July 2, 1935. B. J. DAVIDSON ET AL 2,006,447

DISPLAY RACK AND BIN

Filed July 23, 1932 4 Sheets-Sheet 1

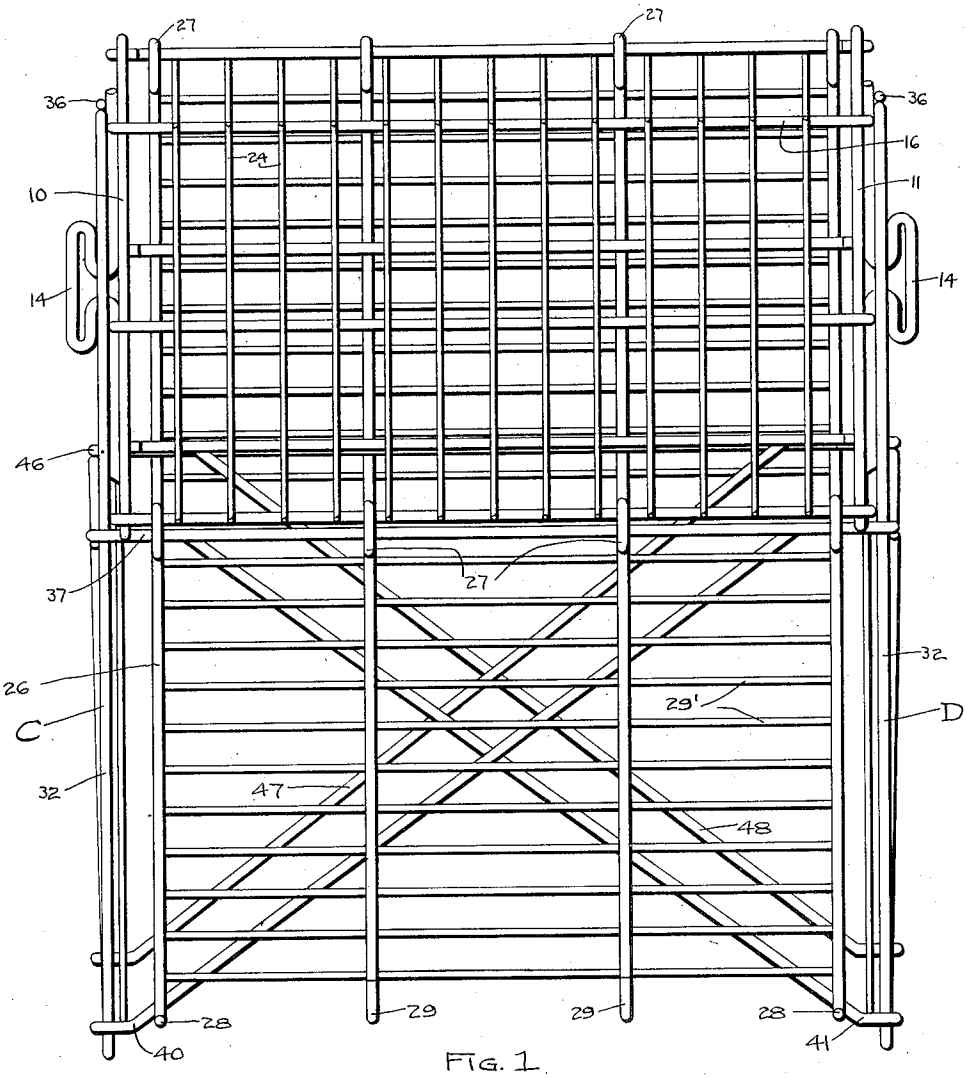


FIG. 1.

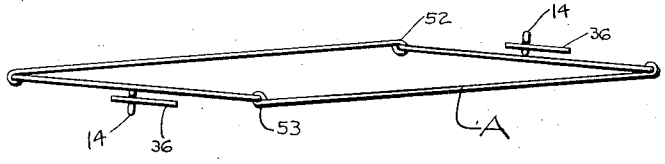


FIG. 13.

