

Jan. 13, 1942.

M. S. STRASSER

2,269,796

PACKAGE

Filed June 7, 1938

Fig. 1.

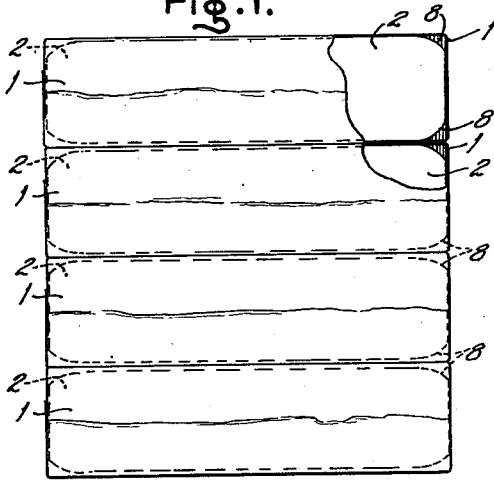


Fig. 2.

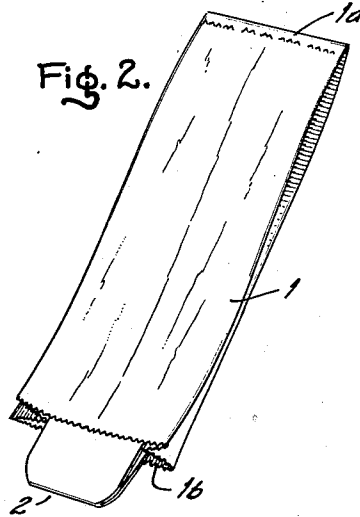


Fig. 3.

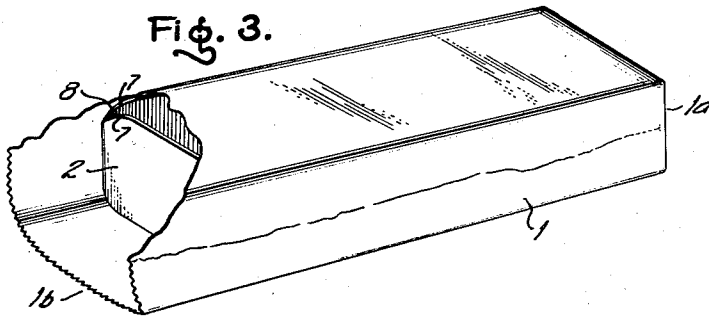


Fig. 4.

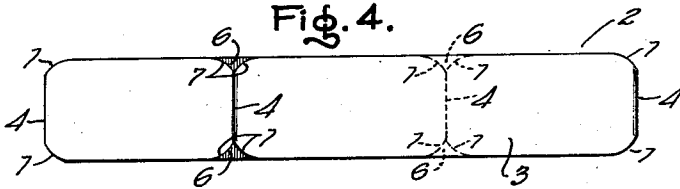
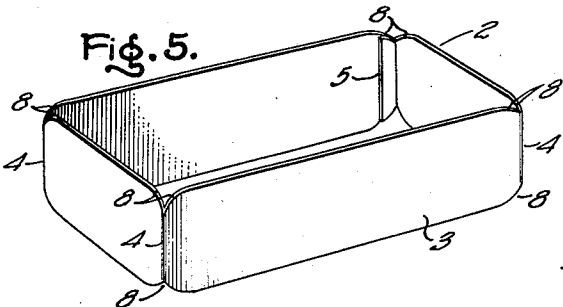


Fig. 5.



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UNITED STATES PATENT OFFICE

2,269,796

PACKAGE

Myron S. Strasser, Albany, N. Y.

Application June 7, 1938, Serial No. 212,237

1 Claim. (Cl. 206—46)

My invention relates to packages and particularly to packages of a collapsible or flat-foldable type which, in their collapsed condition, are adapted to be stored in quantities in a comparatively small space. Still more particularly, my invention relates to a collapsible package comprising an envelope of flexible material and an element insertable therein comprising a flat-foldable frame of a size and shape substantially conforming to the envelope when distended.

