

[54] **FOLDABLE CONTAINER, LITTER BAG, DUST PAN, BRUSH AND BLANK THEREFOR**

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[58] **Field of Search**..... 15/104.8, 257.1, 15/257.2, 257.7; 206/4.6 BR, DIG. 8, DIG. 9; 229/51 DB, 52 B

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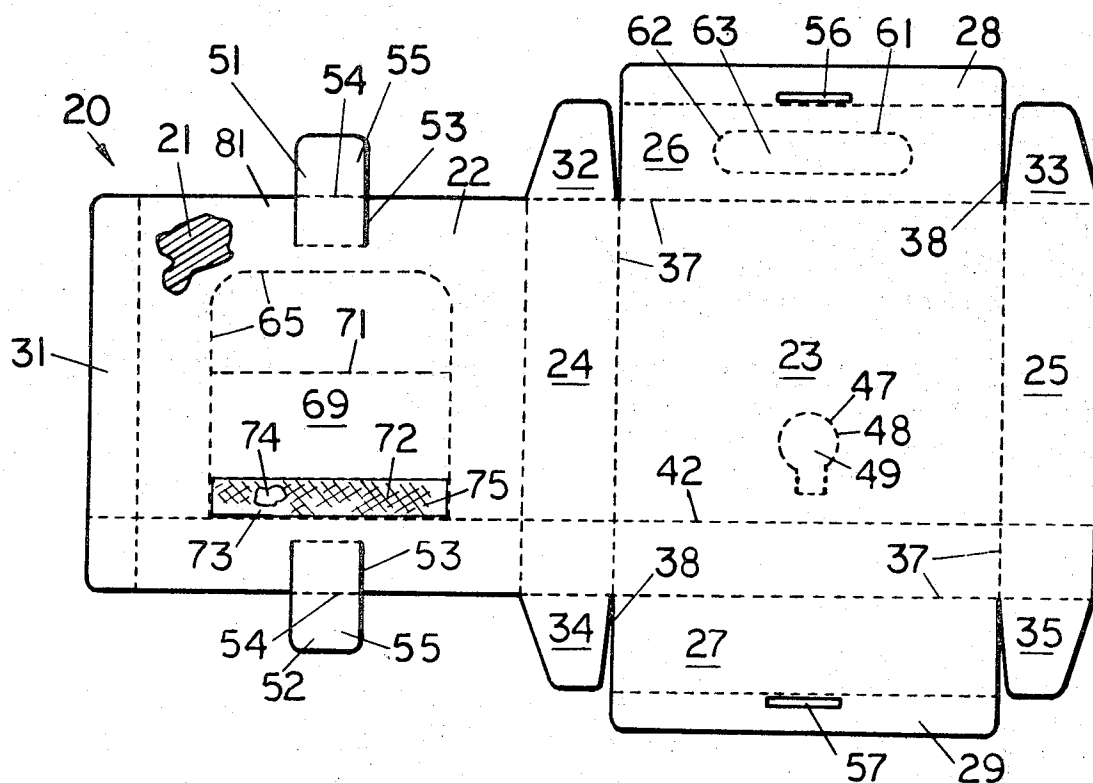