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DISPLAY RACK AND BIN

Filed July 23, 1932 4 Sheets-Sheet 2

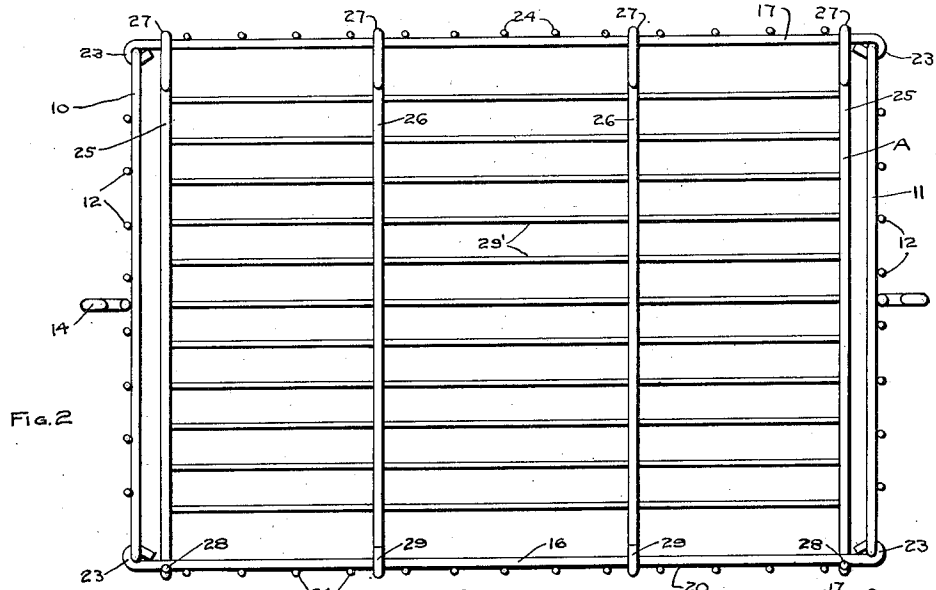


Fig. 2

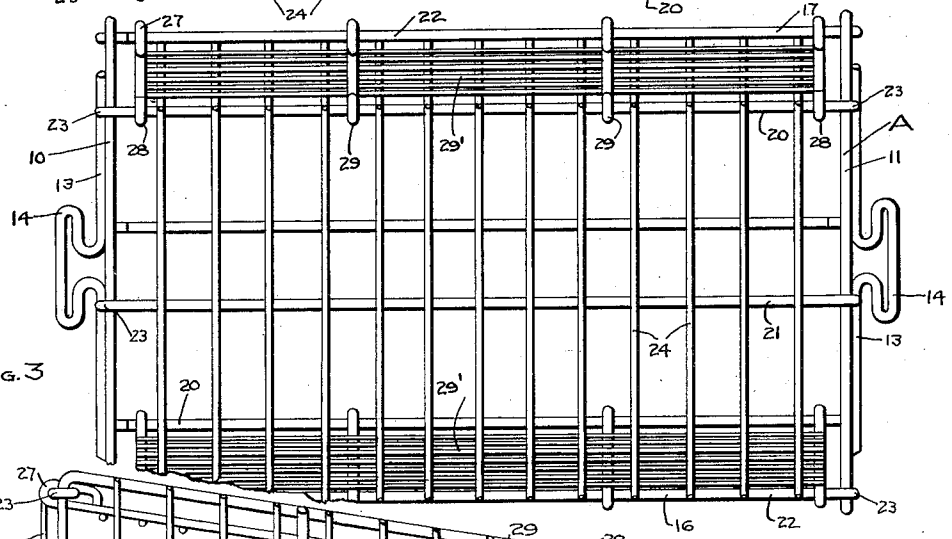


Fig. 3