The inner element or frame of packages of the character herein contemplated may preferably be formed of a material of the order of cardboard which is flexible but relatively rigid as compared to the envelope which, for cheapness, may comprise, for example, an ordinary paper bag. When a polygonal frame of this character with sides of uniform depth is placed within an envelope, those portions of the envelope which overlie the corners of the frame are somewhat stressed and may be easily ruptured or broken. For example, a plurality of such packages may be superposed one upon the other and, in the event they are not substantially aligned, the weight of the upper packages may cause the relatively stiff frame of one package, which may rest upon the envelope of the next lower package substantially in a zone thereof overlying a corner of its frame element, to puncture or rupture said envelope upon which it rests. This is mainly due to the fact that when such a frame having sides of uniform depth is placed within an envelope which is adapted to be distended thereby substantially to its capacity, those portions of the envelope which overlie the corners of the frame will be somewhat stressed and rendered relatively taut as compared to other portions of the envelope and thereby quite susceptible to rupture. Furthermore, with the above noted conditions obtaining, it is quite easy for a person to grasp the package at its corners and, in handling, press a thumb or finger through the envelope.

The first object, therefore, of my invention resides in the provision of a collapsible package comprising an envelope and a frame element insertable therein which frame element is so constructed and arranged that, although it may serve to distend the envelope substantially to its capacity, it will not stress the corner portions of the envelope and, therefore, those portions of the envelope which overlie the corners of said frame element will be less stressed than otherwise and thereby rendered less susceptible to rupture.

More particularly, another object of my inven-

tion lies in the provision of a package of the foregoing character, the sides of the frame element of which are cut away to provide said frame with beveled corners whereby to render the envelope, when said frame is inserted therein, less susceptible to tearing or rupture. A still further object lies in providing a frame element which is formed from a strip of sheet material capable of offering considerable resistance to crushing stresses applied edgewise thereto but otherwise comparatively flexible, said strip being scored at intervals and bent about said scores with the ends thereof secured together whereby it may be folded flat or expanded, co-operatively with its associated envelope, to form a stable package.

With these and other objects in view, my invention includes the novel constructions and arrangement of elements described below and illustrated in the accompanying drawing, in which—

Fig. 1 is an elevation view of a plurality of superposed packages embodying the principles of my invention, two of said packages being broken away for purposes of illustration;

Fig. 2 is a perspective view of a package in collapsed condition showing a substantially flat folded frame element inserted in the envelope;

Fig. 3 is a fragmentary, perspective view of a "set-up" package;

Fig. 4 is a plan view of a preferred form of frame element in flat folded condition; and

Fig. 5 illustrates the frame of Fig. 4 expanded substantially to rectangular form.

The package of my invention generally comprises an envelope and a frame designed to be placed within the envelope and distend it substantially to its capacity. The contents of the package, within the frame, co-operate therewith to some extent to maintain it expanded while the outer envelope limits expansion thereof. At the same time, due to the resistance offered by said frame to crushing stresses applied edgewise thereto, it will function as a reinforcement whereby to provide a stable package. The envelope, indicated generally at 1, is preferably formed of flexible material permanently closed at one end 1a and open at the other end 1b and may comprise an ordinary paper bag, or, of course, where it is desirable to render the contents of the package visible, an envelope of "Cellophane" or similar diaphanous material may be employed. The envelope should be adapted to be expanded into prismoidal form and preferably in the form of a rectangular prism as illustrated.

2 indicates generally a collapsible frame which

is adapted, when expanded, substantially to conform in size and shape to the envelope 1. Frame 2 preferably comprises a material which is relatively rigid as compared to the flexible envelope and is capable of offering substantial resistance to crushing or distortion stresses applied edge-wise thereto, that is to say, to stresses applied substantially in the plane of the sides of the frame. Otherwise, the material may be quite flexible. For example, a strip 3 of cardboard may be employed to form the frame, which strip may be scored as indicated at 4 at intervals and bent about said scores to form a rectangular frame with the ends of the strip secured together. The two ends of the strip may be overlapped and adhesively secured together as illustrated at 5 and the frame may, therefore, be folded flat about diagonally opposite scores or expanded as illustrated in Fig. 5. Of course, two or more separate strips may be employed with the ends thereof secured together to form the frame.