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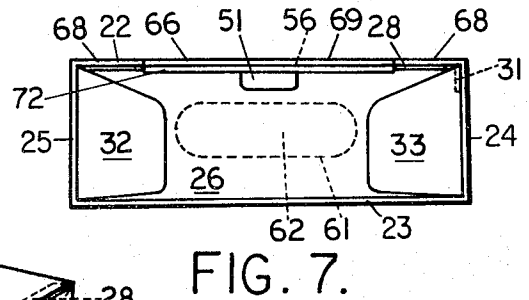
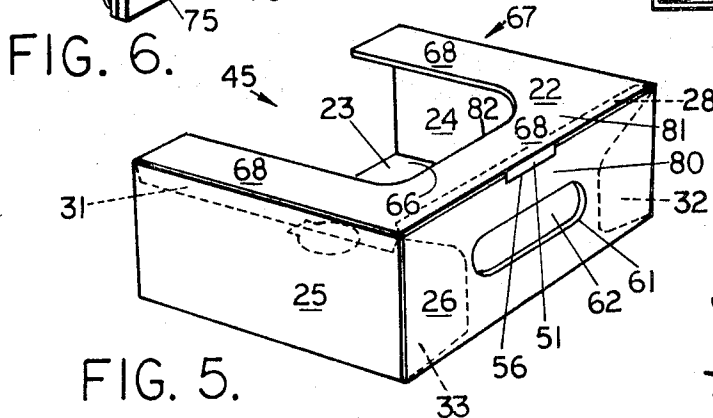
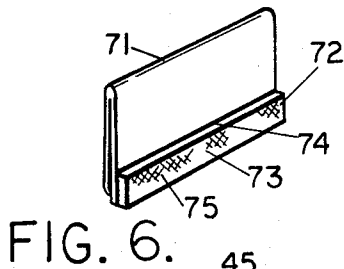
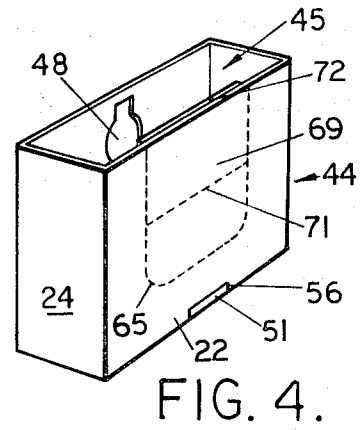
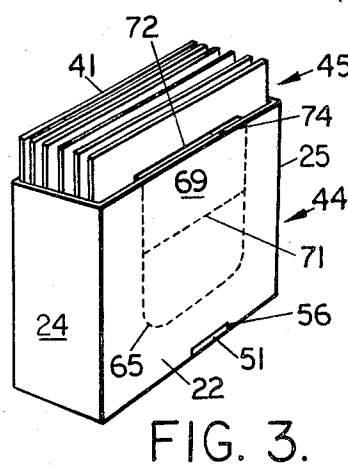
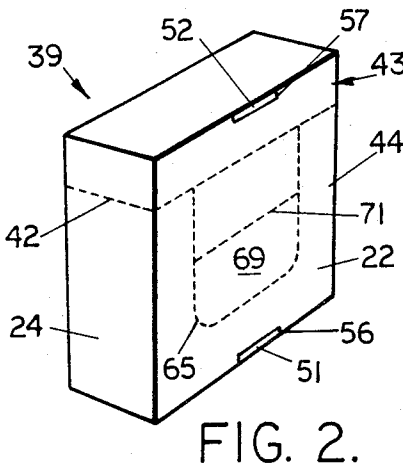
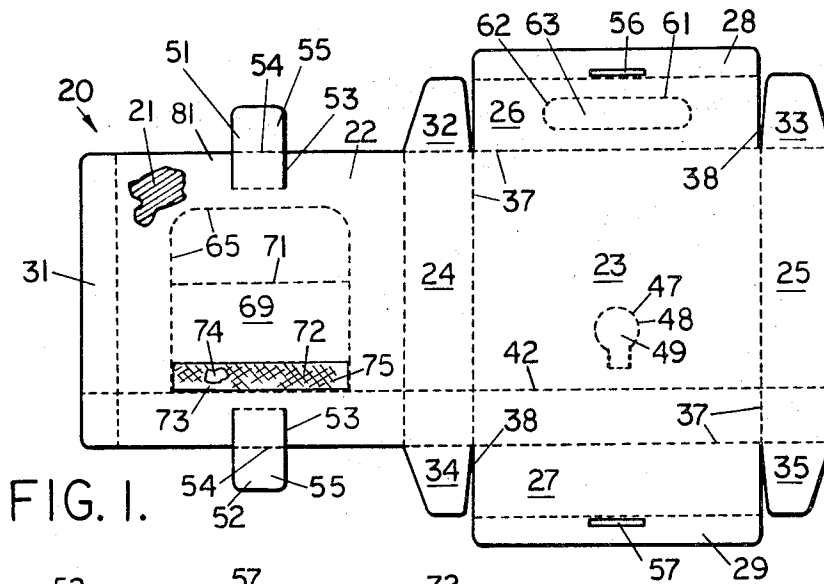
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ABSTRACT

