June 2, 1936. R. B. AHLMARK ET AL 2,042,977

COLLAPSIBLE BASKET

Filed July 30, 1935 2 Sheets-Sheet 1

Fig. 1.

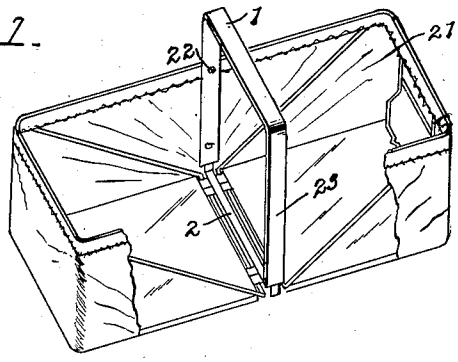


Fig. 2.



Fig. 3.

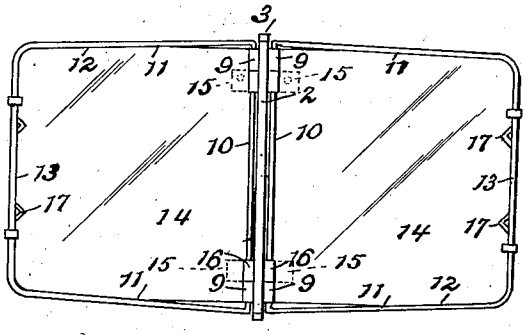


Fig. 6.

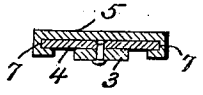


Fig. 5

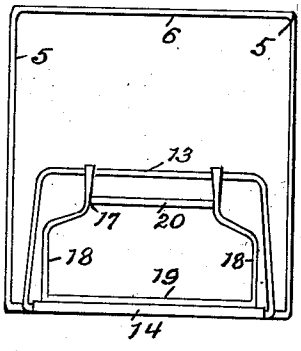
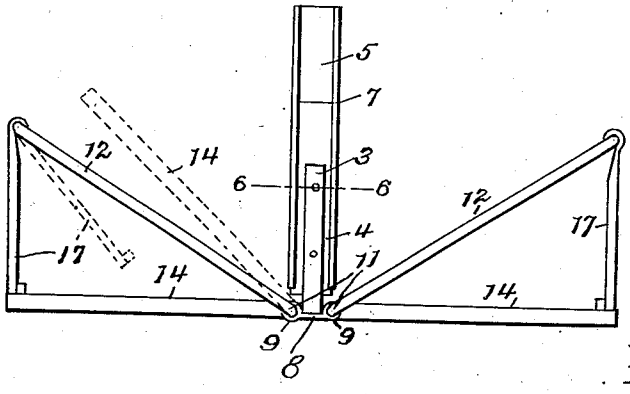


Fig. 4



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Filed July 30, 1935 2 Sheets-Sheet 2

Fig. 7.

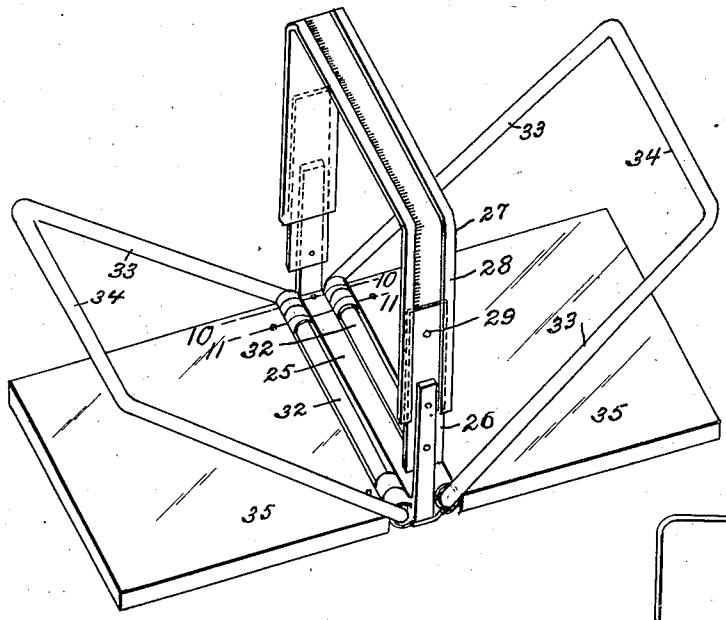


Fig. 8.

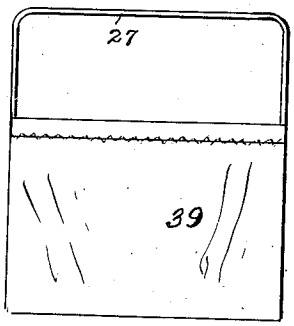


Fig. 9.

