This invention relates to an improvement in reusable packaging especially adaptable for the initial packaging of photographic film for sale and the return of the film for processing and particularly relating to a film package comprising a container initially containing a cartridge or magazine type film receptacle in which the standard film packs may be contained.

The present invention solves certain problems especially encountered in the handling of photographic film. At the present time the customer purchases the film in one type of container and after exposing it, places the film into a mailing bag with an attached label or some other receptacle for submission to a film processor. Thus it is readily seen that ordinarily the film is placed for a period of time in several separate packages. With rough handling during shipment, it is not uncommon for the film container to become damaged, opened, or otherwise detached from the mailing bag or label or other form of wrapping with attendant loss of the film to the customer. Also, because of rough handling including the occasional dropping of heavy objects on such containers, the film contents and/or the containers are sometimes damaged such that the container is caused to become inadvertently opened or deformed so as to allow light to reach film not yet processed.

In this particular field, it is desirable for a seller to have a container which may be delivered to a customer, the contents therein removed and photographically exposed by the customer and the exposed contents replaced in the container and returned to the seller or the processor who will then process the exposed film. Since this type of container may be retained by the processor, the one container may be used several times and must be capable of being readily opened, the contents removed therefrom and replaced therein and the container resealed several times. The container should desirably be light in weight, of self-sustaining construction, economical to manufacture and have a long life. The container should also be capable of protecting the contents therein for safe handling.

To permit accomplishment of the above described features, the instant package is polygonally formed of a resiliently flexible substantially self-sustaining material as a pair of sections which have telescopically interfitting flange portions permitting the sections to be held together by a strain separable interlocking flanged connection. The polygonal construction enhances the rigidity of the container and permits the receptacle to be positioned within the container portion such that shocks applied to the exterior of the container are not readily transmitted to the cartridge, magazine or other contents of the container. The shock absorbing feature of the container is aided by spacing-beating elements formed within the container which space the receptacle in one or more directions from the interior of the container and tend to maintain the receptacle against undue movement within the container. The resiliently flexible material permits multiple opening and closing of the package for long and therefore economical use.

It is an object of this invention to overcome such problems by providing a new and improved package which can be utilized for the handling of photographic film from the time of sale until it is sent to the processor and, in some cases, thereafter.

Another object of this invention is to provide a new and novel sales container for photographic film which can also be used as a protective shipping container for such film to substantially reduce the possibility of damage to such film due to rough handling.

A further object of this invention is to provide a container for a receptacle of film which can be easily opened and closed; and when closed, resists accidental reopening due to handling.

A still further object is to provide a container for a receptacle of film having self-contained spacing means therein to space the receptacle away from portions of the interior of the container for protection from shock in handling; yet to maintain the receptacle against undue movement in the container.

Other objects, features and advantages of the present invention will become apparent from the following detailed description of certain preferred embodiments thereof taken in conjunction with the accompanying drawings in which:

FIG. 1 discloses the cap section of a preferred embodiment of the container of the novel package;

FIG. 2 discloses the body section of the container;

FIG. 3 is a sectional view taken along line 3--3 of FIG. 2;

FIG. 4 is a detail sectional view of the interlock construction taken along line 4--4 of FIG. 3;

FIG. 5 is an elevational section of another embodiment of the novel package;

FIG. 6 is a plan view taken along line 6--6 of FIG. 5 and broken away in part;

FIG. 7 is an elevational section of still another embodiment of a package embodying the novel features; and

FIG. 8 is a sectional plan view taken along line 8--8 of FIG. 7.

A preferred embodiment of a package comprised of an outer two-section container 12 and an inner receptacle 14 for enclosing a film pack 16, such as a spool or cartridge of film is to be placed before the receptacle is placed in the container, may be formed of a similar material. The receptacle further may be in the form of a film magazine without additional exterior protection.

Container 12 is formed in two sections. One section is a body section 18 having a planar bottom surface 20 and a plurality of walls 24 formed at an angle to each other and substantially perpendicularly to the bottom surface 20. The junctions of adjacent walls form corners 30 in some of which may be formed spacing lugs 32. Receptacle 14 is positioned between the lugs when inserted into the container so as to maintain the receptacle away from the respective walls of the container. The spacing lugs 32 may be located in each corner or in alternate corners of the hexagonal container such that there will be three point engagement of the receptacle 14. In order to permit spacing and positioning of the receptacle within the interior of the container, one of the spacing lugs, such as 32a, may be of a lesser dimension than the remaining two lugs to position the receptacle off center relative to the center of the container. The resulting space 36 between the exterior of the receptacle and the interior of the con-
container is to be used for the placement therein of exposure instructions, necessary currency for payment of processing cost, or a sealing or mailing label (not shown). Such a sealing or mailing label may be affixed to the container to aid in keeping the two sections together in a package.

The other section of the container 12 is a cap or closure section 38 having a similar planar surface 40 and a plurality of walls 42 formed at an angle to each other but perpendicular to the planar surface 40. Formed preferably in alternate wall junctures 46 are molded safety-stop abutment members 48. When the two sections are mated or brought together to form a closure after insertion of a receptacle 14, the exterior surfaces of the respective walls 24, 42 form a substantially planar surface. Abutment members 48 are positioned to prevent unintended telescoping of cap section 38 relative to body section 18 when sufficient force or weight is applied to the container. The abutment member provides a substantially solid and rigid portion of some thickness beyond which the body section normally will not flex.

The edges of the walls opposite the respective planar surfaces 20, 40 of the upper section and the lower section are rabbeted or otherwise formed so as to have thin portions or flanges 52, 54 about their respective exterior or interior peripheries to provide mating surfaces. The flanges are of slightly greater flexibility than the walls from which they are formed. One of the flange portions is intended to permit the other of the flange portions to be telescoped thereover in close interfitting relation.