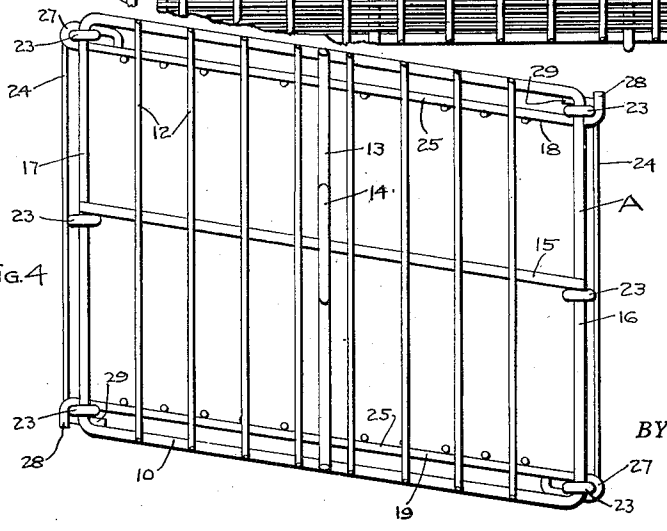


Fig. 4

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DISPLAY RACK AND BIN

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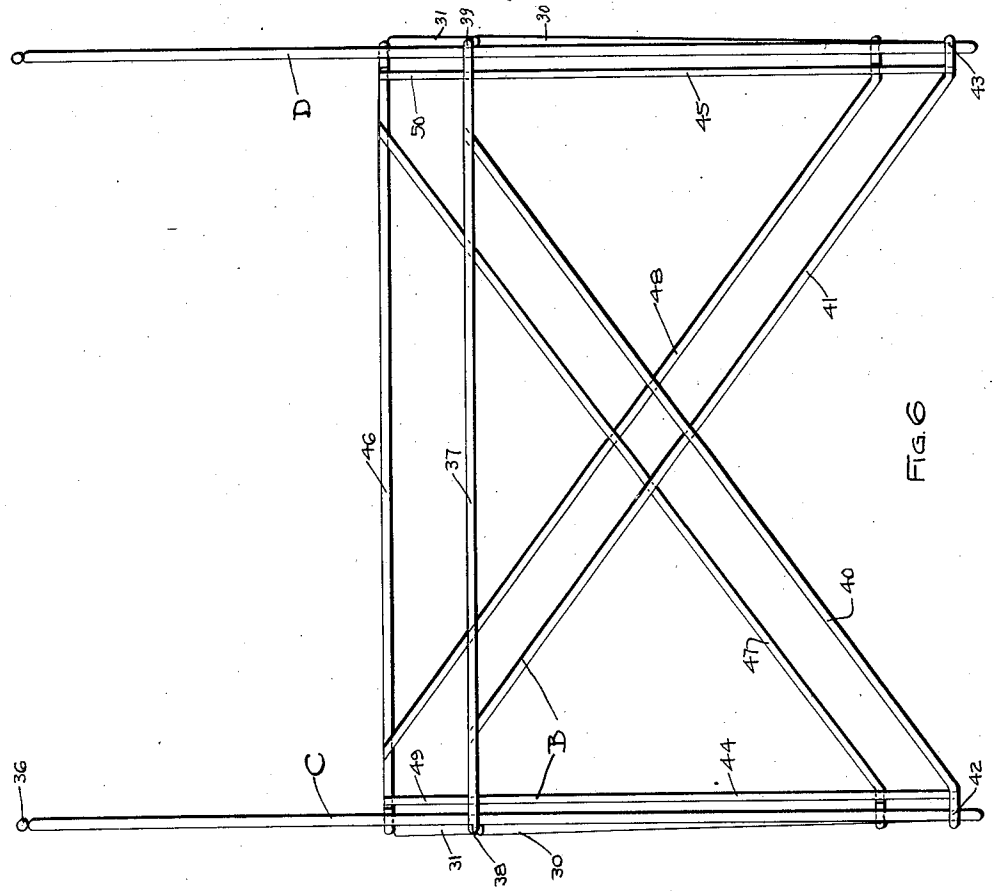