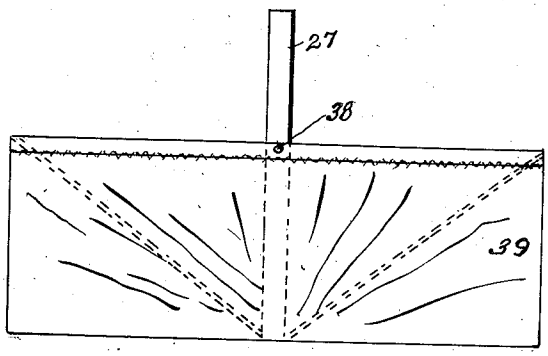


Fig. 11.

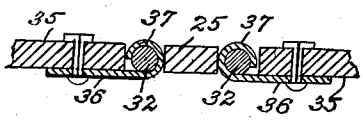
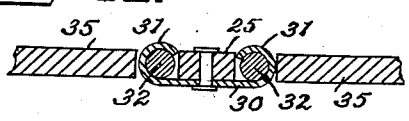


Fig. 10.



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Patented June 2, 1936 2,042,977

UNITED STATES PATENT OFFICE

2,042,977

COLLAPSIBLE BASKET

Roy B. Ahlmark and Fred W. Young, Oklahoma City, Okla., assignors, by direct and mesne assignments, of forty-five per cent to Herbert S. Miller, forty-five per cent to said Ahlmark, and ten per cent to Earl McMahan, all of Oklahoma City, Okla.

Application July 30, 1935, Serial No. 33,909

11 Claims. (Cl. 150—49)

This invention is directed to an improvement in collapsible baskets wherein provision is made to insure substantial rigidity relatively of the various parts of the basket when the same is opened and to permit collapse of the basket into a compact relatively flat package form.

Collapsible and folding baskets are well known commercially but in the various forms produced on the market the construction necessary to permit collapse or folding is such as to render the basket unstable in use; that is to say, in such constructions the upper rim of the basket body, when extended, is not substantially rigid with the bottom nor generally is the handle proper rigid with the bottom. Where the handle is either swingingly connected to the bottom or sides or where the handle itself is of non-rigid material, the loading of the basket heavier at one end than at the other is apt to cause the basket to swing or move relative to the handle and dump its contents. Where the upper edge of the frame structure is not substantially rigid with respect to the bottom and handle when the basket is extended, there is liability of the parts infolding or distorting in use with the obvious disadvantage incident thereto.

The present invention is designed primarily to provide a collapsible basket, with the parts so arranged that the handle is rigid with respect to the body and the upper edge of the basket body is also rigid with respect to the handle and to the basket bottom when the basket is extended, the bottom proper being foldable when released from the bracing elements with respect to the handle and the fabric material forming the body-enclosing element of the basket seeks a natural fold in the movement of the bottom sections to insure that the entire body and bottom sections are folded substantially within the outline plane of the handle proper to thereby reduce the basket to a compact package of minimum thickness, with the remaining dimensions approaching but not exceeding the similar dimensions of the handle proper.

A further object of the present invention is to so arrange the movable and bracing parts of the basket that when the basket is released from folded or collapsed relation, the parts naturally fall by gravity into substantially their open or extended relation, so that the basket may be said to practically open into basket-forming relation more or less automatically.

The invention is illustrated in the accompanying drawings in which:

Figure 1 is a perspective view, partly broken out, showing the basket according to the present invention and in the preferred form.

Figure 2 is a side view of the basket in folded relation.

Figure 3 is a plan view of the basket in open relation, the upper portion of the handle being omitted.

Figure 4 is a side elevation of the frame structure of the basket, the parts being shown in different positions in dotted outline.

Figure 5 is an end view of the frame structure.

Figure 6 is a section on the line 6—6 of Figure 4.

Figure 7 is a perspective view of a frame structure of a basket of slightly modified form.

Figure 8 is an end view of the basket of the form shown in Figure 7.

Figure 9 is a side view of the same.

Figure 10 is a section on the line 10—10 of Figure 7.

Figure 11 is a section on the line 11—11 of Figure 7

The preferred form of the collapsible basket, as shown more particularly in Figures 1 to 6, inclusive, is made up of a frame structure and a fabric covering, with the parts of the frame structure arranged to provide for convenient collapse of the basket as a whole, or the ready extension of the parts into basket-forming relation.

