Oct. 10, 1950 G. EINHORN 2,524,900

COLLAPSIBLE WIRE BASKET

Filed May 19, 1947 2 Sheets-Sheet 1

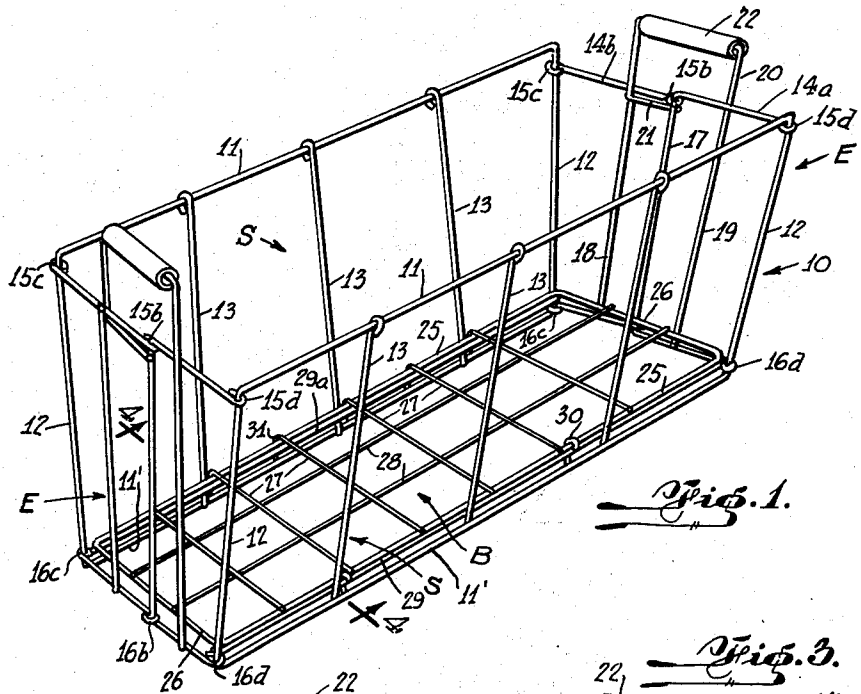


Fig. 1.

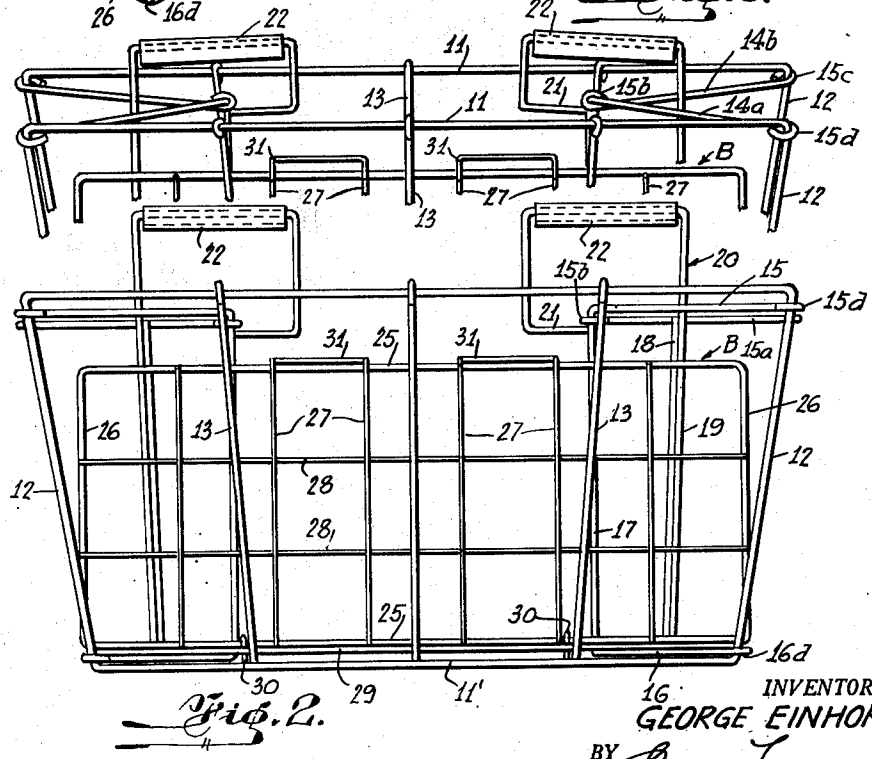


Fig. 3.

