RECEPTACLE FOR WASTE MATERIAL

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ABSTRACT

The invention is a combined holder-container system and the container thereof, for the compaction, storage, segregation, and eventual disposal of compacted trash. It comprises an outer holder, an inner removable and disposable container, a removable protective inner shield or liner, and an apertured cover adapted to prevent unwanted egress of glass shards, etc.

7 Claims, 28 Drawing Figures
1 RECEPTACLE FOR WASTE MATERIAL
This application is a continuation-in-part of U.S. patent application, Ser. No. 813,477, now abandoned, filed Apr. 4, 1969.

BACKGROUND OF THE INVENTION
In today's times, trash disposal is already a world-wide problem and threatens to become more so. Part of this problem is in the space occupied by empty containers such as cardboard boxes, tin cans and bottles. The space so occupied by the average household creates problems in the home itself, particularly crowded apartment houses and residential areas, as well as in the carting of such waste to municipal dumps and in the burying of the waste.

Easy-to-use, convenient, relatively low cost, and fool-proof means are therefore greatly needed to answer these problems. At many municipal dumps, heavy industrial type compactors are in use. Obviously, these are not suitable for home use. Many towns and cities have trash collecting trucks which attempt to compact the trash as it is collected. These trucks are expensive and the labor associated with their use is also expensive to say nothing of the cost of maintenance.

With the rapid decrease of available free land for public dumps, due to the need for land for dwellings and industry, the burial of uncompacted trash is an inefficient use of the land available. Burning is not an answer, because of air pollution. Therefore, trash which is fully compacted at the home will answer many of the above problems, provided the means for compaction, and storage pending pickup by dump trucks, are easy to use, long lasting, and relatively efficient. Operation of the dump trucks will be facilitated, with lessened costs, and more efficient use of land for burial will be obtained.

OBJECTS OF THE INVENTION
It is the general purpose and object of this invention, therefor, to provide a composite means for holding trash during compaction, a disposable part of this means being a container removable for holding the compacted trash while awaiting pickup and during transport to the dump.

Another object of the invention is the provision of holder of the above class in which cover means are provided for the insertion of compacting means, the cover being provided with means to prevent the escape of flying glass, etc.

Still another object of the invention is the provision of an inner shield means for preventing the disruption of the disposable container during trash compaction, the shield being readily removable.

A further object of the invention is the provision of a disposable container for trash, or for other articles or materials, which is made from one piece of flexible material in such manner as to provide reinforced handholes at the top, and reinforced sides and bottoms.

Yet another object of the invention is the provision of a container of the above class which is made from a blank by folding and gluing operations, the gluing being done by self-sticking adhesives already present on predetermined surfaces of the blank.

Other objects, purposes and advantages of the invention will be in part obvious from the description which follows, and in part pointed out specifically.

In the accompanying drawings in which are illustrated several embodiments of the invention and embodiment of inventive features thereof:

FIG. 1 is a front elevation, in section, of one embodiment of this invention;

FIG. 2 is a side elevation, partly in section, of the FIG. 1 embodiment;

FIG. 3 is a top plan view of the cover for the FIG. 1 embodiment;

FIG. 4 is a top plan view of a portion of the FIG. 3 cover;

FIG. 5 is an end elevation, partly in section, of the FIG. 4 portion;

FIG. 6 is a plan view, partly in section, of a flexible finger element for the FIG. 3 cover;

FIG. 7 is a sectional end view, taken in the direction of sight lines 7—7 on FIG. 6;

FIG. 8 is a sectional view, enlarged, of a portion of the FIG. 6 element, taken in the direction of sight lines 8—8 on FIG. 6;

FIG. 9 is a plan view showing one face of a box blank from which is to be folded the FIG. 10 disposable container of this invention;

FIG. 10 is an illustration of the container of this invention folded up from the FIG. 9 blank, and ready for insertion in the outer holder shown in Figs. 1 and 2;