Fig. 6

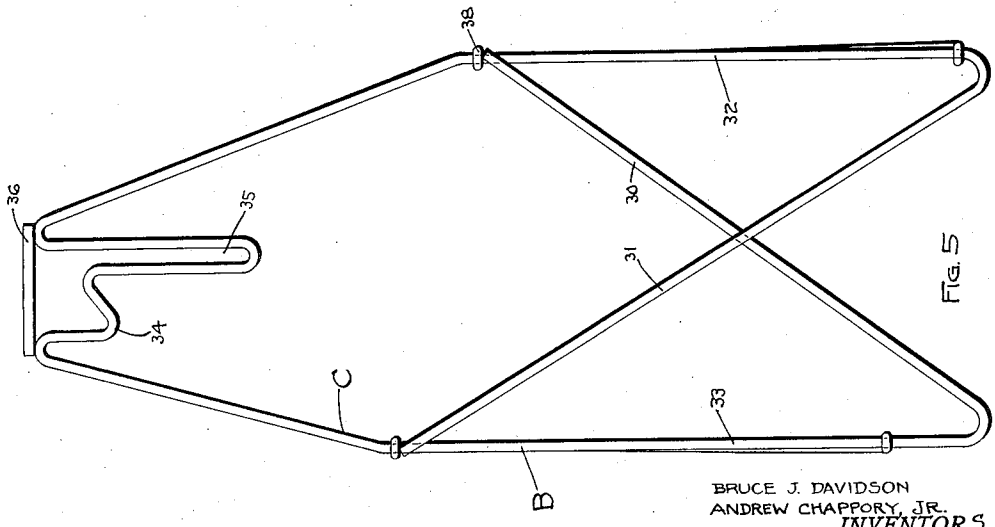


Fig. 5

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DISPLAY RACK AND BIN

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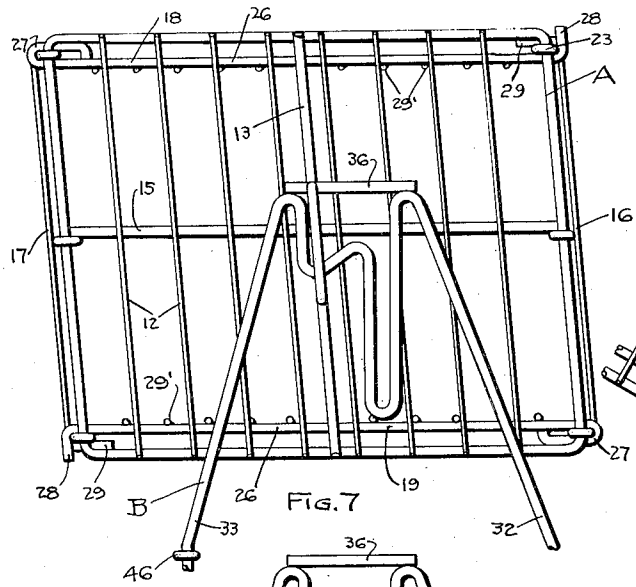