The frame structure includes a rigid handle 1 which comprises a relatively narrow bottom bar 2 having a length commensurate with the required width of the basket to be made up, the ends of the bar being turned upwardly for an appropriate distance, as at 3. Secured to the upturned ends, preferably on the inner sides thereof, are plates 4, which plates are of greater width than the similar dimension of the upturned ends 3 and extend in both directions beyond the edges of the upturned ends.

The handle includes a grip or hand-engaging portion 5 formed to provide an upper bar section 6 with a hand-gripping portion, the ends of which are turned downwardly. This gripping part of the handle has its edges inturned to provide channels 7 and the width of the gripping portion 5 is such that the edges of the plate 4, which extend beyond the upturned ends 3 of the bottom bar 2, will be received in the channels 7 to provide a rigid connection between the plate 4 and the gripping portion 5 of the handle. The down-turned portions of the gripping part of the handle terminate short of the lower ends of the plates 4 and, when the parts are thus arranged, rivets or other fastening means are provided to unite the plates 4 and gripping portion 5 of the handle proper as a unit.

As thus constructed, the handle of the basket is

a rigid unitary structure which extends transverse the bottom of the basket and up the sides thereof, extending of course above the upper edges of the sides and transverse the basket above the sides to provide the hand-gripping portion. The essential characteristic is that the handle portion of the basket is a rigid unitary structure, the parts of which have no relative movement either in the extended or collapsed condition of the basket.

Secured to the bottom bar 2 of the basket adjacent each end is a gudgeon plate 8, which plate underlies and is rigidly secured to the bottom bar 2 and immediately beyond the bottom bar is coiled or otherwise formed to provide gudgeons 9 extending one on each side of the bottom bar and immediately adjacent thereto. The cross-rods 10 of brace members 11 are rotatably mounted in the aligned gudgeons on each side of the bottom bar 2.

The brace members at the ends of the cross-rods are extended to provide diagonal braces 12, the ends of which braces are connected by a transverse end supporting rod 13. The brace members are thus each of integral skeleton form involving a cross-rod 10 which is swingingly supported in the gudgeons 9, a transverse end supporting rod 13 which, as will later appear, supports the ends of the basket body, and braces 12 which extend diagonally from the upper supporting rods 13 to the cross-rods 10.

The bottom of the basket is made up of two similar bottom boards 14 designed, when in operative position, to lie substantially in the plane of the bottom bar 2, so that the bottom boards are constructed of a width corresponding to the desired width of the basket and of such length that when extended they together define the length of the basket. The bottom boards are swingingly supported with respect to the cross-rods 10 through the medium of plates 15 riveted to the bottom of each bottom board at its inner edge and extended beyond the bottom board and formed to provide a gudgeon 16 which surrounds the cross-rod to permit relative movement of the bottom board. Thus, the bottom boards are swingingly supported on the cross-rods 10, one on each side of the bottom bar 2.

The reference to bottom boards merely means substantially rigid material and does not intend to refer particularly to wood. Ordinarily the bottom boards will be constructed of fiber board or may, as contemplated, be made of any appropriate material having sufficient rigidity to carry the weight for which the basket is ordinarily designed.

Holding frames 17 are swingingly supported on the end supporting rod 13 of each brace frame. The holding frames are constructed of rod-like material, relatively heavy wire being sufficient, and include side rods 18 connected at their lower ends by a cross-rod 19 and having an intermediate brace rod 20 between the side rods. The side rods at an appropriate distance above the cross-rod are deflected inwardly so that at their upper portions the holding frames are of less width than at their lower portions.

The upper ends of the side rods 18 are swingingly connected to the supporting rods 13 of each brace frame, being for this purpose, as illustrated, merely flattened out and bent loosely around the supporting rods 13. The over-all vertical dimension of the holding frames is commensurate with the vertical dimension of the basket body and these holding frames are designed to frictionally engage and bear upon the free ends of the bottom boards when the basket is in extended position and provide in effect rigid end frames for the basket body. As these holding frames are supported from the end supporting rods 13 of the brace frame and bear at the lower end upon the upper surface of the bottom boards, it is apparent that they support the supporting rods 13 of the brace frames at a predetermined height above the bottom boards.

The body structure of the basket is made up preferably of a fabric, such as canvas or the like, as indicated at 21. This body structure underlies the bottom boards and is secured to the bottom boards adjacent the free ends thereof. The fabric also defines the sides and ends of the body, being passed over the end supporting rods 13 of the brace frames and stitched or otherwise secured below said rods, with the sides of the body extending longitudinally of the basket between these brace rods 13.