FIG. 11 is a sectional elevation taken in the direction of sight lines 11—11 on FIG. 10;

FIG. 12 is a sectional elevation taken in the direction of sight lines 12—12 on FIG. 10;

FIG. 13 is an illustration of the container of FIG. 10 shown with the container as loaded with trash (not shown) and top portions folded downwardly to close the container and to provide reinforced hand-holes for lifting;

FIGS. 14, 15 and 16 are, respectively, the side elevation, end elevation, and top plan view of a liner used in this invention;

FIGS. 17, 18, and 19 are, respectively, side elevation, end elevation, and top plan view of the liner of a second embodiment of this invention;

FIG. 20 is an end view of a further embodiment of an element of the invention;

FIG. 21 is a front elevation, partly in section, of another embodiment of the invention;

FIG. 22 is a corner portion of one unit of a two piece inner liner of this FIG. 21 embodiment;

FIG. 23 is a side elevation, partly in section, of the FIG. 21 embodiment;

FIG. 24 is an exploded view of a latch mechanism used in the FIG. 21 embodiment to hold an inner shield to the outer holder of the FIG. 21 embodiment;

FIG. 25 is a bottom view showing in greater detail the latch mechanism of FIG. 24;

FIG. 26 is a flexible finger element for the cover of the FIG. 1 embodiment;

FIG. 27 is an end view, in section, of a portion of the FIG. 26 flexible finger element taken in the direction of sight lines 27—27 thereon; and

FIG. 28 is an end elevation, partly in section, of the FIG. 26 flexible element, taken in the direction of sight lines 28—28 thereon.

Throughout the drawings, similar reference characters indicate corresponding parts. Also, throughout the drawings, dimensions of certain of the parts as shown in the drawings may have been modified and/or exaggerated for the purpose of clarity of illustration.

Referring now to FIGS. 1, 2, and 3, there are shown several views of a first embodiment of this invention. It comprises an outer holder indicated generally by numeral 2 having a rectangular cross-section, a bottom 4, front and end walls 6, 8, 10, and 12 and a turned-over lip 14 around the top perimeter. For convenience, although not necessary, the holder 2 should be tapered from top to bottom, as shown, to facilitate nesting holders in storage in warehouses, stores, etc. prior to sale. Holder 2 is made of a strong durable material such as plastic or metal, high density polyethylene being an example of a moldable synthetic resin that is preferable to use, or the holder can be of aluminum or steel sheet.

Fitted over the top of the holder is a cover 16, shaped as a truncated hollow tetraedron, having the slanting sides 18, 20, 22 and 24. Dependent the inside of each of the four corners formed between the sides 18—24 is a short L-shaped section 26 of four sections 26 being so positioned as to nest within the corners formed by the walls 6—12, thus assisting in retaining cover 16 in place. Cover 16 may be made of high density polyethylene, the same as holder 2, in which case the sections 26 will be molded as integral parts thereof. If cover 16 is metal, then sections 26 may be fastened thereto by welding or riveting in conventional manner.
Referring to FIGS. 3, 4, and 5, cover 16 is provided with a rectangular aperture defined by edges 30, 32, 34, and 36. A skirt 38 depends from the top of cover 16, and two of the upper edges of the skirt sides are fastened to the cover adjacent the edges 32 and 36, while the other two upper edges of the skirt are attached to the cover back from the opposed edges 30 and 34, thus leaving short lips 40 and 42 as shown. (See FIGS. 1 and 2) The skirt may conveniently be molded as an integral part of cover 16 if the latter is molded, or may be metal (if cover 16 is metal) and attached thereto by riveting or welding. Skirt 38 is long enough so that when the cover 16 is in place on holder 2, the lower rim of the skirt extends below the lip 14.

Each of lips 40 and 42 has notches 44 and 46 therein, respectively, whose purpose is to aid in holding protective cover fingers in place, as will now be described. These notches are shaped with mouths narrower than their interiors.