Fig. 2.

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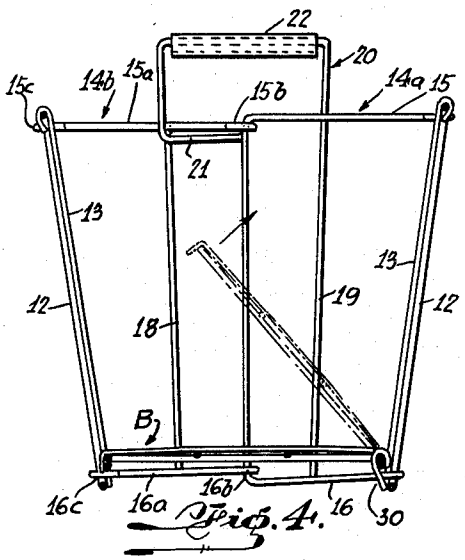


Fig. 4.

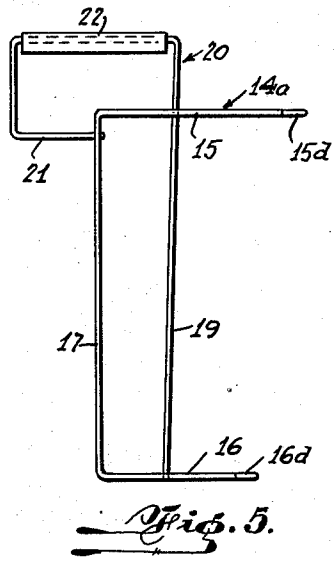


Fig. 5.

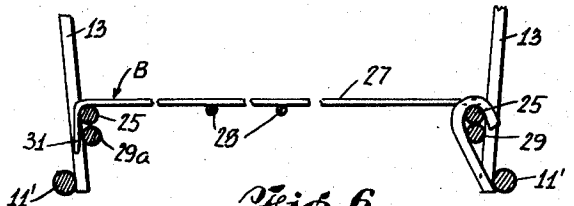


Fig. 6.

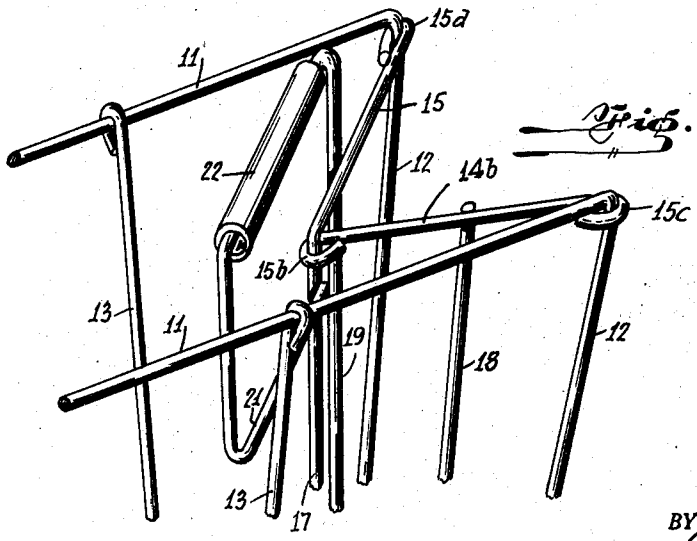


Fig. 7.

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UNITED STATES PATENT OFFICE

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COLLAPSIBLE WIRE BASKET

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Application May 19, 1947, Serial No. 748,868

5 Claims. (Cl. 220—6)

1

This invention relates to collapsible containers, and more particularly to improvements in collapsible baskets adapted for use in carrying articles, such as laundry, in bulk.

A primary object of the invention is to provide a container which may be collapsed or folded easily and readily into a compact unit to conserve space and which may also be readily set up into operative condition.

Another object of the invention is the provision of a collapsible container which, after having been set up in operative condition, will effectively carry considerable loads while being firmly maintained in operative condition, the container being designed and constructed in such a manner as to eliminate any possibility of accidental collapse.

A further object of the invention is the provision of a collapsible container of the character indicated, which may be fabricated easily and inexpensively and which simultaneously embodies the qualities of simplicity, strength, durability.