FIG. 7

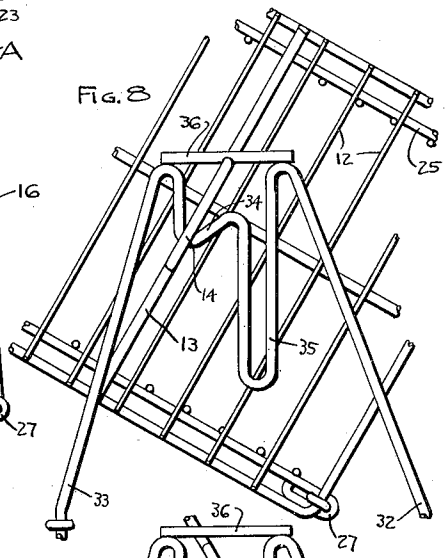


FIG. 8

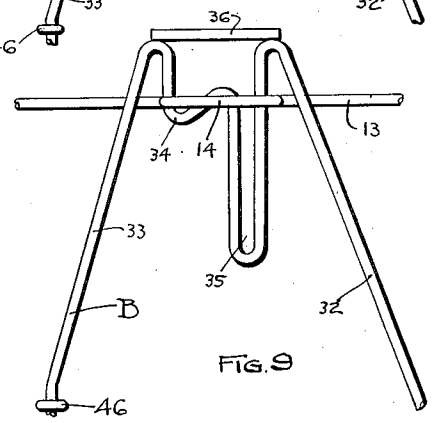


FIG. 9

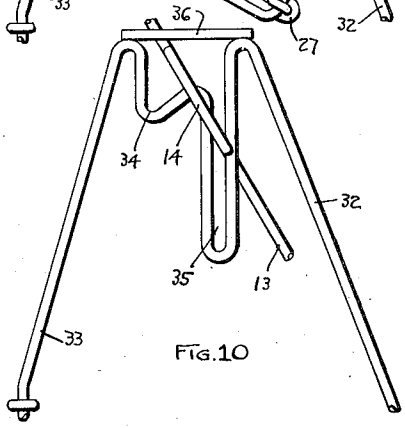


FIG. 10

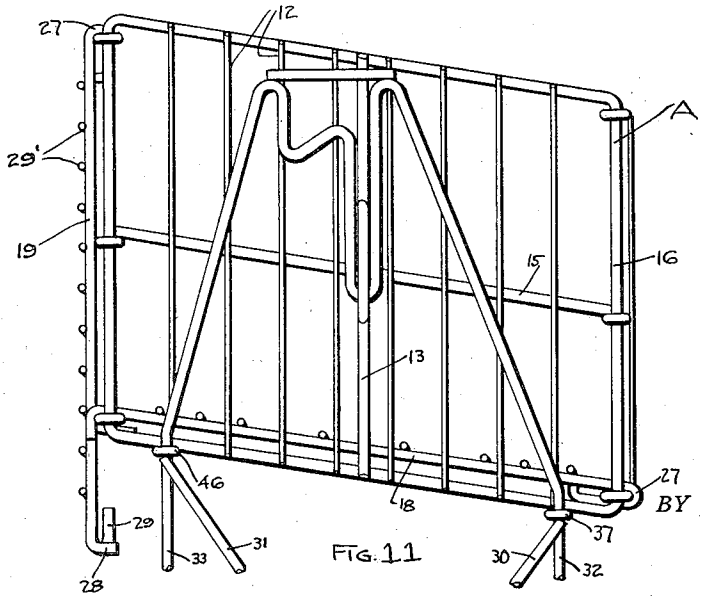


FIG. 11

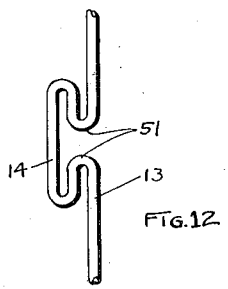


FIG. 12

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Patented July 2, 1935 2,006,447

UNITED STATES PATENT OFFICE

2,006,447

DISPLAY RACK AND BIN

Bruce J. Davidson, Kew Gardens, and Andrew Chappory, Jr., Brooklyn, N. Y., assignors to National Biscuit Company, New York, N. Y., a corporation of New Jersey

Application July 23, 1932, Serial No. 624,220

10 Claims. (Cl. 211—81)

This invention relates to improvements in containers for displaying packaged goods such as are commonly packaged in small boxes, cartons, and the like.

The first object of our invention is to provide a display device having a basket or bin which can be inverted after fresh supplies are added to it. By inverting the basket, the newer goods find their place at the bottom of the said basket while the older goods come to the top. Thus, the older supply is available for use or sale before the newer goods, and the older goods are prevented from remaining at the bottom of the basket until they may become stale.

A further object is to provide a combined basket and support or frame which is collapsible and which can be shipped or stored flat. A further object is to provide an improved construction for advantageously carrying and displaying containers such as cartons and the like. A further object is to provide a combined basket and support or frame which is preferably construced of wire throughout and which is rugged and durable in use.

Other objects will be in part obvious from the annexed drawings and in part hereinafter indicated in connection therewith by the following description of this invention.

This invention accordingly consists in the features of construction, combination of parts and in the unique relation of the members and in the relative proportioning and disposition thereof, all as are more completely outlined herein.