Referring to FIGS. 6, 7, and 8 (and to FIG. 3 for assembly) with cover 16, there is shown one of a pair of finger guards. Guard 50 as shown is a single piece fabricated construction, made from translucent polyurethane. It has an edge rib 52 provided with a lengthwise channel 54. Channel 54 is interrupted by filled-in portions or dividers which gives greatly two plates, these filled-in portions or dividers being shaped with their facing edges 58 slanted toward each other as shown. Dividers 56 are spaced apart slightly less than the separation of notches 44 on the one lip 40 and notches 46 on the other lip 42. When the edge rib 52 (i.e., the channel 54) is slid over the lip 40 or 42, the guard 50 is stretched slightly to align the respective notches and dividers. The dividers will then enter the notches, and the slanting sides of the dividers will retain them in the shaped notches.

Each of the guards tapers, as shown in FIG. 7, from edge rib 52 to the other edge 66. The guards are slit to provide a plurality of adjacent pairs of fingers 62, each pair being separated by a slotted opening from 54. Each pair being divided into its two fingers by shorter slits 66. In this manner, a predetermined curvature of the fingers is obtained with the fingers being most flexible toward edge 60 of the guard, and stiffening quickly but continuously and flexibly toward rib 52. (See FIG. 2.)

It will be noted that the guards are duplicates, two being used, and that when in place on cover 16, the fingers overlap. When, therefore, a ram is inserted into the holder and container to crush cans, boxes, and bottles placed therein, the ram can be moved freely in and around the aperture in the cover 16, with the fingers 62 folding flexibly around the ram and overspraying the edge of the cover. This may prevent any flying glass or other particles from escaping through the cover.

Referring now to FIGS. 9-13, there is first shown the box blank 70 for making the folded box or container 72 of FIG. 10. Blank 70 is formed of corrugated board and comprises the two end walls 74 and 76 joined integrally to the front and back walls 78 and 80, the board being creased or scored at the joints to provide fold lines 82, 84, and 86. At the upper edges of the front and back walls 78 and 80 are respectively attached the flaps 88 and 90, each of these integral with their respectively attached walls. Fold creases or scorings 92 and 94 are provided as shown. Integrally joined to the flaps 88 and 90 are the end portions 96 and 98, portion 96 being integrally with end wall 74 and portion 98 being connected to end wall 76. Fold lines (creases or scorings) 100, 102, 104, 106, and 108 are provided.

Integrally attached to front wall 78 is inner bottom 112, via fold crease or score 114. Integrally attached to back wall 80 is outer bottom 116, a fold crease or score 118 being provided. Attached integrally to one edge of outer bottom 116 is an end wall reinforcing flap 120, a suitable fold crease or score 122 being provided. The reinforcing end 120 is cut loose from inner bottom 112 and end wall 74 by means of slits 124. Integrally attached to the outer edge of outer bottom 116 is another end wall reinforcing flap 126. Fold crease or score 128 is provided where shown, and end piece 126 is cut loose from end wall 76 by slit 130.

A gluing flap 132 is integrally attached to end portion 98 and end wall 76. A fold crease or score 134 is provided where shown.

Flap 138 is provided with a slot 140 to act as a hand or finger hole, and the upper edge is provided with slots 142. A central notch 144 is provided, and two fold creases or scores 146 are provided extending diagonally across the portion 88 from its lower corners to meet notch 144.

In similar manner, upper portion 90 is provided with handhole slot 150, edge slots 152, central notch 154 and fold creases or scores 156 from the lower corners to the central notch.

Notches 142 and 152 are so dimensioned as to be the same size as the hand holes 140 and 150. They are positioned on their respective edges so that when the end portions 96 and 98 are bent inwardly and downwardly along fold lines 100, 102, 106, and 104, 134 and 108 to close the container, (see FIG. 13) notches 142 align with slot 140 to form a three-layered hand-hole slot; and similarly notches 152 align with slot 150.