The upper section 38 and the lower section 18, when axially telescoped together, are brought into strain separable engagement by means of a plurality of beads 56 and mating grooves 58. Beads 56 are formed on the flange portions on one section and the grooves 58 are formed in the flange portions of the other sections so as to permit the interlocking of the sections. Preferably the beads and grooves are positioned at the corners formed by the adjoining walls because of slight flexibility of the material permitting the necessary deformation (as seen in dotted lines in FIG. 2) and return to the original shape of the flanges (solid lines). Thus, the application of manual inwardly directed pressure causes sufficient deformation to unseat bead 56 from groove 58 and permit axial separation of the sections. Manual closing by application of an axial force on the container causes the bead to deform the opposing flange and seat in the groove to maintain the sections interlocked.

A package 110, as seen in FIGS. 5 and 6, is shaped to contain a receptacle 106. The construction is similar to that as described in FIGS. 1-4, with the primary difference residing in the dimensions. (The 100 series reference numerals as applied to FIGS. 5 and 6 are intended to apply to similar components as the numerals applied to FIGS. 1-4.)

The receptacles 16, 116, respectively sized for 35 mm. film cartridges and 8 mm. film spools are formed of material having similar yieldably resilient characteristics as the containers 12, 112. These receptacles are desirabley formed with a top portion 70, 170 held to body portions 72, 172 by hinges 74, 174 of similar material. An annular latching portion 80, 180 is formed on the interior of the peripheral lip 82, 182 of the top. This latching portion cooperates with a rim 84, 184 surrounding the upper periphery of the body portion such that the receptacle is adequately secured and the contents therein protected when the receptacle is in a closed container. To open the receptacle, a tab portion 86, 186 is molded to the cap to provide a member to be manipulated to pull the top portion from receptacle body portion.

Referring particularly to the container for a receptacle for a magazine type pack of film 216, as seen in FIGS. 7, 8, the container 212 is of a slightly elongated polygonal shape having a more shallow cap section 228 than the previously described containers. The interior of a planar surface 220 of the cap section 238 and a planar surface 240 of the body section 218 have molded therein, of a slightly smaller size than the magazine receptacle 216 intended to be contained therein, a small ridge 262, 264. When the receptacle 216 is placed in the container 212, which container has interior dimensions substantially the same as the exterior dimensions of the receptacle, the receptacle does not fit flush on the planar surface 240 of the body section of the container but on the surface of the ridge 264. The construction of the container is such that when a shock is applied to a corner of the container, the shock will be transmitted along the walls of the container rather than directly to the receptacle. Thus, the receptacle is unlikely to be damaged. Similarly, a shock applied to either the top or bottom will be transmitted to the receptacle over a broad area as defined by the ridge and will not pass directly to the receptacle because of the spacing as defined by the height of the ridge from the respective interior planar surfaces of the body section and the cap sections. The small space between the exterior perimeters of the receptacle and the interior of the container is intended to permit the placement of a mailing label or band (not shown) to be placed around the container when the container is to be sealed, for example for mailing to the processor.

Although the container 212 is disclosed with slip flanges it is to be understood that beads and grooves may be applied to provide the strain separable interlock, as previously described. When the receptacle is in the form of a 16 mm. magazine, the size of the container is such that the container may be used by the processor, if desired, to return the processed film on the conventional reel (not shown) to the customer. The customer may use the container as a storage facility for the reel thus eliminating the necessity for an additional container.

I claim as my invention:

1. A two piece container adapted when closed to form a sealable enclosure for film in a receptacle comprising: a polygonal body section of resiliently flexible substantially self-sustaining material; a polygonal cap section of similar material cooperating with said body section to form a closed container; each of said polygonal sections having a planar portion and wall portions joining one another at an angle defining a corner, said wall portions being perpendicular to said planar portions, said planar portions of said sections being in substantially parallel planar relationship when said sections are mated; said wall portions having flanges formed telescoping interfittingly related along said planar portions; at least one bead in one of said flange portions at a corner thereof; at least one groove complementary to said bead in a corner of the other of said flange portions to provide an interlocking strain separable connection when said sections are brought together, yet permitting ready separation of said sections by application of opposing axial forces; each of said flanges being of greater flexibility than its adjacent wall portions; receptacle spacing means in a corner of one of said sections maintaining said receptacle spaced from wall portions of said sections; and abutment means in the other of said sections positioned to be engaged by the flange portion of the other of said sections to limit unintended telescoping of said sections.

2. A two piece container as in claim 1, at least one of said spacing means being of a different dimension from said other spacing means whereby said receptacle is spaced closer to one adjacent portion of said container than another portion thereof.

3. A two piece container adapted when closed to form a sealable enclosure for a film pack in a receptacle comprising: a body section;
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5 a cap section cooperating with said body section to form a closed container; at least one of said sections being formed of resiliently flexible substantially self-sustaining material; each of said sections having a planar portion and wall portions perpendicular to said planar portions and joining one another at an angle; said planar portions of said sections being in substantially parallel planar relationship when said sections are mated; said wall portions having more flexible portions forming telescopically related axially interfitting end flange portions; one of said flange portions having at least one bead portion therein at the angle between adjoining wall portions; the other of said flange portions having at least one complementary groove portion at the angle between adjoining wall portions to cooperate with said bead portion to provide a strain separable interlocking connection when said sections are brought together, yet permitting ready separation of said sections; and spacing means formed in the interior of one of said sections maintaining said receptacle spaced from adjacent portions of said section wherein said receptacle is spaced within the angles between said wall portions such that when pressure is applied against the exterior of such angles, no direct pressure is applied against the receptacle in said sections.

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