A folding carton of rectangular section is erectable from a one-piece blank of self-supporting sheet material, the minor portion being removable on a tear line to form the major portion as an open-topped, rectangular litter bag. A section of the front panel of the litter bag is removable on a tear line to form a doubled scraper and a large punch-out area in the bottom panel forms a hand grip to convert the litter bag into a dust pan with an overhanging rim and viewing opening. A strip of fibrous felt-like material is adhered to the blank along the edge of the scraper to sweep up dust particles.

10 Claims, 7 Drawing Figures





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FOLDABLE CONTAINER, LITTER BAG, DUST PAN, BRUSH AND BLANK THEREFOR

BACKGROUND OF THE INVENTION

It has heretofore been proposed to provide a disposable dust pan of paperboard foldable into erected condition from a flat blank, and usually having a rearwardly projecting handle, as disclosed in U. S. Pat. No. 1,106,282 of Aug. 4, 1914, to Coats, U. S. Pat. No. 2,453,973 of Nov. 16, 1948, to Coats and U. S. Pat. No. 3,345,670 of Oct. 10, 1967, to Charie. Not only do each of these foldable dust pans attempt to copy the conventional handled dust pan, but each also follows the conventional, generally triangular, open-topped, tray shape of such dust pans.

Even when prior patentees have sought to create a disposable dust pan from material other than paperboard, such as molded plastic, as in U. S. Pat. No. 3,278,969 of Oct. 18, 1966, to Wenzlaff, the pan has had a rearwardly projecting handle and has been of open-topped, triangular tray configuration similar to the conventional household dust pan of metal.

SUMMARY OF THE INVENTION

In this invention, the one-piece blank of foldable, disposable sheet material is precreased, slit and cut to enable the erection thereof into a relatively rigid walled carton having rectangular front, rear, side and end panels, and opposite tuck flaps to form a conventional shipping and storage container. However, the front, rear and side panels are transversely perforated with a line of weakness so that the erected carton is separable into an upper minor tray portion and a lower major litter bag portion, both portions having four rectangular walls of uniform height. The rear panel has perforations defining a key hole suspension opening so that when punched out the lower portion may be hung on a knob of a car.

The front panel has a perforated tear line defining a viewing opening and an overhanging rim when punched out, the punched out portion forming a scraper or brush element which is preferably doubled on a central fold line. Preferably a strip of felt-like material is adhered along the element to form a brush.

The end panel forming the closed bottom of the litter bag portion and the rearward end of the dust pan also has a perforated line of weakness for an oval punch-out, of relatively large area which leaves an opening to serve as a finger grip handle, in cooperation with the strips of the structure adjacent thereto.

A special lock tab and slot assures that the end tuck flap will not become displaced to spill the contents and the wide open top of the litter bag portion permits it to accept large articles such as ice cream soda cups or the like.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a plan view of a carton blank cut, slit and creased in accordance with the invention.

FIG. 2 is a side elevation, in perspective, of a container erected from the blank of FIG. 1.

FIG. 3 is a view similar to FIG. 2, showing the upper minor portion of the container removed on the tear line.

FIG. 4 is a view similar to FIG. 3, showing the lower major portion of the container in use as an open-topped, rectangular section litter bag.

FIG. 5 is a perspective view of the litter bag of FIG. 4 with the scraper punch-out and hand hole punch-outs removed to form a dust pan.

FIG. 6 is a perspective view of the scraper punch-out, doubled to give strength to the felt-like strip for brushing.

FIG. 7 is a plan view of the inside of the litter bag of FIG. 4, showing the lock tab and slot for the bottom tuck flap.

DESCRIPTION OF A PREFERRED EMBODIMENT

As shown in the drawing, the blank 20 is cut from a single piece of self-supporting, semi-rigid sheet material 21 such as corrugated paperboard of the single fluted layer double liner type, preferably at least one sixteenth of an inch in thickness. The material 21 could be cardboard, metal, plastic or any other disposable, bendable or foldable material, but corrugated board is preferred as the least costly for the purpose. A limp paperboard, kraft bag paper or cloth, could be used but would not maintain the open ended, semi-rigid, rectangular sectioned configuration desired for both the litter bag and dust pan of the invention.