At this point, the triangular portions 158 of portion 88 will be flush with the remainder portion 160, and triangular portions 162 will be flush with remainder portion 164. This construction gives great strength to the portions 158-160 and 162-164 for lifting a filled container.

For gluing purposes, it is preferred that the requisite surfaces be coated either with a pressure sensitive adhesive, covered with a strippable protective paper which can be pulled off at the time of assembly. Or, and this is the more suitable structure, the so-called self-sealing adhesives can be used, (often called cohesives) which dry to a non-tacky condition so as to be dry to the touch, and yet two surfaces each coated with such an adhesive will bond to each other. The particular surface adhesive is not a part of this invention, and selection of the proper kind is within the skill of the art.

If the cohesive type is used, then the following surfaces of the blank of FIG. 9 will be coated. (Assume that as viewed in FIG. 9 the viewed surface of the drawing is hereinafter called the front surface of any portion, and the back of the drawing sheet is called the back surface.) The following front surfaces will be coated: 120, 116, 126, flap 132, portions 88 and 90, and the top edge portion of cover portion 96, (where it overlaps cover portion 98 to seal the container).

The back surfaces which will be coated are: 76, 74, 112, (those edge parts of wall 78 and portion 88 which the flap 132 will overlie) and the top edge of cover portion 98 which will underlie the edge of cover 96.

Thus, the following adhesives will be noted with respect to the container 72. For strength, it has a double bottom and double end walls. When used, it is first in its fully opened position shown in FIG. 10, but when filled to the level of fold lines 92, 94, 106, and 108, the cover portions 96 and 98 can be folded inwardly and downwardly, their edges overlapping for sealing, while at the same time the triangular portions 158 and 162 join, respectively portions 160 and 164 to provide added strength to these portions and reinforce the hand holes. Furthermore, individual sealed containers can be stacked one on top of each other merely by bending the portions 160 and 164 outwardly, or inwardly to lie one on top of each other.

Referring now to FIGS. 14, 15, and 16, a removable and reusable shield or liner 170 is shown. This comprises a rectangular, hollow tube molded of a strong, tough synthetic plastic such as Noryl, the trade name of a polyphenylene oxide, or Lexan, the trade name of a polycarbonate, both of these materials being available from General Electric Company. It has a shape similar to that of the container 72, but it is smaller so that it will fit therein. The liner 170 is joined to the liner walls 172, 174, 176, and 178 and is open at both ends. It has a hand hold 180 at the top. It is to be noted that the liner or shield tapers from top to bottom, being larger at the bottom than the top. The taper found suitable is about 1°-3° to the vertical to facilitate nesting liners in storage warehouses, stores, etc.

A flange 182 projects outwardly from the bottom edge of the liner, the outside dimensions of this flange being such as to
fit nicely within container 72. The flange thus spaces the bot-
tom of the liner in the container. An inwardly extending lip 184 is provided at the top edge of the liner, so dimensioned
that the skirt 38 will fit nicely down past the lip edges (see
FIG. 1). Thus, the lip serves (together with skirt 38 and cover
16) to space the liner centrally at the top of the open con-
tainer.

Instead of the liner 170, a second embodiment 190 thereof
(and therefore a second embodiment of the invention) is
shown. Again, it is taped, rectangularly shaped, molded tube,
having the walls 192, 194, 196, and 198. The tube is tapered,
as shown, being larger at the bottom than at the top. A lip 200 extends outwardly to facilitate lifting the liner and/or
withstanding it from a filled container. It also reinforces
the top of the liner. (See FIGS. 17, 18 and 19.)

In this embodiment, the liner is also reinforced laterally and
longitudinally by a plurality of circumferential ribs 202 and
204, and a plurality of vertical ribs 206 and 208, ribs 206
being on the end walls, and ribs 208 being on the front and
back walls. These several ribs also serve to space the liner in-
side the container. The dimensions of the top of the liner are
such that skirt 38 fits nicely down inside its top. As in the other liner, approximately at 1° to 3° taper to the vertical has been
found to work satisfactorily.

