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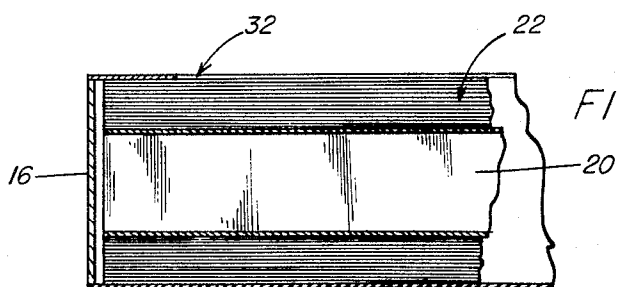
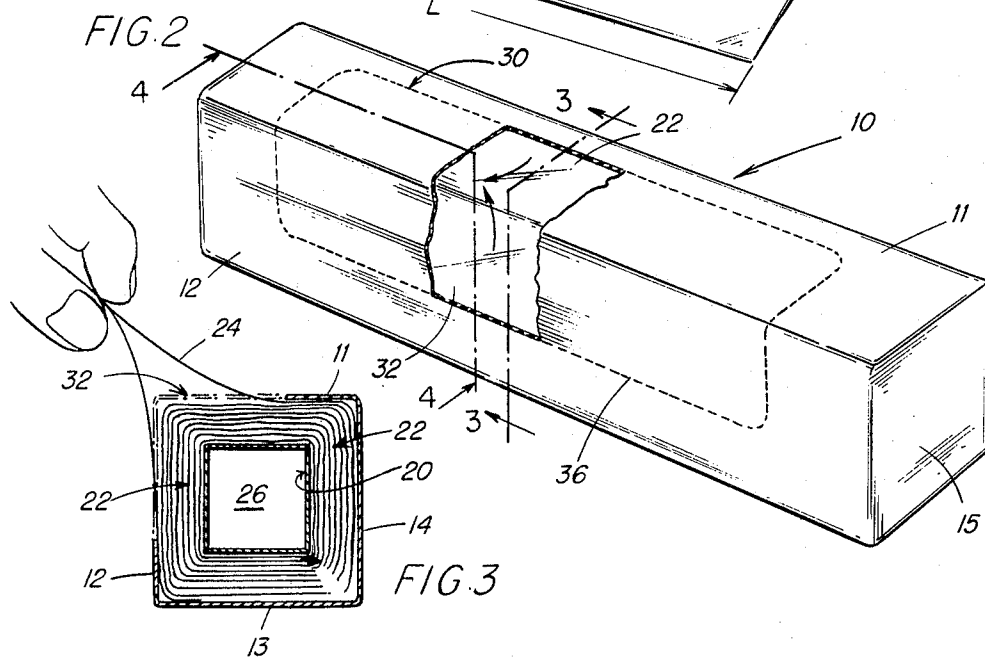
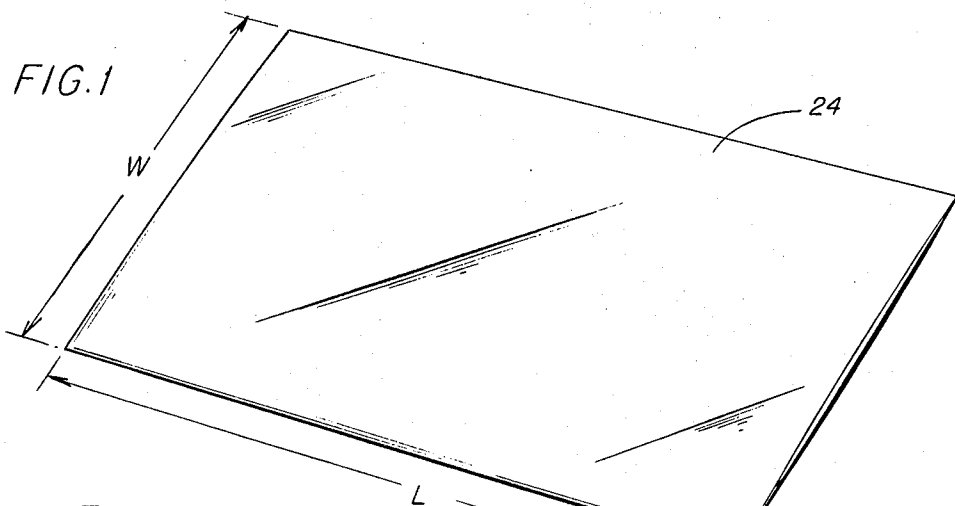
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3,249,255

