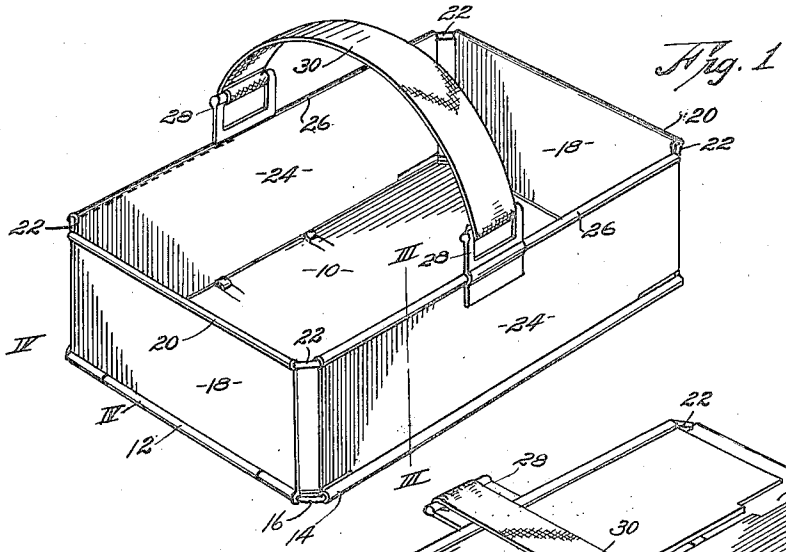
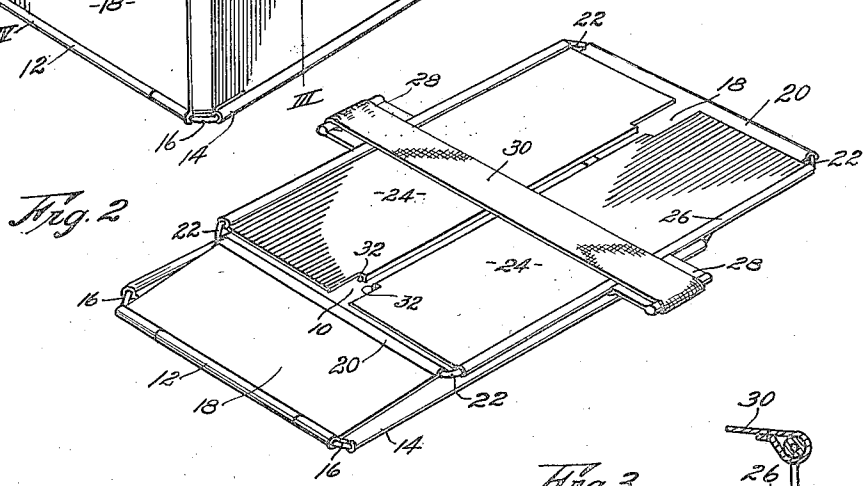
April 19, 1938. D. B. GRAY 2,114,737