Referring to FIG. 20, another form or embodiment of the
guard 50 is shown. In this instance the guard comprises a main
sheet portion 212 which is slit to provide fingers just the same
as the fingers 62 are provided in FIG. 6. The back edge por-
tion of sheet 212 is solid, and to the top and bottom surfaces of it are fastened, by means of a suitable adhesive, the top and
bottom reinforcing layers 210. Layers 210 extend beyond the
rear edge of sheet 212 in order to provide a channel similar to
the channel 54 of FIG. 6 and for the same purpose. Two di-
viders 214, similar to dividers 56, are provided on the back
edge of sheet 212 to enter notches 44, as in the case of the
FIG. 6 form of guard.

To use the system, a container 72 is placed in the holder 2,
the liner 170 is placed in the container, and then the cover 16
is placed over both, sections 26 fitting down into the holder to
guide and centralize the cover in position, and skirt 38 fitting
into the liner as described above. As thus assembled, it will be
noted that the upright portions 88, 90, 96, and 98 of the con-
tainer extend well up into the cover, so that the aperture of the
cover overlaps the open top of the container. Also, the skirt 38
fits down into the top of the container.

When thus assembled, a can or bottle to be crushed is put
into the container, passing readily through the flexible fingers
62. A ram is then thrust into the enclosure and the can or bot-
tle is crushed by repeated blows. Successively, other waste
cans or bottles, boxes, etc. may be crushed or compacted.

As this continues, it will be noted that the lateral resultant of
forces occurred in compaction are exerted against the liner
170 and not against the sides of the container 72. This pre-
vents these forces from rupturing the walls of the con-
tainer, and thus is able to resist compacting forces.

When the container is filled with compacted trash up to the
above specified horizontal fold lines, or even some distance
above, the liner 170 is withdrawn. The "negative" draft given
to the walls facilitate this withdrawal. Upon withdrawal, the
compacted trash can now spread sideways, thus lowering the
level of the top of the trash down to, at least, the fold lines of
the top closure portion.

The container is withdrawn, and the top is sealed as shown
in FIG. 13. The sealed container is now stored to await collec-
tion by a dump truck.

Referring now to FIGS. 21-28, there is shown yet another
embodiment of the invention.

As before, a holder comprising a base 220, and a cover 222
are provided each of which will now be described. The base
220 is made, preferably, of high density polyethylene or other
strong, tough, synthetic plastic, but it could be made of a
metal such as steel or stainless steel. The base has at its top the
outwardly turned lip or flange 224 which, as will be described
below, serves the function of providing a seat for an inside
liner as well as strengthening the top portion of the base. As
before, the base has a bottom 226. Preferably, the base has a
slight taper as shown.

The lid 222 is, as before, a four-sided, open-ended shell hav-
ing the downwardly tapering sides 228 from which depend a
skirt 230 adapted, as shown, and as will be described below,
to fit over (full lines in FIG. 23) or within (dotted lines 229 in
FIG. 23) a skirt upturned at the end of an inner liner. The
cover is provided at the top with an opening 232 from which depend the two interior shields 234, one at each end of the
opening. Mounted across the upper lips forming the opening
232 are the pair of flexible finger structures 236 each of which
is constructed the same, and as shown in FIGS. 26-28, com-
prizes a comb-like structure having a back 238 and a plurality
of closely adjacent but separate fingers 240. The material of
the finger structures 236 is flexible, tough, elastomericlike
material such as Neoprene or the equivalent, or can be made
of a flexible plasticized synthetic resin if desired. The cuts in
structure are, as in the previous embodiments, so made that
one cut 242 is shorter than its adjacent cut 244 so that both a
sufficient degree of flexibility of the fingers will be provided
and also to reduce the tendency of adjacent fingers to cross
over each other. The finger structures are attached to the rim
conventionally, by providing a metal clamp strip 246 lying
over the back portions of each finger assembly, and then
through suitable holes in the strips 246, the back portions of
the finger structures and the lip 235 of the cover, rivets are in-
serted and headed over to fasten the finger elements so that
the fingers thereof overlap. As before, by this means and in
connexion with the shields 234, entrance into the inside of
the outer holder is provided through the flexible fingers 240,
and these fingers are sufficiently flexible to close around the
shaft of the instrument used to compact rubbish within the
interior of the holder. At the same time, chips are prevented
from flying outside of the container.

