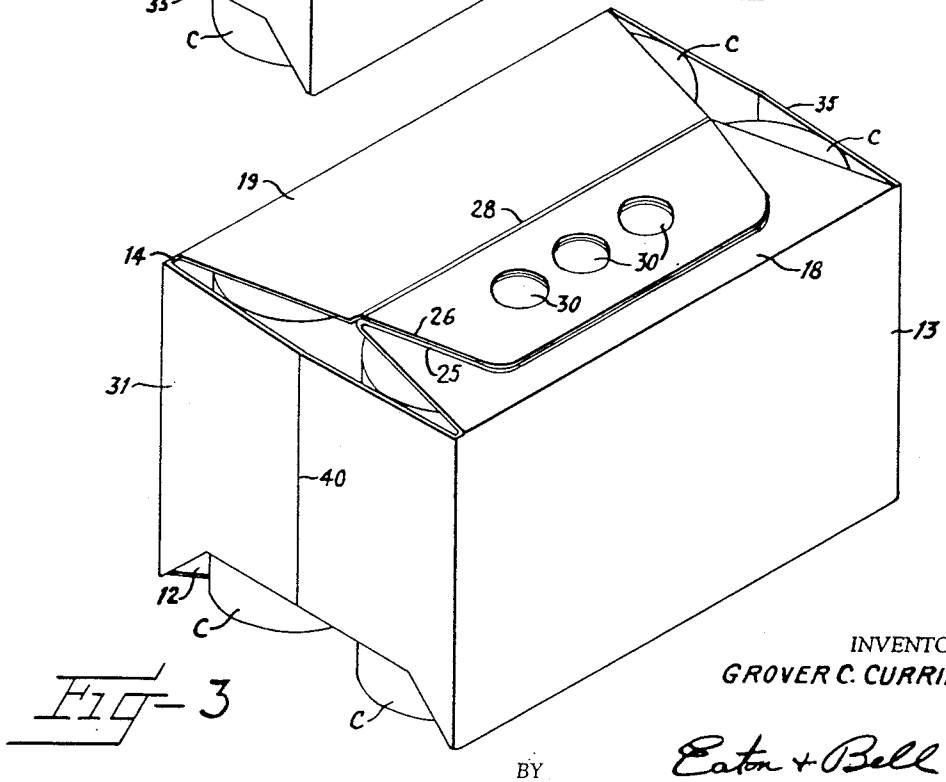


Fig- 3

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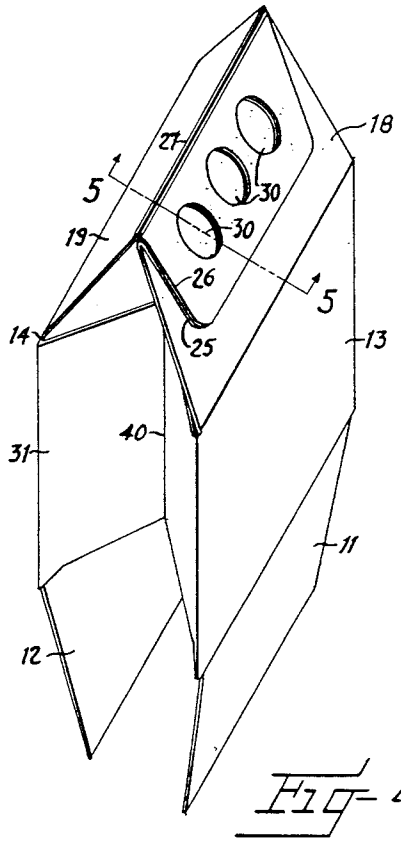