DISPENSER BOX OF PLASTIC BAGS

Filed Jan. 7, 1964

2 Sheets-Sheet 1



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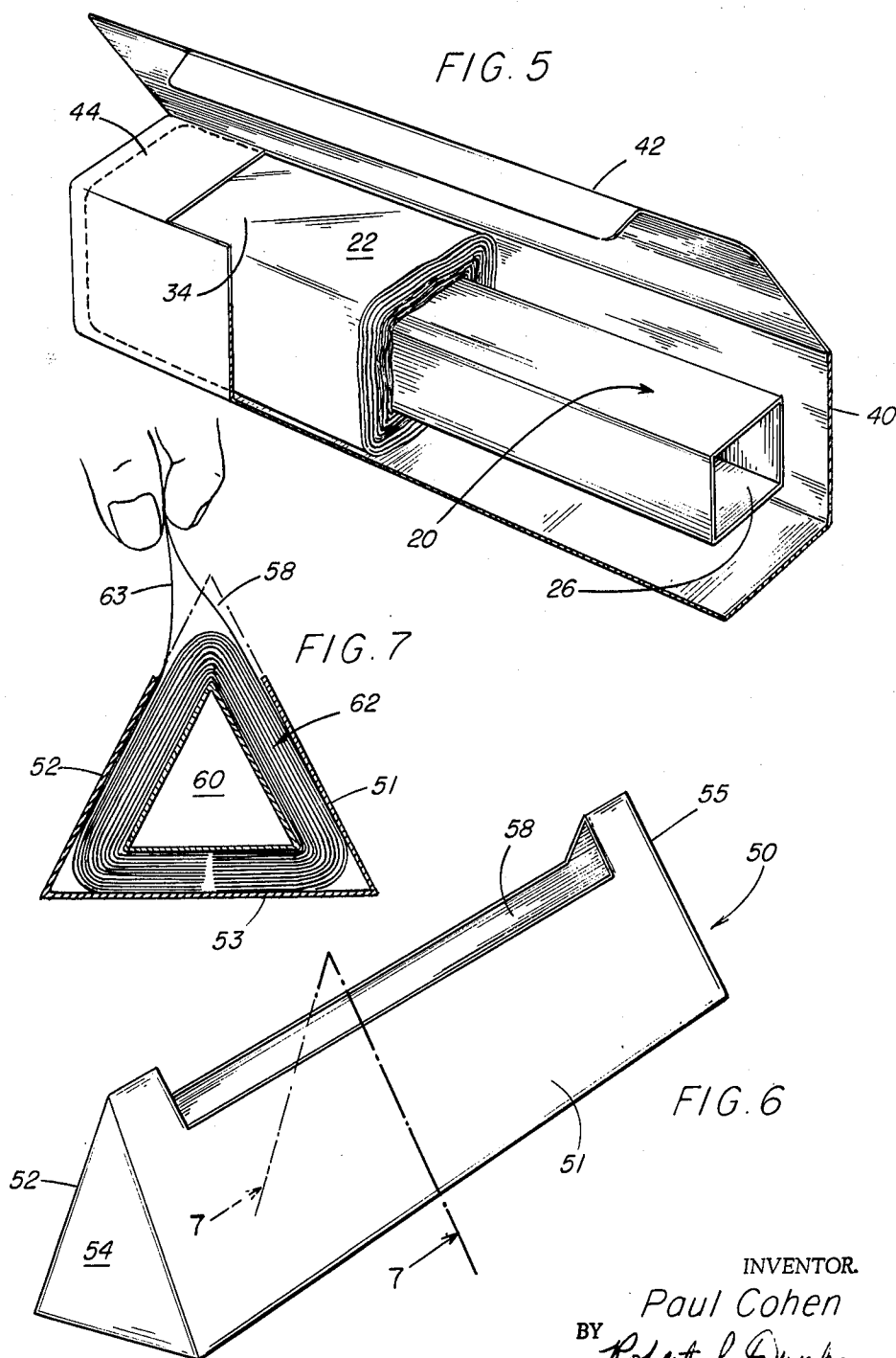
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2 Sheets-Sheet 2



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DISPENSER BOX OF PLASTIC BAGS

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5 Claims. (Cl. 221-63)

This invention relates to a unit for dispensing individual sheet-like members, such as plastic bags and flat flexible sheets from a pack contained in a dispenser-container.