The entire cover 222 is made of a strong material such as
Lexan previously described, or its equivalent. At least a por-
tion of the cover 222 needs to be at least translucent, and
preferably transparent, in order to see the interior of the recep-
tacle to facilitate compacting rubbish and trash therein.

As in the previous embodiments, an inner container 72 is
provided, made and put together as is the inner container 72
shown in FIGS. 10-13 from the blank shown in FIG. 9. Since
the container for this embodiment is the same as that previ-
ously shown, no further description will be given at this point.

However, the liner of this embodiment is different from the
liner previously shown. The liner of this embodiment (FIGS.
21 and 22), indicated generally by numeral 250, is a two-piece
assembly having an upper piece 252 and a lower piece 254.
While a mold could be made for molding this two-piece as-
sembly as a one-piece unit, nevertheless, such a mold would
be relatively expensive and for this reason the preferred em-
bodyment shown and described is presented.

The draft of the top portion 252 is positive (as used in this
application to mean that the liner is slightly smaller in cross-
section at its bottom portion 256 than it is at the upper end
258 of the upper liner). Contrary-wise, the portion 254 has a
negative draft as shown. That is, the bottom end 260 of this
bottom portion is larger in cross-section than the cross-section of the upper end 262.

In this embodiment, as previously, the liner is rectangular in
cross-section and the bottom end 256 and upper end 262 of
the respective pieces are so sized that end 256 fits snugly down
into the end 262. When once in place, these end portions are
held together securely by means of the bolts 264. In view of
the nature of the drafts, a reference to FIG. 23 will indicate
that the corner portions of the upper end 262 of the bottom
portion 254 of the liner are preferably relieved to make it easi-
er to fit the respective ends together.

Referring now to FIGS. 21 and 23, the uppermost end porti-
on of the top piece 252 of the liner flares outwardly to form a
funnel portion 268, and the upper edge of the funnel portion
first extends outwardly to form the flat flange portion 270 and then turns upwardly to form the skirt 272. The flare of the funnel portion 268 is sufficient to permit the assembled liner to be retained within the container 72 to come to rest approximately on the bottom thereof, at which point the flange 270 will lie against the outwardly extending flange 224 on the top of the holder base 220. On each of opposite sides of the flange 270 is mounted a post 274 of conventional nature, the post being riveted as shown in FIG. 24 to the flange 270. See FIGS. 23 and 24. A reinforcing plate of steel or tough plastic 276 is preferably provided on the top of flange 270 in each instance. This plate being fastened to flange 270 by means of the rivets 278. Post 274 is provided with a suitable shoulder or structure as illustrated in FIG. 24, so that when the end of the post is riveted over as at 280, the post will be securely fastened to the flange 270.

The post 274 is provided with the peripheral groove 282 and a hole 284. Provided in the flange 224 of holder base 220 is a hole 286 sized to receive the post 274 and the hole 284. A reinforcing plate 288 is fastened to the underside of the flange 224 by means of the rivets 290 in conventional manner. Pivoted to the plate 288 is the finger-latch 292, pivoting being done by a properly shouldered stud 294. A suitable spring retaining the finger 296 projects downwardly from the post 286 as shown, and one end of a spring 298 is held in the finger 296. The spring takes a turn around the shank of the pivot stud or post 294, and the other end is retained in a suitable finger 300 on the plate 292. As viewed in FIG. 25, the spring 298 biases the plate 292 counterclockwise about its mounting post 294. A recess 302 is provided extending inwardly of latch 292, this recess being sized to permit the latch to enter the groove 282 to lock the post 274 in the hole 286. A conventional stop pin 304 is mounted to the plate 288 in order to maintain the plate 292 in proper position, when the latter is not engaging the post 274.