Fig- 4

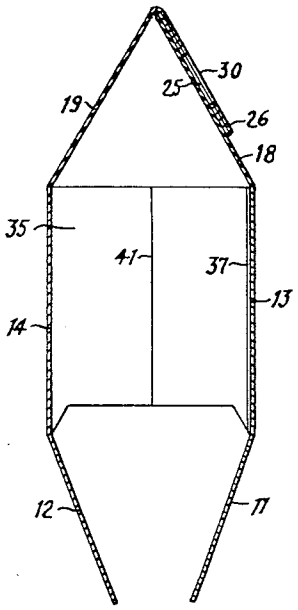


Fig- 5

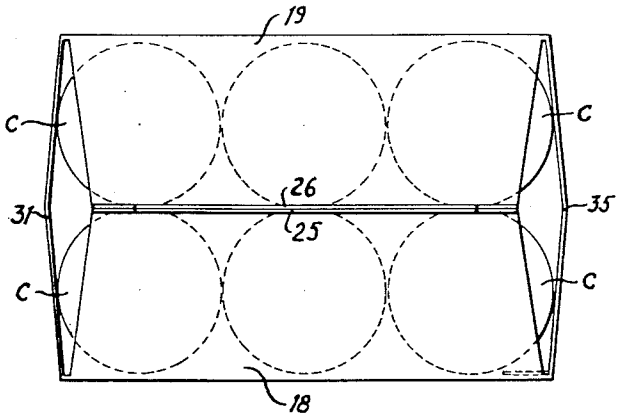


Fig- 6

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UNITED STATES PATENT OFFICE

2,680,556

CARRIER FOR CYLINDRICAL OBJECTS

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Application August 15, 1950, Serial No. 179,425

1 Claim. (Cl. 229—37)

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This invention relates to a portable collapsible cardboard carrier for holding a plurality of cylindrical objects such as cans of beer, fruit juice, soup and the like, and more especially to a carrier or carton which may be formed from a single sheet of cardboard to form a compact unit adapted to receive a plurality of cylindrical objects and having means thereon adapted to be grasped by an operator for transporting the carrier.

It is another object of this invention to provide a carrier for cylindrical objects of the type described having side panels and end panels and said panels being so constructed as to permit the same to be collapsed so that the side panels may be disposed adjacent each other for shipping purposes and said carrier being provided with a pair of top panels and a handle portion secured to each of said top panels and said top panels being so joined to said side panels as to permit the same to be folded into right angular relation therewith when cylindrical objects are disposed within the carrier so that a plurality of said carriers may be stacked in superposed relation with each other for storage purposes.

It is still another object of this invention to provide a carton of the type described having side panels, end panels, top panels and bottom panels secured to said side panels and said carton being so constructed as to permit said end panels, side panels, and top panels to be secured together with said bottom panels depending in open position to permit a plurality of cylindrical objects to be inserted within said carton from the bottom thereof so that the bottom panels may then be moved to overlapping relation and secured together to hold the cylindrical articles within said carrier.

It is another object of this invention to provide a carrier of the type described which is especially adapted to be used in a packing machine of the type shown in the application of Grover C. Currie, et al. Serial No. 788,602 filed November 28, 1947, now Patent No. 2,603,924, entitled Apparatus and Method for Placing Articles in Cartons.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds, when taken in connection with the accompanying drawings in which—

Figure 1 is an elevation of the blank from which the carrier is formed, showing the same cut and scored and ready for erection;

Figure 2 is an isometric view of the carrier in erected position and having a plurality of cylindrical objects therein;

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Figure 3 is an isometric view of the carrier shown in Figure 2 but with the handle portion thereof secured in flat position for storage purposes and looking at the opposite side thereof;

Figure 4 is an isometric view of the carrier in partially erected position, with the bottom panels open, and showing the same prior to the insertion of cylindrical objects;

Figure 5 is a vertical-sectional view of the carrier taken substantially along the line 5—5 in Figure 4;

Figure 6 is a top plan view of the erected carrier showing a plurality of cylindrical objects therein.

Referring more specifically to the drawings, numeral 10 designates a suitable blank from which the carrier is formed. The blank is cut and scored in such a manner as to provide a pair of bottom flaps 11 and 12 hingedly connected to side panels 13 and 14 as by score lines 16 and 17 respectively. The edges of the bottom flaps are preferably tapered. The side panels 13 and 14 are hingedly connected to top panels 18 and 19 as by the score lines 21 and 22 respectively. A pair of handle portions 25 and 26 are hingedly connected to the top panels 18 and 19 as by score lines 27 and 28 respectively, the line 27 preferably being formed of a plurality of perforations for purposes to be described.

The handle portions 25 and 26 are provided with a plurality of coinciding cut-out openings 30 adapted to receive the fingers of an operator for carrying the carrier when the same is in erected position as will be further described.

An end panel 31 is hingedly connected at one edge to the side panel 13 as by a score line 32 and the other edge of the end panel 31 is hingedly connected to the side panel 14 as by a score line 33. The end panel 31 is cut away as at 34 at its lowermost edge. A second end panel 35 is hingedly connected at one edge thereof to the side panel 14 as by a score line 36 and the end panel 35 has a tab portion 37 hingedly connected thereto as at 38 and is cut away at the lowermost edge thereof as at 39. The end panels 31 and 35 are scored intermediate their ends by lines 40 and 41 respectively for purposes to be described.