Today, sheets and flat sheet-like items, such as plastic bags, are "dispensed" as individual items from a variety of containers. A widely used unit comprises a long continuous sheet in the form of a roll of waxed paper, cellophane, aluminum foil, etc. in a box container having a cutting edge; the sheet is pulled out to the proper length and then cut by creasing it against the edge. This system is awkward in that the desired length is easily misjudged, or the sheet is not cut square, or is frequently torn into a jagged edge. The sharp edge is a hazard to fingers.

Recently plastic bags are being dispensed from a roll. A flat tube is heat sealed in such a way that it consists of a chain of compartments which when dispensed form a bag; a sharp jerk on the tube is supposed to deliver a single bag. A better arrangement is desirable.

An object of this invention is a dispensing unit for delivery of a sheet or sheet-like member in a one-at-a-time manner. Another object is a dispensing unit for delivering flat plastic bags, retained in the container in the form of a pack, in a one-at-a-time manner. A further object is a dispensing unit for delivery of uniformly sized sheets of paper, foil or the like in a one-at-a-time manner. Other objects of the invention will become apparent in the course of the detailed description of the invention.

FIGURE 1 shows an individual flat plastic bag which can be delivered by the dispensing unit of the invention.

FIGURE 2 shows a parallelepiped embodiment of the dispenser container with a break-away view of plastic bags retained therein.

FIGURE 3 shows a side-cross sectional view at line 3-3 of the dispensing unit of FIG. 2 with one bag being withdrawn.

FIGURE 4 shows a partial longitudinal cross sectional view at line 4-4 of the dispensing unit of FIG. 2.

FIGURE 5 shows a break-away view of another embodiment of the dispensing unit of the invention.

FIGURE 6 shows a triangular embodiment of the dispenser container with an egress opening.

FIGURE 7 shows a side-cross sectional view at line 7-7 of FIG. 6 with one bag being withdrawn.

Briefly, the dispensing unit of the invention comprises: a hollow rectilinear container; an elongated core disposed within said container, said core having a side cross sectional area smaller than the interior side-cross sectional area of said container; means affording egress for sheet-like members from the interior of said container through a longitudinal wall of said container; a pack made up of sheet-like members, positioned, within said container, about (around) said core, the width of said members being either smaller, or equal to but not substantially greater than the perimeter of the side-cross section of said core.

The invention is described in connection with the figures which form a part of this application.

Container 10 (FIG. 2) is a hollow rectilinear body, i.e., it is bounded by or formed by straight lines. A cylinder because of its surface made up of an infinite number of parallel lines or a body formed of rectangular surfaces and curvilinear surfaces, is included in the scope

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of rectilinear body. Commonly container 10 is a triangular or parallelepipedal body, i.e., a body made up of surfaces bounded by straight lines. Usually container 10 is a parallelepiped, i.e., a prism having six faces. In general, the container will have an elongated body, as shown in FIG. 2 where container 10 has elongated rectangular walls 11, 12, 13 and 14 and the end (side) walls 15 and 16 have a substantially square cross section. In some instances container 10 may be a cube.

An elongated core 20 is disposed within container 10. In order to fit into container 10 and to provide space for the pack 22 of the sheet-like members 24, core 20 has a smaller side-cross sectional area 26 than the interior side-cross sectional area of container 10, which corresponds approximately to the area of side 15. Core 20 will be an elongated rectilinear body as defined above and will be of a length suitable for dispensing the particular sheet-like members. Usually core 20 will be shorter than but may be as long as the interior length of container 10. If core 20 is as long as the interior length of container 10, it may be affixed to side walls 15 and 16; preferably core 20 is disposed "free" within container 10 as shown in the figures. Preferably core 20 has the same side-cross sectional shape as does container 10. In the embodiment of the FIGURES 2-5, core 20 is an open-ended tube having a substantially square side-cross section 26.