Flat, foldable carton blank 21 is divided into a front panel 22, rear panel 23, side panels 24 and 25, end panels 26 and 27, tuck flaps 28 and 29, glue flap 31 and side panel tabs 32, 33, 34 and 35. The above panels, tabs and flaps are hingedly connected along the fold lines shown in dotted lines and indicated generally at 37 and are defined by slits, indicated at 38, all in a known manner and adapted to permit the blank 20 to be folded, erected and adhered into the container 39, shown in FIG. 2, on high speed folding box machinery. The container 39 may be used to ship and store articles such as the flat envelope type litter bags 41 shown in FIG. 3.

Unlike conventional folding paper boxes, the blank 21 includes a line of perforations 42 extending transversely entirely across the panels 31, 22, 24, 23 and 25, which constitutes a weakened tear line dividing the erected carton 39 into an upper minor portion 43 and a lower major portion 44, both with four rectangular walls of uniform height. Thus when the container 39 is opened by ripping off the portion 43 around line 42, the major portion 44 becomes a litter receptacle, or bag, with a rectangular cross section, an open top, or upper end 45, and a resistance to collapsing under impact.

The rear panel 23 is provided with a tear line 47 which defines a key hole shaped opening 48 of relatively large area, such as one inch diameter, and punch-out 49, the opening 48 being relatively large, and located close to the open end 45 to enable the litter receptacle 44 to be suspended on a knob of an automobile, in the position shown in FIG. 4. As such, the receptacle 44, with its rectangular side walls 22, 23, 24 and 25 of uniform height, can accommodate considerably more trash than the usual flat litter bag, including such articles as ice cream cups, half eaten apples and the like, without spillage and without deforming to the extent of becoming displaced from the knob.

Also unlike conventional cartons, the blank 20 includes a pair of integral locking tabs 51 and 52, each slit from material 21 as at 53, each having a transverse, precreased fold line as at 54 and each projecting from the edge of the front panel without loss of material as at 55. This is because the material 23 from which the

tab is cut is waste material when the blank is die cut. Each locking tab fits within a corresponding elongated slot 56 or 57 in the tuck flaps 28 or 29, as shown in FIG. 5, to assure that the end panel, which forms the bottom closure of the litter bag 44 and the end closure of the dust pan, will not open inadvertently.

The end panel 28 includes a line of perforations 61 defining a hand, or finger, opening 62 of oval configuration and a punch-out 63 whereby no projecting handle is needed and the major portion 44 may be readily gripped when used as a dust pan, as in FIG. 5. The opening 62 is of substantial area to accommodate the fingers of the hand while the thumb extends over the strip 80 of end panel 26, and over the right angularly disposed strip 81 of front panel 22 to engage the edge 82 of opening 66 to assist lock tab 51 in assuring that the device remains closed when in use as a dust pan.

The front panel 22 includes a line of perforations 65 which extend from the transverse line of weakness 42, peripherally around the panels at a spaced distance from the border thereof, and back to the line 42, so that, when torn or ripped out as in FIG. 5, a viewing opening 66 is formed in the upper part of the dust pan 67 together with an overhanging rim 68 for retaining the contents and preventing spillage, the rim 68 including the gripping strip 81. The punch-out portion 69 includes a pre-creased fold line 71 so that it may be doubled, as in FIG. 6, for additional strength and a strip 72, having a hard fibrous surface 73, is adhered by adhesive 74 along the edge of punch-out 69 to serve as a brush element. Surface 73 is preferably formed of recumbant felt-like fibres of polypropylene 75, such as the product 11WP-090-1 of Western Felt Works, Chicago, Ill., or the equivalent, because it has been found superior for sweeping up dust particles to the conventional brush bristles of vertical pile material.