Considered briefly and generally, the improved collapsible container of the invention comprises a pair of rigid side walls, a rigid bottom pivotally secured to one of the side walls and a pair of inwardly collapsible end walls, each end wall being pivotally secured at each extremity thereof to a respective side wall. The end walls are rendered inwardly collapsible by being composed of two sections of substantially equal shape and size, the sections being pivotally interconnected at their adjacent portions and being pivotally connected at their outer portions to a respective side wall, as has been previously indicated. In order to conserve weight and material, the walls of the container may be constructed of peripheral frames of wires or rods and all the pivotal connections may be made by forming terminal loops integral with the wire frame of one wall member, the loops being rotatably engageable about a portion of the wire frame of a respective wall member with which the first-mentioned wall member is to be pivotally interconnected. The walls may be braced by providing spaced wires or struts suitably secured to the peripheral wire frames, as by spot welding. The bottom of the container may be of the same braced peripheral wire frame construction or, alternately, may be of solid construction, such as sheet metal. In any event, the bottom is upwardly pivotable against one of the side walls of the container, preferably being pivotally secured a sufficient distance above the lower frame portion thereof to allow free rotation of the lower loop of each

2

end wall section in the operation of collapsing the container after the bottom has been swung upwardly into abutment against the side wall.

Another feature of the invention resides in the provision of a handle element extending above one of the end-wall sections of each end wall and having a portion depending below the level of the top of the corresponding end wall section, thereby to limit the outward motion of the pivotally interconnected pair of end-wall sections to the point where said sections lie in substantially the same plane to form each of the end walls in the operative, unfolded condition of the container.

The features and advantages of the invention will be readily understood in the course of the following detailed description taken in connection with the accompanying drawings which illustrate a preferred embodiment of the invention, and wherein:

Fig. 1 is a perspective view of a collapsible container embodying the features of the invention, the container being shown in open or operative condition.

Fig. 2 is a plan view showing the container in collapsed or folded condition with the pivoted bottom swung upwardly against one of the sides and with the pivoted ends folded inwardly between the pair of sides.

Fig. 3 is a fragmentary perspective view of the upper portion of the container in partially collapsed condition, the free end of the bottom being shown having a pair of depending extensions or catches.

Fig. 4 is a transverse sectional view taken substantially along line 4—4 of Fig. 1. In this figure, the direction of pivotal upward movement of the bottom of the container is indicated by an arrow and an intermediate position of the bottom is indicated in dot-dash outline.

Fig. 5 is a plan view of that section of one of the end walls having a handle element associated therewith.

Fig. 6 is an enlarged fragmentary detail view of the lower portion of the container illustrated in Fig. 4, illustrating a preferred manner of pivotally mounting the bottom of the container adjacent one of the sides thereof and further showing one of the downwardly turned extensions or catches formed at the free end of the pivoted bottom.

Fig. 7 is an enlarged fragmentary perspective view of the upper end of the container in partially collapsed condition, as viewed from the front of the container.

In the preferred embodiment of the container

illustrated in the drawings, the walls of the container are constructed with peripheral frames which may be made of wires or rods of metal, synthetic plastic or any other suitable material.

Each of the side walls S of the container 10 preferably comprises a unitary rectangular frame having upper and lower horizontal rods 11—11' and substantially vertical side rods 12. Each of said side walls may be braced by spaced rods or struts 13 extending generally parallel to side rods 12 and suitably secured at their extremities to upper rod 11 and lower rod 11' in any preferred manner, as by spot welding or by being tightly looped therearound.

Each of the end walls E is formed of two sections 14*a* and 14*b* pivotally interconnected centrally of said end wall, the outer extremities of sections 14*a* and 14*b* being pivotally secured to a respective vertical side rod 12 of each side wall S.

Each end section 14*a* comprises horizontal upper and lower arms 15 and 16 and an intermediate vertical arm 17 preferably integral therewith. Each end section 14*b* comprises upper and lower horizontal arms 15*a* and 16*a* interconnected by a vertical rod or strut 18. End sections 14*b* and 14*a* may be easily pivotally interconnected by forming loops 15*b* and 16*b* integrally with upper and lower arms 15*a* and 16*a*, respectively, at the inner ends thereof, said loops being rotatably engaged around vertical arm 17 of end section 14*b*. The end wall E defined by pivotally interconnected sections 14*a* and 14*b* may then be associated pivotally at each outer end with a respective side wall S in a similar manner. Specifically, integral loops 15*c* and 16*c* are formed at the outer ends of upper and lower arms 15*a* and 16*a* of end section 14*b* and said loops are rotatably engaged about a vertical side rod 12 of one of the side walls S. Also, integral loops 15*d* and 16*d* are formed at the outer ends of upper and lower arms 15 and 16 of end section 14*a* and said loops are rotatably engaged about side rod 12 of the other side wall S.