A pack 22 made up of sheet-like members 24 is positioned within container 10 about (around) the longitudinal direction of core 20. The width "W" (FIG. 1) of said members 24 is either smaller, or equal to but not substantially greater than the perimeter of the side-cross section 26 of core 20. In other words the dimension of the sheet which is bent about (around) the core is such that the two opposing sheet ends do not overlap, if there is any overlap, it is slight, i.e., the sheets are in substantially non-overlapping relation. The ratio of the "about (around) the core" dimension of the sheet-like member to the side perimeter of the core is never substantially greater than one. It is to be understood width "W" is the effective width insofar as the core perimeter is concerned. Thus sheets may be folded in 2-ply or 3-ply as to have an effective width "W" one-half or one-third the actual width when withdrawn from the container and opened flat.

This "non-overlapping" relation decreases resistance to withdrawal of an individual sheet-like member 24 to the friction between the sheet and the interior of container 10 and the friction between member 24 and the next adjacent member in the pack. Pack 22 is made up of uniform sized members 24; as the members are positioned about core 20, the thickness of the pack will result in a "continuously" greater distance between the opposing ends of the individual sheet-like member 24.

The length "L" of sheet-like member 24 preferably is substantially the interior length of container 10. With some materials, it may be desirable to have length "L" shorter than the length of core 20; in some cases, it may be desirable to have "L" somewhat longer than the length of the core. As with "W," it is to be understood "L" is the effective length with respect to the container.

Egress means 30 affords access to and egress from the interior of container 10 and provides an opening 32 in at least one longitudinal wall of container 10. In FIGURES 2 and 3, opening 32 is positioned at the corner of surfaces 11 and 12; in FIG. 5, opening 34 is entirely within a single longitudinal surface. The access-egress opening is sized to permit easy withdrawal of individual members 24 from pack 22.

A convenient form of container 10 has egress means 30 as an integral part of a longitudinal wall of the con-

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tainer. A line of weakness 36 is provided as the boundary of opening 32; the line of weakness is commonly made up of slits or perforations; the line permits manual removal of the bounded section of wall in order to create opening 32 and to expose a substantial portion of the length of pack 22, whereby members 24 may be withdrawn individually from container 10. Commonly opening 32 is oblong shaped.

Pack 22 possesses resiliency, as the sheet-like members 24 are compressed to increase the number inserted into container 10, and may tend to spill individual members out of the container once the egress opening is formed; usually means are provided to retain members 24 within the container after the egress opening has been formed. FIGURE 5 shows a container 40 provided with a flap 42 (only partially shown) which when open gives access to the interior of the container. A wall portion 44 is positioned at one end of the open end; a similar wall portion (not shown) is provided at the other end. These wall portions extend a distance over the ends of the pack to retain the members within container 40, i.e., in ordinary handling. Instead of a fixed wall portion, free-flaps may be used when the tendency to spill out is low.

In container 10, opening 32 is sized to permit easy withdrawal of members 24 individually and to permit the remaining wall area to retain the members 24 within the container 10. The retaining function is performed not only at the ends of the pack but also along the length of the pack, since the entire width of the surfaces 11 and 12 has not been removed in forming opening 32.

Members 24 may be sheets or flat sheet-like items such as the bag shown in FIG. 1. The sheets may be made of facial tissue, wrapping paper, cellophane, waxed paper, plastic film, and the like. It is easier to dispense a single sheet one-at-a-time when the material from the sheets is formed has a low order of self-adhesion, i.e. only a slight tendency to stick to itself or to block on storage. This dispensing unit is especially adapted for dispensing plastic sheets and bags such as the polyethylene sheets and bags used for household wrappings.

One specific embodiment of the invention is described in connection with FIGS. 1-4. Pack 22 is made up of 50 polyethylene bags having a length "L" of 14.5 inches and a width "W" of 9.5 inches. Container 10 is made of heavy cardboard: 15 inches long and 2.75 inches square. Core 20 is about 13 inches long and 2.1 inches square. The bags may be allowed to wrinkle in place in the container so that even those nearest the core have only a slight overlap of the ends. As bags are removed, the resiliency of the bags spreads the pack to fill the container and the overlap of the innermost bags is decreased. With the container nearly empty, the spread of the pack decreases the overlap to the vanishing point. Opening 32 is 11.5 inches long and 3.5 inches wide, with rounded corners. This leaves 1.75 inches of wall at each end and 1 inch of width of wall to retain the bags in the container. The egress means section is bounded by a line of slits; this section is easily removed by finger pressure. The bags remain in the container even when the container is nearly empty. The thumb and forefinger easily grasp a single bag and easily withdraw it (see FIG. 3) from the pack and container; this happens with the first bag and also with the last.