The sides of the body are arranged exteriorly of the handle 1 and are fixed to the handle by appropriate securing means, such as a rivet 22. The handle proper, that is the vertical portion thereof, is also preferably covered by a fabric covering 23, preferably of the same character as the body.

In extended form, the bottom boards are flat, that is in the same horizontal plane, the brace frames extend diagonally from the bottom bar 2, which is of course transverse the longitudinal center of the basket, to the upper edges of the end walls of the basket, and the holding frames are moved into substantially vertical position to cause their lower cross-rods 19 to bear frictionally upon the upper surface of the bottom boards immediately adjacent their free ends. This position of the holding frames, by reason of the fabric ends. effectively supports the rods 13 of the brace frames and maintains the fabric ends of the basket under sufficient strain to maintain the basket form. The side walls of the basket are centrally connected to the handle to insure, when the basket is extended, that the vertical dimension of the basket body will be maintained, and the diagonal brace rods 12 of the brace frames serve to slightly strain the side walls of the basket from the handle to the ends and thus maintain the side walls in appropriate basket form.

When the basket is extended as described, it is to be noted that it is substantially rigid through the medium of the brace frames and holding frames and that the handle is a rigid unit throughout, and when the bottom boards are held immovable as described, the handle is rigid with respect to the bottom of the basket. This is an extremely important factor in connection with collapsible baskets, for when the basket is extended, there can be no relative movement between the handle proper and the bottom of the basket, and hence the basket cannot tilt or swing with respect to the handle and the liability of dumping its contents when unequally loaded is absolutely prevented.

When it is desired to collapse the basket, the holding frames are swung upwardly to free the bottom boards and then the bottom boards, with the connected fabric body, are swung upwardly on the cross bars 10. The side walls of the basket body between the supporting rods 13 and the handle proper are, during the folding operation, directed inwardly and the movement of the bottom boards continued until they are in substantial contact at their upper ends, whereby the basket assumes a folded form indicated in Fig-

ure 2 of the drawings, wherein its thickness is substantially that of the handle proper and the folded height of the body and connected parts even less than that of the handle proper. When extending the basket from folded position, the then upper edges of the bottom boards are merely started outwardly and the basket assumes a naturally open and extended condition, requiring only the proper positioning of the holding frames to secure complete rigidity.

The form illustrated in Figures 7 to 11, inclusive, is slightly modified from the form previously described, the essential difference being that the holding frames are eliminated. In this form, the handle proper is made up of the bottom bar **25**, upturned at the ends and secured to plates **26**, with the grip portion **27** of the handle having inturned edges **28** to form channels in which the edges of the plates **26** are disposed, with appropriate rivets or other fastening means **29** securing all parts of the handle in fixed relation.

Gudgeon plates **30** underlie and are secured adjacent the ends of the bottom bar **25**, being formed immediately beyond the longitudinal edges of the bottom bar to provide gudgeons **31** to receive the cross-rods **32** of brace frames which, in addition to the cross-rods **32**, include side rods **33** and upper supporting rods **34**. The brace frames thus each include integrally the cross-rod **32**, the side rods **33** and the supporting rod **34**.

Bottom boards **35** of appropriate material are swingingly supported from the cross-rods **32** through the medium of plates **36** secured to the lower surfaces of the bottom boards and formed beyond the relatively inner end edges of such boards to provide gudgeons **37** to embrace the cross-rods **32**.

In this form of basket, the fabric material is, as in the preferred form, arranged to underlie the bottom boards and be secured thereto, with the side walls secured at **38** to the handle and the end walls seamed about the supporting rods **34**. The length of the diagonal brace rods **33** of the brace frames is such that, when extended to the limit permitted by the side walls **39** of the fabric basket body, they will support the end walls **39'** above and in proper taut relation to the bottom boards.

In this form, the bottom boards are held open or in basket-forming relation by gravity, though obviously, when any weight is placed on the bottom boards, there is effective strain on the supporting rods **34** of the brace frames, tending to spread such frames, which tendency is resisted by the material of the side walls of the basket. Thus, under any weight on the bottom boards, the fabric body becomes substantially rigid insofar as possible with the fabric body and there is not the slightest tendency to collapse.

In this form, the basket is folded by moving the free ends of the bottom boards toward each other. The brace frames naturally carry the upper edges of the basket body inwardly and when the basket is collapsed, it is practically identical in form with the collapsed form of the basket previously described, being practically included within the outline area of the handle proper. In this form also it is to be noted that when the basket is extended and the bottom boards under carrying weight, the handle is rigid with respect to the bottom of the basket and no possible tilting or swinging of the basket body with respect to the handle is possible.