From the construction just described, it is apparent that end walls E comprise two sections pivotally interconnected centrally and pivotally secured at their outer ends with a respective side wall S with the overall result that each end wall E may be collapsed upwardly about centrally disposed upper and lower loops or hinges 15*b* and 16*b* to be compactly folded between the side walls S.

An arrangement is provided for limiting the outward movement of pivotally interconnected sections 14*a* and 14*b* in setting up the collapsed container in its operative condition. This arrangement is preferably designed to serve additionally as a handle means for carrying the container, as will now be described.

The end section 14*a* of each end wall E may be braced by a vertical rod or strut 19 having a preferably rectangular upper extension 20 terminating in a lateral horizontal arm or abutment 21 secured to vertical arm 17 below upper horizontal arm 15. Thus when end sections 14*a* and 14*b* are moved outwardly to set up the container, such outward movement will be limited by the abutment of horizontal arm 21 of end-wall section 14*a* against end-wall section 14*b* to form a substantially planar end wall E, as clearly illustrated in Fig. 1. Rectangular extensions 20 may be conveniently used as handles for carrying the container and may be provided with roller grips 22.

The collapsible container is provided with a bottom B swingable upwardly against one of the side walls S. In the preferred embodiment bottom B is provided with a rectangular frame having a pair of side rods 25 and a pair of end rods 26 reinforced by a series of spaced transverse struts 27 and spaced longitudinal struts 28. The struts 27 and 28 may be secured to the rectangular frame and also at their points of intersection in any suitable manner, as by spot welding. In order to prevent the frame of bottom B from interfering with the free rotation of each pair of lower loops or hinges 16*c*, 16*d*, on the vertical side rods 12, said bottom is preferably pivotally mounted not directly on the lower horizontal rod 11' of the side wall S but on a level spaced above said horizontal rod to clear said lower loops or hinges. For this purpose, a pair of mounting rods 29 and 29*a* is secured on the inside of each side wall S spaced above the lower horizontal rod 11' thereof. One side 26 of bottom B is pivotally secured along one of the mounting rods 29 in any suitable manner, as by means of hinge hooks 30 secured to and extending upwardly from lower horizontal rod 11' to be engaged about side 26 of bottom B. The other mounting rod 29*a* serves to support the opposite free side of the bottom B in the operative condition of the basket, when the bottom has been swung downwardly about mounting rod 29 and into horizontal position.

In order to firmly fix bottom B in horizontal position when the container is in use, the free end of said bottom is formed with one or more depending catches or extensions 31 adapted to overhang mounting rod 29*a*. Extensions or catches 31 may conveniently be formed integrally with an adjacent pair of spaced transverse struts 27 as a unitary structure, as clearly shown in Figs. 2 and 3.

Upon being collapsed, the container will assume the condition illustrated in Fig. 2, wherein the bottom B is swung upwardly about its pivoted side 25 to lie against one of the side walls S, and wall sections 14*a* and 14*b* of end walls E are folded inwardly about their common centrally disposed pivots or loops 15*b*, 16*b* and their outer pair of pivots or loops 15*d*, 16*d*, and 15*c*, 16*c* respectively.

The container is easily convertible to its operative condition, illustrated in Fig. 1, by grasping and rotating handles 22 through an arc of 90 degrees to move each pair of wall sections 14*a*, 14*b* outwardly to the limiting coplanar position at which said wall sections form the end walls E, the arm 21 of each section 14*a* abutting against a portion of a respective section 14*b* to prevent further outward movement beyond this point. Bottom B is then swung downwardly into horizontal position about its pivoted side 25, its opposite free side being supported by mounting rod 29*a*. The bottom B is retained firmly in horizontal position by the depending catches or extensions 31 until it is desired to collapse the container for storage, shipping or the like.

While it is apparent that weight and material are conserved by constructing the walls of the container with peripheral wire frames braced by vertical and horizontal rods or struts, it may be desired for certain uses of the container to eliminate the intervening spaces between the bracing struts which characterize the preferred embodiment of the container illustrated in the drawings. This may be conveniently accomplished using any suitable mesh construction or material such as sheet metal fabric and the like mounted on the peripheral frames of the walls.