In order to render those portions of the envelope which overlie the corners of the frame, when said frame is inserted therein, less susceptible to rupture than they otherwise would be, marginal portions, preferably on both sides of the strip 3, are cut away as indicated generally at 6 substantially in the zones of the scores 4 to provide the preferably, inwardly curving edges 7. With this construction, when the frame is expanded to rectangular form, the curved edges 7 of the strip provide the frame with beveled corners as indicated at 8. Therefore, the frame is adapted more easily to be slidably inserted in expanded form within the envelope 1 and, when properly positioned therein, those portions of the envelope which overlie the corners of the frame will not be rendered so taut as they otherwise necessarily would be if the cut away or reentrant portions 6 were not provided. Furthermore, by providing the substantially planar sides of the frame with the curvilinear edges 7, sharp projections or corners are obviated which might otherwise easily puncture and tear the surrounding envelope.

Assuming that a frame without beveled-corner constructions were employed, a plurality of such packages may be arranged in superposed relation, as illustrated in Fig. 1, and the weight of the upper packages may be sufficient to cause the frame of a lower package to puncture the envelope of an adjacent package when said packages are not aligned and the corner, for example, of one package bears against the taut, corner zone of the adjacent package. However, by employing a frame of the character herein described, the possibility of rupturing the envelopes of the packages in the foregoing manner is practically eliminated.

In forming a stable package of the character herein contemplated, the frame 2 may be placed within a loading chute or scoop-like device, the contents of the package placed within the frame and the envelope may then be drawn thereover.

Thereafter, the loading device may be withdrawn and the ends of the envelope overfolded about the end of the frame and suitably sealed.

It is to be understood that in the assembled condition of the package, the frame will maintain the envelope in distended condition, one end of said frame abutting the permanently closed end of the envelope and said frame being of such length that the sides of the envelope at its open end may be overfolded across the adjacent end of the frame. Hence, there can be substantially no relative movement between the frame and the envelope and the contents of the package will be well preserved.

It should also be noted that the flexibility of the material of which frame 2 is formed permits the sides of the frame to be compressed within the loading device when the package is being set-up so that the loading device may be of a width somewhat less than that of an envelope thereby permitting the envelope easily to be drawn thereover or, vice versa, the device inserted therein. Thereafter, of course, the frame will naturally expand to its predesigned size which substantially conforms to that of the envelope.

Likewise, from the foregoing, it will be apparent that my package is of extremely cheap construction but may serve as well for many purposes as a cardboard box which is not only more expensive but occupies considerable space when stored either filled or empty.

While I have described my invention in its preferred embodiment, it is to be understood that the words which I have used are words of description and not of limitation and that changes within the purview of the appended claim may be made without departing from the true scope and spirit of my invention in its broader aspects.

What I claim is:

A package comprising an envelope of flexible material permanently closed at one end and having, when distended to capacity, the form of a rectangular prism, and a frame insertable within said envelope for maintaining the same distended, said frame comprising a strip of relatively rigid material transversely scored at intervals to form two pairs of similar, substantially rectangular panels; whereby said frame is adapted either to be folded flat or expanded to form a rectangular frame, the free side edges of said panels being substantially straight and parallel throughout the major portion of their lengths, but having each end thereof curved inwardly toward and in intersecting relation with the adjacent score line; whereby the packages are adapted to be stably stacked in substantially superposed relation one upon the other while those portions of the envelope overlying the corners of the frame are less stressed than otherwise and less susceptible to rupture when the package is grasped between the thumb and fingers in the corner zones thereof.

MYRON S. STRASSER.