By this means, the liner is detachably locked to the top of the outer holder. The purpose of this is to prevent the liner from rising upwardly due to the negative draft of the bottom portion 254, when material is being compacted within the liner.

On two sides of the funnel portions of the upper part of the liner 268 are provided, if desired, a pair of handles 310. The operation of this last embodiment is similar to the previous one, in that to assemble the device, a container 72 is first prepared in accordance with the instructions given above, and is then inserted in the outer holder 220. The liner 250 is assembled by fastening the portions 252, 254 together. The assembled liner is then inserted into the container 72 and comes to rest with the outer flange 270 resting against the flange 224, as shown in FIGS. 21 and 23. In this position, posts 274 will each have extended through its respective hole 286 as described above, and the latch plates 292 will have engaged into the recesses 282 to lock the liner 250 securely to the holder 220. The cover 222 is then placed over the upstanding skirt 272 of the liner. (If desired, the cover 222 may be of such cross-sectional size and shape that the downwardly extending skirt 230 fits easily but not too loosely inside the upstanding skirt 272.) It will be found that the cover is of sufficient weight and should be of a close enough fit so as to retain itself in position on the holder 220. In this assembled position, the fingers 240 and 242 will now overlie the liner 250 and also inner container 72, and when trash is put into the receptacle through the opening 232, it will fall into the container. At that time, the compacting means described above may be used to flatten down and pack together the trash.

When the compacted trash has reached about the level of the reinforcing sides 126, the cover 222 is removed, and the latch plates 292 are swung outwardly to release the latch posts 274. The inner liner can then be withdrawn, the negative draft on the bottom portion 254 facilitating this withdrawal. Thereafter, the container 72 may be removed, carrying with it the compacted trash. The container top may then be folded down for storage first (if desired) and later disposal.

Thereafter, a new container 72 is prepared and placed in the outer holder 220. The liner 250 is placed down within the container as described above, and the catches are snapped in place. The cover 222 is then placed on top of the skirt of the liner and the device is again ready to have trash compacted therein.

As in the previous embodiments, it is the liner that makes the embodiment practical and effective. Without the liner, the outward force exerted by the trash as it is being compacted would rupture the sidewalls of the container. If the container, in an attempt to prevent this, is made a close fit against the inside walls of the outer holder 220, it will be found that the outward force of compaction will jam the walls of the container against the walls of the holder to the extent that it will be difficult to pull the container from the holder. Thus, the liner serves the very definite function of protecting the walls of the container from rupture during compaction of the trash, and to facilitate easy removal of the container. Also, the liner is so shaped that it may be easily withdrawn (due to its negative draft) from the container when the proper level of compacted trash is reached. The instant liner is also advantageous in that because of the two drafts, it will be found possible for the store owner (or the warehouse or distributor) to stack the separate parts to occupy a minimum of space, as compared to a liner which is all one piece. The reliefs 266 at the upper corners of the bottom portion 254 of the liner, will also assist in such stacking.

It is obvious that from the above, the liner must be of a strong material, and preferably is made of a strong tough plastic such as Noryl (trademark of General Electric Company) which is a synthetic resin of the modified phenylene oxide type. Or, if desired, it could be made of steel or other strong metal. However, it will be found that there are suitable plastics on the market such as that mentioned above, which will be entirely suitable for the purpose. If desired, the top and bottom halves of the liner may be of different materials. For example, the bottom half may be of the above-mentioned Noryl material and the top half may be of a high density polyethylene or other equivalent material. The reason for thus distinguishing the two parts of the liner is that it is the bottom half which takes the force of compaction in a lateral direction, and not the top half.