FIGURES 6 and 7 illustrate a dispensing unit utilizing a triangular container 50 which comprises rectangular sides 51, 52 and 53. End (sides) walls 54 and 55 have a triangular cross section. Opening 58 provides access to and egress from the interior of container 50. Elongated hollow triangular core 60 is freely disposed within container 50. Pack 62 is positioned within container 50 about core 60. The individual members of pack 62 are in non-overlapping relation. In FIG. 7 an individual sheet-like member 63 is being withdrawn, through opening 58, from container 50.

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Thus having described the invention what is claimed is:

1. A unit for dispensing flat plastic bags in a one-at-a-time manner, which unit comprises:

- (a) a hollow, elongated, rectilinear container;
- (b) an elongated rectilinear core disposed within said container, said core having a cross-sectional area, perpendicular to said core elongated dimension, smaller than the interior cross-sectional area of said container, perpendicular to said container elongated dimension, and being substantially the same length as the interior of said container;
- (c) means affording egress for flat plastic bags, having a low order of self-adhesion, from the interior of said container through a longitudinal wall of said container; and
- (d) a pack of flat plastic bags, having a low order of self-adhesion, wrapped completely around the closed periphery of said core, in the plane of said core cross-section, within said container, in a substantially non-overlapping relation.

2. The unit of claim 1 wherein said plastic is polyethylene.

3. The unit of claim 1 wherein said egress means comprises a section of said wall which section is bounded by a line of weakness that permits manual removal of said section to expose a substantial portion of the length of said pack, less than the full length of said pack, whereby said members may be withdrawn individually one-at-a-time from said container.

4. A unit for dispensing flat plastic bags in a one-at-a-time manner which unit comprises:

- (a) a hollow, elongated parallelepiped container having a substantially square side-cross section perpendicular to said container elongated dimension;
- (b) disposed within said container, an open ended, elongated square tube having substantially the same length as the interior of said container, said tube having a cross sectional area, perpendicular to said tube elongated dimension, substantially smaller than the interior cross sectional area, perpendicular to said container elongated dimension, of said container;
- (c) a pack of flat plastic bags, formed of plastic having a low order of self-adhesion, wrapped completely around the closed periphery of said tube in the plane of said tube cross-section, in a substantially non-overlapping relation, within said container; and
- (d) oblong egress means, positioned in at least one wall of said container and bounded by a line of weakness which permits manual removal of said oblong area, said oblong being sized to afford an opening which permits easy withdrawal of individual bags one-at-a-time from said pack and permits the remaining wall area to retain said bags within said container.

5. A unit for dispensing flat plastic bags in a one-at-a-time manner which unit comprises:

- (a) a hollow, elongated rectilinear container having a substantially triangular cross-section, perpendicular to said container elongated dimension;
- (b) disposed within said container, an open ended, elongated triangular tube having substantially the same length as the interior of said container, said tube having a cross sectional area, perpendicular to said tube elongated dimension, substantially smaller than the interior cross sectional area, perpendicular to said container elongated dimension, of said container;
- (c) a pack of flat plastic bags, formed of plastic having a low order of self-adhesion, wrapped completely around the closed periphery of said tube in the plane of said tube cross-section, in a substantially non-overlapping relation, within said container; and
- (d) oblong egress means, positioned in at least one wall of said container and bounded by a line of

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weakness which permits manual removal of said oblong area, said oblong being sized to afford an opening which permits easy withdrawal of individual bags one-at-a-time from said pack and permits the remaining wall area to retain said bags within said container.

References Cited by the Examiner

UNITED STATES PATENTS

1,072,859	9/1913	Kingsley	-----	221—59	10
1,224,378	5/1917	Hillyard.			
1,657,942	1/1928	Spaldo	-----	221—47	X
2,085,649	6/1937	Gluck	-----	221—33	X

6

2,165,107	7/1939	Lawson	-----	221—63
2,529,853	11/1950	Taggart	-----	221—63
2,761,584	9/1956	Johnson et al.	-----	221—63
2,925,175	2/1960	Williamson et al.	---	221—45 X
2,936,937	5/1960	Guyer	-----	206—58 X
3,144,960	8/1964	Membrino	-----	221—63 X
3,195,772	7/1965	Buttery	-----	221—33

FOREIGN PATENTS

186,224	11/1936	Switzerland.
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