Since certain additional modifications may be made in the collapsible container of the inven-

tion without departing from the scope thereof, it is intended that all matter contained in the foregoing specification and shown in the accompanying drawings, be interpreted merely as illustrative and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A collapsible container comprising a pair of side walls, each of said side walls being defined by a rectangular wire frame, a pair of inwardly foldable end walls, each of said end walls having a central vertical rod and an upper and lower rod integral therewith to define a section of said end wall, said upper and lower rods each having terminal loops at their free ends engaged rotatably around an end of one of said rectangular wire frames, each of said end walls having an additional pair of upper and lower rods to define a second section thereof, terminal loops at each end of said upper and lower rods of said second section, one pair of said loops being rotatably engaged around said central vertical rod of said first-mentioned section, the other pair of said loops being rotatably engaged around a respective end of the other of said rectangular wire frames, and a rigid bottom swingable upwardly from a horizontal operative position to a collapsed position in abutment against one of said side walls.

2. A collapsible container as claimed in claim 1, wherein one of said end-wall sections of each of said end walls is provided with a laterally projecting arm disposable in abutting relation against the other of said end-wall sections, whereby to limit the outward movement of said pair of end-wall sections to a coplanar position defining said end wall in the operative condition of the container.

3. A collapsible container comprising a pair of side walls, each of said side walls being defined by a rectangular wire frame, a pair of inwardly foldable end walls, each of said end walls having a central, vertical rod and an upper and lower rod integral therewith to define a section of said end wall, said upper and lower rods each having terminal loops at their free ends engaged rotatably around an end of one of said rectangular wire frames, each of said end walls having an additional pair of upper and lower rods to define a second section thereof, terminal loops at each end of said upper and lower rods of said second section, one pair of said loops being rotatably engaged around said central vertical rod of said first-mentioned section, the other pair of said loops being rotatably engaged around a respective end of the other of said rectangular wire frames, a longitudinal mounting rod secured along each of said side walls and spaced above the bottom thereof, and a rigid bottom comprising a rectangular wire frame swingable upwardly from a horizontal operative position to a collapsed position in abutment against one of said side walls, one of the sides of said rectangular wire frame of said bottom being pivotally secured to one of said mounting rods, the opposite side of said bottom forming rectangular frame presenting a depending extension engageable over the opposite mounting rod, whereby to firmly retain said bottom in operative horizontal position.

4. A collapsible container as claimed in claim 3, wherein one of said end-wall sections of each of said end walls is provided with a laterally projecting arm disposable in abutting relation against the other of said end-wall sections, whereby to limit the outward movement of said pair of end-wall sections to a coplanar position defining said end wall in the operative condition of the container.

5. A collapsible container comprising a pair of side walls, each of said side walls being defined by a rectangular wire frame, a pair of inwardly foldable end walls, each of said end walls having a central, vertical rod and an upper and lower rod integral therewith to define a section of said end wall, said upper and lower rods each having terminal loops at their free ends engaged rotatably around an end of one of said rectangular wire frames, each of said end walls having an additional pair of upper and lower rods to define a second section thereof, terminal loops at each end of said upper and lower rods of said second section, one pair of said loops being rotatably engaged around said central vertical rod of said first-mentioned section, the other pair of said loops being rotatably engaged around a respective end of the other of said rectangular wire frames, a longitudinal mounting rod secured along each of said side walls and spaced above the bottom thereof, and a rigid bottom comprising a rectangular wire frame swingable upwardly from a horizontal operative position to a collapsed position in abutment against one of said side walls, one of the sides of said rectangular wire frame of said bottom being pivotally secured to one of said mounting rods, the opposite side of said bottom forming rectangular frame presenting a depending extension engageable over the opposite mounting rod, whereby to firmly retain said bottom in operative horizontal position, one of said end wall sections of each of said end walls being provided with a rectangular extension forming a handle element, said extension including a laterally abutting portion disposable against the other of said end-wall sections, whereby to limit the outward movement of said pair of end-wall sections to a coplanar position defining said end wall in the operative condition of the container.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
101,113	Erpelding	Mar. 22, 1870
582,229	Reynolds	May 11, 1897
963,769	Johnson et al.	July 12, 1910
1,122,858	Chamberlin	Dec. 29, 1914
1,315,067	Woodworth	Sept. 2, 1919
2,249,189	Thimm	July 15, 1941

FOREIGN PATENTS

Number	Country	Date
49,863	France	May 16, 1939

(1st addition to No. 773,719)