The body of both forms is preferably constructed of substantial fabric capable of standing the strain to which the basket may be subjected and may be formed in one or more pieces appropriately stitched or otherwise secured together, though it is preferred that the bottom be formed as one piece and that the sides and ends of the body be formed as a separate piece stitched to the bottom, with the ends of the wall-forming section joined in a part overlying the handle.

It will, of course, be apparent that the hanger parts **2** and **4** in the preferred form and **25** and **26** in the modified form may be constructed integrally of a single piece in a conventional manner, if desired.

What is claimed to be new is:

1. A folding basket comprising a rigid handle, bottom boards foldable with respect to the handle, diagonal brace members movably mounted adjacent the handle, and a fabric body for the basket including a bottom, side walls and end walls, the upper ends of the diagonal braces being carried by the upper edges of the end walls of the fabric body.

2. A folding basket comprising a handle including a cross-bar in the plane of the bottom of the basket, brace members supported for swinging movement from and adjacent the cross-bar, bottom boards swingly connected to the brace members adjacent the cross-bar of the handle, and a fabric body having side and end walls, with the side walls secured to the handle and the upper ends of the end walls secured to the brace members.

3. A folding basket comprising a rigid handle including a lower cross-bar, rigid uprights and a hand-grip portion connecting the uprights, brace members including a lower bar, an upper bar and side bars connecting the upper and lower bars, means carried by the cross-bar of the handle and engaging the lower bar of the brace members to swingingly support the brace members with respect to the handle, bottom boards, means carried by the bottom boards and swingingly connected to the lower bar of the brace members to permit swinging movement of the bottom boards with respect to the handle, and a fabric covering secured to the bottom boards and having side walls secured to the uprights of the handle and end walls secured to the upper bar of the brace members.

4. A folding basket including a rigid handle having a lower cross-bar, plates secured to the cross-bar and formed immediately beyond the edges thereof to provide gudgeons, brace members swingingly supported in said gudgeons, bottom boards swingingly supported on the brace members, and a fabric body underlying the bottom boards and secured thereto, said body including side walls secured to the handle and end walls secured to the brace members.

5. A folding basket including a rigid handle having a lower cross-bar, plates secured to the cross-bar and formed immediately beyond the edges thereof to provide gudgeons, brace members swingingly supported in said gudgeons, bottom boards swingingly supported on the brace members, and a fabric body underlying the bottom boards and secured thereto, said body including side walls secured to the handle and end walls secured to the brace members, the relation of the brace members to the side and end walls maintaining said brace members as diagonal braces from the cross-bar of the handle to the upper edge of the fabric body walls.

6. A folding basket having a rigid handle including a lower cross-bar, brace frames pivot-

ally mounted in the plane of the cross-bar for bodily swinging movement, bottom boards swingingly mounted adjacent and in the plane of the lower cross-bar for swinging movement, holding frames swingingly carried by the brace members, and a fabric body having side walls secured to the handle and end walls connected to the brace members, the holding members being movable to overlie and maintain the free ends of the bottom boards in bottom-forming relation when the basket is open.

7. A folding basket including a handle having a lower rigid cross-bar, a fabric body made up of side walls and end walls, bottom boards swingingly supported adjacent the cross-bar, said bottom boards together defining the bottom of the basket, brace frames swingingly supported adjacent the cross-bar of the handle and extending therefrom diagonally of the side walls and connected to the end walls adjacent the upper edges of the latter, and holding members swingingly carried by the upper portions of the brace members and designed to overlie and bear upon the free ends of the bottom boards when the latter are extended to form the basket bottom.

8. A folding basket including foldable bottom boards, movable diagonal braces, movable holding members to hold the bottom boards in extended relation, and a handle having a lower cross-bar and a handle portion proper slidably cooperating with the cross-bar for assemblage and rigidly secured thereto following assemblage.

9. A folding basket frame including a handle cross-bar having upturned ends, a plate secured to the upturned ends of the cross-bar and extending in both directions beyond the sides of the cross-bar, and a handle grip portion having the edges formed to provide channels to slidably receive the plate, means for rigidly fixing the parts of the handle as a unit, diagonal brace members swingingly supported by the cross-bar of the handle, bottom boards swingingly supported by the brace members adjacent the cross-bar of the handle, and holding frames swingingly supported by the brace members remote from the cross-bar and cooperating with the bottom boards when the latter are extended.

10. A construction as defined in claim 9, wherein the brace frames have a width corresponding to the interior width of the basket.

11. A construction as defined in claim 9, wherein the holding frames have a height corresponding to the interior height of the basket.

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