COLLAPSIBLE CONTAINER

Filed May 2, 1936



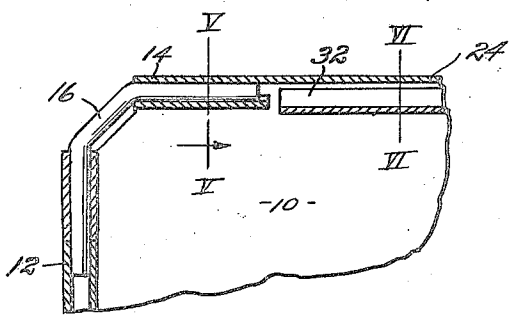




Fig. 4

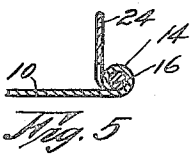



Fig. 5

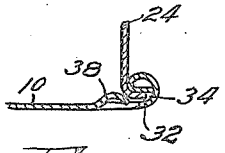
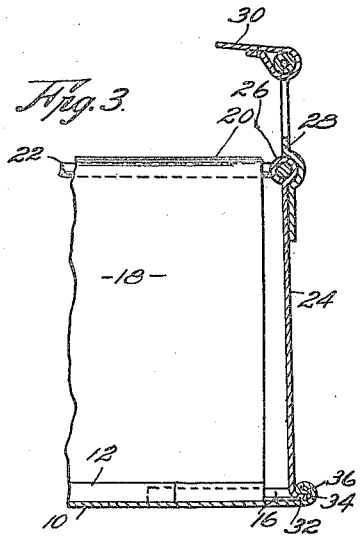



Fig. 6




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Patented Apr. 19, 1938 2,114,737

# UNITED STATES PATENT OFFICE

2,114,737

## COLLAPSIBLE CONTAINER

Dale B. Gray, Kansas City, Mo., assignor to Warren Terry, Kansas City, Mo.

Application May 2, 1936, Serial No. 77,496

5 Claims. (Cl. 220—6)

This invention relates to collapsible containers and particularly to a container of rigid construction.

The principal object of the present invention is to provide a container which, when distended, shall be rigid, but which may be collapsed when not in use to permit storage of the container in a small space.

A further object of this invention is the provision of a collapsible container having a rectangular bottom, a top rim, rigid end members pivotally interconnecting said bottom and top rim, side members hingedly mounted on said top rim for oscillation between said end members, means for interengaging said side members with the bottom when the container is distended, and a flexible handle so mounted on said side members as to cause the container to be moved to the open position when supported thereby.

Another object of this invention is to provide a simple, economical and effective collapsible container, the invention consisting in certain peculiarities of construction and combination of parts as hereinafter set forth.

Reference will now be had to the drawing, wherein:

Figure 1 is a perspective view of a collapsible container shown in the open or distended position, embodying this invention.

Fig. 2 is a perspective view of the container shown in the collapsed or closed position.

Fig. 3 is an enlarged, fragmentary, sectional view, taken on line III—III of Fig. 1.

Fig. 4 is an enlarged, horizontal, sectional view, taken on line IV—IV of Fig. 1.

Fig. 5 is a cross sectional view taken on line V—V of Fig. 4, and,

Fig. 6 is a cross sectional view, taken on line VI—VI of Fig. 4.

Like reference characters designate similar parts throughout the several views, and the numeral 10 indicates a rectangular bottom member formed from sheet metal or other suitable material and provided at its end portions with eyelets 12, and at its side portions with eyelets 14. Angled wire members 16 are provided at each corner of said bottom member and are adapted to extend into eyelets 12 and 14 and to serve as pintles for the end members 18 which are hingedly mounted at their lower portion thereon.

The upper edge of each of the end members 18 is rolled as at 20 to form a bearing on the top rim frame 22. This top rim frame consists of a rectangular formed wire of substantially the same outside dimension of the bottom member. The end members 18 are preferably made of a rigid material which maintains the end portions of the bottom and the top rim in a fixed, spaced-apart relation. Side members 24 are hingedly mounted as at 26 to the top rim 22 and are free to oscillate thereon between the end plates 18 when the container is in the opened position. Each of the side members 24 is provided with a rigidly attached stirrup 28 that extends above the top rim 22 and in the plane of the respective side member.

A flexible handle 30 engages these stirrups and extends across the container to serve as a means for transporting the container and also for moving the container members from the collapsed to the distended position. It will be observed that the flexible handle 30 is of a proper length to just extend across the container when in the collapsed position, as shown in Fig. 2, thereby providing a minimum thickness of the device when collapsed.

The major part of the inner portion of the lower edges of side members 24 is turned outwardly to form flanges 32. These flanges are adapted to engage recesses 34 formed by the inturned flange 36 along the side portions of the bottom member 10.