The edge of the side panel 13 opposed from the score line 32 is provided with a suitable adhesive as at 42 and in erecting the carrier the end panel 31 is folded along the score line 32 to perpendicular relation with the side panel 13 and the side panel 14 is then folded along the score line 33 to perpendicular relation with the end panel 31 and to parallel relation to the side panel 13 and

the end panel 35 is then folded along the score line 36 to place the same in perpendicular relation to the side panel 14 and in opposed parallel relation to the end panel 31. The tab 37 is then folded along the score line 38 and is suitably secured to the edge of the side panel 13 having the adhesive 42 thereon to form a carton which is substantially rectangular in plan.

The top panels 18 and 19 are folded along score lines 21 and 22, respectively, and the handle portions 25 and 26 have their proximate surfaces suitably secured together as by adhesive 46 and the handle portions 25 and 26 are folded along the lines 27 and 28 so that the handle portion 26 will be on top of the handle portion 25 and the handle portion 25 is then secured to the top panel 18 as by spots of adhesive 45, as will be observed in Figures 3, 4 and 5. The perforated line 27 being provided to permit the handle portion 25 to be folded back into superposed relation and in contact with the top surface of the top panel 18.

With the handle portion secured in this position, the end panels 31 and 35 may be folded along the score lines 40 and 41 so that the end panels 31 and 35 will extend inwardly toward each other as may be observed in Figure 4. When the carrier is in this position a plurality of carriers may be stacked with their side panels in contact with each other for shipping purposes, it being noted that the bottom flaps 11 and 12 remain open and are not secured together.

The carrier in this position may then be moved to partially open position so that a plurality of cylindrical objects such as cans indicated at C may be inserted therein through the bottom opening as by said above-identified machine or by other means, and the bottom flaps 11 and 12 are then folded along score lines 16 and 17, respectively to perpendicular relation with the side panels 13 and 14 and are suitably secured to each other in superposed overlapping relation as by adhesive 47.

When the carrier is in this position, as will be observed in Figure 3, the top panels 18 and 19 will be disposed in parallel relation to the bottom flaps 11 and 12 and with the handle portions 25 and 26 secured thereto, to form a substantially rectangular carton, and a plurality of these cartons may be stacked for storage and transportation purposes if desired.

Now when one carton is desired to be carried individually an operator may grasp the handle portions 25 and 26 and pull upwardly on the same to cause the handle portion 25 to become detached from the top panel 18 at the points 45 where it is adhesively secured thereto, to thus be disposed in a substantially vertical position in Figure 2, and the fingers of the operator may then be inserted in the coinciding openings 30 and the carrier may be transported as desired. It should be noted that when the carrier is transported by the fingers of an operator penetrating the openings 30, and upward pressure being exerted on the handle portions 25 and 26 the top panels 18 and 19 will be moved upwardly slightly to thus exert pressure on the side panels 13 and 14 to securely

hold and bind the cylindrical objects within the carton and to prevent any slippage or displacement thereof. The fold lines 40 and 41 permit the end walls 31 and 35 to bulge slightly outwardly when a plurality of objects such as cans C are disposed within the carrier.

In the drawings and specification, there has been set forth a preferred embodiment of the invention and although specific terms are employed, they are used in a descriptive and generic sense only, and not for purposes of limitation, the scope of the invention being defined in the claim.

I claim:

A flat-topped carrier for two parallel rows of flat-ended cylindrical objects, said carrier being cut from a single blank of material and comprising a pair of side panels, a first end panel hingedly secured at opposite side edges thereof to the end edges of said side panels, a second end panel hingedly secured at one side edge thereof to one end edge of one side panel, a tab hingedly secured to the other side edge of said second end panel, said tab being adhesively secured to the other side panel and being of less width than said side panel, a top panel hingedly secured to the upper edge of each of said side panels, each of said top panels having a width equal to one half of the width of the end panels, a handle portion hingedly secured to the upper edge of each of said top panels, the hinge line between one of said handle portions and said top panel being perforated, said handle portions being adhesively secured to each other, said handle portions being folded along said perforated line into superposed relation with one of said top panels and being adhesively and detachably secured thereto by relatively small areas of adhesive, each of said end panels being scored intermediate its ends permitting said ends to be folded inwardly into juxtaposed relation to said side walls, a bottom flap hingedly secured to the lower edge of each side panel, said carton being foldable into flat condition for stacking when empty and being foldable into a hood-like position for positioning said cylindrical objects therein through the bottom opening, said bottom flaps being securable in juxtaposed overlapping relation to confine said cylindrical objects therein, and said filled carton having a flat top and a flat bottom.

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