What is claimed is:

1. A hollow rectangular container adapted to form a litter bag or a dust pan, said container comprising:
 - a folding carton having a front panel, a rear panel, opposite side panels, opposite end panels, a glue flap and tuck flaps on the end panels erected from a single sheet of disposable self-supporting sheet material;
 - said carton having a perforated tear line extending entirely therearound proximate one end to divide the same into a major, open-ended receptacle and a minor open-ended receptacle both having four rectangular walls of uniform height;
 - and the portion of said carton forming said major open-ended receptacle having a perforated tear line defining a punch-out for a suspension slot in the rear panel thereof located close to the open end thereof for suspending the same as a litter container and having a perforated tear line in the front panel thereof defining a separable brush element, said tear line extending peripherally around said front panel to form an integral overhanging rim and a viewing opening when said brush element is removed and said major portion is positioned as a dust pan;
 - and a line of perforation in the end panel of said major open-ended receptacle normally defining a closure which is selectively removable to form a hand opening, and to form a hand grip, in cooperation with the adjacent portions of said end panel and front panel.

2. A container as specified in claim 1, wherein:
 - the said end flap forming part of said major portion includes a locking tongue slot and the rear panel thereof includes an integral, projecting, foldable, locking tongue adapted to enter said slot, upon erection of said carton, to prevent inadvertent opening of the adjacent tuck flap when said major portion is used as a litter container or dust pan;
 - and wherein said closure is an oval push-out panel.
3. A container as specified in claim 1, wherein:
 - said punch-out defines a suspension slot of key hole configuration and of substantial area for fitting over the knobs on the interior of an automobile.
4. A container as specified in claim 1, wherein:
 - the separable brush defined in said front panel includes a preformed fold line extending transversely thereacross to permit doubling for additional rigidity and includes a separate strip of brush material along one edge thereof and adhered thereto.
5. A container as specified in claim 4, wherein:
 - said separate strip of brush material has a relatively hard fibrous surface of the felted fibrous type.
6. A container as specified in claim 1, plus:
 - a separate strip of relatively hard fibrous material adhered along the edge portion of said brush element, the fibres thereof being recumbant and of polypropylene to sweep up dust particles.
7. A combined litter container and dust pan, comprising:
 - a receptacle of generally rectangular outline, formed from a single piece of foldable sheet material and having a front wall, a rear wall, opposite side walls, an end wall at one end and an unobstructed rectangular opening at the other end;
 - a brush element defined in the front wall of said receptacle by a line of perforations extending from said open end peripherally therearound and back to said open end, to create a viewing opening and an overhanging rim in said front wall when said element is torn out;
 - a suspension slot in said rear wall close to said rectangular opening for suspending said receptacle on a knob of a vehicle as a litter container before or after said brush element is removed;
 - and hand grip means, including a portion of said overhanging rim and a hand opening of relatively large area in said end wall, for forming a handle when said receptacle is used as a dust pan.
8. A combined litter container and dust pan as specified in claim 7, wherein:
 - said end wall includes a perforated line defining a push-out panel for closing said hand opening, whereby said wall is a bottom closure during litter container use and is a handle with a finger opening when said panel is pushed out for dust pan use.
9. A flat blank of foldable sheet material adapted to be erected into a combined container, litter bag and dust pan, said blank comprising:
 - front, rear and opposite side panels, a glue flap and at least one end panel and tuck flap, all foldably connected and separated by fold lines;
 - said front panel having a perforated line of weakness extending peripherally therearound to form an overhanging rim and viewing opening in said panel and to form a separable brushing, or scraping, element when said element is torn out along said line;

5

said rear panel having a perforated line of weakness defining a suspension slot for hanging said container on a vehicle knob;
said end tuck flap having a perforated line of weakness defining a push-out panel of substantial area for forming a hand opening when said container is used as a dust pan and
said opening being spaced from the edge of said panel by a strip of said panel, right angularly dis-

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posed to an adjacent strip of said overhanging rim to jointly form a hand grip.

10. A blank as specified in claim 9, plus:
a separate, elongated, narrow strip of felt-like, fibrous material adhered along the edge of the portion of said front panel forming said brushing element, for use in sweeping dust particles into the dust pan formed by said container.

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