Referring to Figs. 4, 5 and 6, it will be noted that the inner end of eyelet 14 is so positioned as to form an abutment for the flange 32 when the container is in the open position, thereby preventing end weaving of the container which might be present if the parts where not closely fitted together. It has been found advantageous to provide spring detents 38, as clearly shown in Fig. 6, to prevent accidental movement of the flange 32 from recess 34. This detent, however, will not preclude collapsing of the container when sufficient pressure is exerted to oscillate side members 24 inwardly. Detents 38 are shown as lips pressed from the material forming bottom 10; however, should this bottom be constructed of some non-resilient material, then separate detents of suitable material could be attached thereto.

To collapse the container, the two sides 24 are oscillated inwardly between end members 18 and then the side members, together with the end members, are moved downwardly to contact the bottom, as clearly shown in Fig. 2. When distending or opening the container, the operator simply grasps flexible handle 30 and by a quick movement upwardly, causes the parts to assume the position shown in Fig. 1.

While the container has been shown as constructed from sheet material, it is possible to create a similar functioning container by utilizing a frame work for the separate elements and then to cover said frames with a fabric or other soft material.

What I claim is:

1. In a collapsible container, a rectangular bottom; a top rim; and members pivotally interconnecting said bottom and the top rim; side members hingedly mounted on said top rim and movable to engage said bottom when the container is distended; a stirrup rigidly carried by each of said side members, extending outwardly from the edge thereof to the opposite side of the top rim thereof a sufficient distance to constitute a lever; and a flexible handle joining the outwardly extended portions of said stirrups and extending across the top of said container, said handle being drawn to its fullest length when the sides are swung inwardly to collapse the container.

2. In a collapsible container, a rectangular bottom; a top rim; and members pivotally interconnecting said bottom and top rim; inturned flanges along each of two opposite edges of the bottom to form recesses; a pair of side members each hingedly mounted on said top rim and each having an out-turned flange at its bottom edge for engaging respectively one of the bottom recesses when the container is distended; a stirrup integral with each of said side members rigidly extending outwardly from the edge thereof to the opposite side of the top rim therefrom a sufficient distance to constitute a lever; and a flexible handle joining the outwardly extended portions of said stirrups.

3. In a collapsible container, a rectangular bottom; a top rim, and members pivotally interconnecting said bottom and top rim; inturned flanges along each of two opposite edges of the bottom to form recesses; a pair of side members each hingedly mounted on said top rim and each having an out-turned flange at its bottom edge for engaging respectively one of the bottom recesses when the container is distended; a stirrup integral with each of said side members rigidly extending outwardly from the edge thereof to the opposite side of the top rim therefrom a sufficient distance to constitute a lever; and a flexible handle joining the outwardly extended portions of said stirrups whereby to force said side flanges into said recesses when the container is supported thereby.

4. In a collapsible container, a rectangular bottom; a top rim; members pivotally interconnecting said bottom and top rim; side members hingedly mounted on said top rim and positioned to oscillate between said end members; an out-turned flange at the bottom of each side member; an inturned flange along each of two opposite edges of said bottom to form recesses for receiving the flanges of the respective side members; abutments formed on said bottom adjacent the ends of the out-turned flanges of the side members to preclude longitudinal movement of said flanges in said recesses; and a flexible handle joining said side members at points a sufficient distance from the hinge connection, on the opposite side of the members from said flanges to cause the flanges to move into the respective recesses when the container is supported by the handle.

5. In a collapsible container, a rectangular bottom; a top rim, and members pivotally interconnecting said bottom and top rim; inturned flanges along each of two opposite edges of said bottom to form recesses; side members hingedly mounted on said top rim, each having an out-turned flange at its bottom edge for engaging one of the recesses when the container is distended; detents preventing accidental removal of the flanges from said recesses; a stirrup rigid with each of said side members extending outwardly from the edge thereof to the opposite side of the top rim therefrom a sufficient distance to constitute a lever; and a flexible handle connecting said stirrups.

DALE B. GRAY.