It has already been mentioned that the fit of the downwardly extending skirt 230 of the top of the device should be preferably a snug fit over or within the upstanding skirt 272 of the upper end of the liner. It is pointed out that this fit is not critical.

The end shields 234 are shown as integral molded parts of the top 222. Of course, if desired, these end shields could be made separately and attached to the top by suitable rivets, etc.

The integral molded construction is, however, the preferred one.

In view of the above it will be seen that the several objects of the invention are achieved and other advantageous results attained.

It is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practised or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

As many changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the specification or shown in the accompanying drawings, shall be interpreted as illustrative and not in a limiting sense, and it is also intended that the appended claims shall cover all such equivalent variations as come within the true spirit and scope of the invention.

Having described the invention, what is claimed is:

1. A receptacle for compacting trash comprising an outer holder and a removable cover therefor, the holder being adapted to receive therein a separate container and the cover being provided.
with an opening overlying the holder and the container, a plurality of narrow parallel flexible fingers attached to the edges of the opening and lying closely adjacent each other, the fingers overlying the opening to flexibly close it, said fingers comprising a pair of elongated rectangular members having short sides and long sides, the fingers being made by slits extending from one long side toward the other long side, and approximately parallel to the short sides, the slits being alternately of unequal lengths, there being two of said members one each attached to opposite edges of said opening, means for locating the cover with respect to the holder so that the opening is centered thereover, and an open-ended tubular removable liner adapted to fit within the holder beneath said opening and also to fit within said container, the liner extending to the bottom of the container thereby to protect the container from rupture.

2. The receptacle of claim 1 in which at least a portion of the cover is transparent, thereby permitting a view into the receptacle interior when the cover is in place on the holder.

3. The receptacle of claim 1 in which said liner has an upper portion and a lower portion, the portions meeting at the mid-portion of the liner, the upper portion tapering inwardly from an upper portion of the liner to the mid-portion, and the bottom portion flaring outwardly from the mid-portion to the bottom end of the liner.

4. The receptacle of claim 3 in which said liner comprises two tubular members in engagement in end to end relationship at said mid-portion, and including means for holding the members together in said engagement.

5. The receptacle of claim 3 in which the upper end portion of said liner is provided with a generally radially extending flange, and a skirt extending upwardly from the outer perimeter of the flange, said holder being provided with a generally radially extending rim adapted to receive thereagainst said flange when the liner is in the holder, and means for detachably fastening said flange, and rim together to hold the liner in the holder, said cover having a downwardly extending skirt portion dependent from the periphery thereof and adapted to fit into engagement with said upwardly extending skirt to position the cover on the holder.

6. The receptacle of claim 3, in which the upper end portion of the liner flares outwardly to provide a funnel to guide material into the holder.

7. A receptacle for articles comprising an outer holder and a removable cover therefor, the holder being adapted to receive therein a separate container and the cover being provided with an opening overlying the holder and the container, a skirt extending downwardly from the cover adjacent and surrounding the periphery of the opening, a plurality of narrow, parallel, flexible fingers attached to the edges of the opening and lying closely adjacent each other, the fingers overlying the opening to flexibly close it, means for locating the cover with respect to the holder so that the opening is centered thereover, and an open-ended tubular removable liner adapted to fit within the holder beneath said opening and also to fit within said container, the liner extending to the bottom of the container thereby to protect the container from rupture, the liner being slightly tapered in shape with the top end of the liner being smaller in cross-section than the bottom end of the liner, thereby to facilitate withdrawal of the liner from the container when the latter is filled with articles, and said liner being provided with an outwardly extending flange around its bottom rim adapted to fit within the bottom of said container to locate the liner centrally with respect thereto, the top rim of the liner having an inwardly extending flange adapted to encircle said skirt to locate the top of the liner centrally with respect thereto.

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