To enable others skilled in the art to fully comprehend the underlying features thereof that they may embody the same in the numerous modifications in structure and relation contemplated by this invention, drawings depicting a preferred form of the invention have been annexed as a part of this disclosure.

In the drawings:

Fig. 1 is a front elevation of the basket and stand in set-up position with both covers hanging open.

Fig. 2 is a top plan of the basket.

Fig. 3 is a side elevation of the basket.

Fig. 4 is an end elevation of the basket.

Fig. 5 is a side view of the stand in set-up position.

Fig. 6 is a front elevation of the stand in set-up position.

Fig. 7 is a side view of the basket and frame in set-up position, with the lower part of the stand cut away.

Figs. 8 to 11 are detail views showing how the basket is reversed or inverted on the frame.

Fig. 12 shows one of the ears on the basket.

Fig. 13 is an outline of the top of the basket in collapsed position.

Referring now to the drawings, we have shown in Figs. 1, 7, and 11 a wire package basket A resting in a wire stand B The basket is capable of revolving in the stand on ledges **34** and after being inverted, of being supported on braces **37, 46.**

In detail, the basket or container A comprises duplicate ends **10** and **11**, Fig. 2, each being preferably formed of a rod bent and welded to form a rhomboidal frame, to the top and bottom sides of which a plurality of spaced parallel wires **12** are welded. Also at the center of each end there is secured a vertical rod **13** formed with a central loop or ear **14** for supporting the basket on the frame when it is being inverted. A central horizontal rod **15** is welded to the front and rear sides of each end frame and to the vertical wires **12** to strengthen and stiffen the end. The basket also has duplicate front and rear sides **16, 17,** and duplicate covers **18, 19,** either of which covers may form either the bottom of the basket or a hinged closure for the top.

Each side **16, 17** is formed from three horizontal rods **20, 21, 22,** (Figs. 2 and 3) each of which at each end is bent to form an eye **23** embracing one of the vertical sides of the respective ends, **10, 11** so as to provide a hinged connection therewith and permit the basket to be collapsed or folded flat for shipment or storage. A number of spaced parallel vertical wires **24** are welded to the rods **20, 21, 22** as clearly shown in Figs. 1, 2, and 3.

Each cover **18, 19** comprises four parallel rods, of which the two outer ones **25** are duplicates as are the two inner ones **26.** At one end, each of these rods is bent to form one eye **27** which embraces the top rod **22** of one of the sides **16, 17,** and forms a hinged connection therewith.

At their opposite ends, each rod **25** is bent to form a right angled hook **28** adapted to hook under the top bar **20** of the adjacent side, and the corresponding ends of the inner bars **26** are bent to form hooks **29** adapted to hook around the same top bar **20.**

The covers on the two sides of the basket are identical and either may form either the bottom of the basket or its cover, and a number of parallel wires **29'** are welded to the rods **25, 26.**

As best shown in Figs. 5 and 6, the stand B has side frames C, D, each of which is formed from a continuous rod or bar bent to form braces **30, 31** and vertical legs **32, 33,** which slope toward each

other at the top and are bent to provide a ledge **34** and socket **35** to receive one of the ears **14** on the basket. A short bar **36** is welded across the socket to prevent its spreading. The vertical parts of the front legs **32** are shorter than the vertical parts of rear legs **33**, and are connected by a horizontal tie rod or cross brace **37** having an eye **38**, **39** at each end to form a hinged connection with the side members. Diagonal braces **40**, **41** have hinged connections **42**, **43** at their lower ends with legs **32** and at their upper ends are welded to the tie rod **37**. Vertical tie rods **44**, **45** are welded to the tie rod **37** and braces **40**, **41**. Similarly the rear legs **33** are hingedly connected by the horizontal tie rod **46**, and diagonal braces **47**, **48** are hinged to the legs **33** at their lower ends and welded to the tie rod **46** at their upper ends. Vertical tie rods **49**, **50** are welded to the braces **47**, **48** and tie rod **46**, as shown in Figs. 5 and 6.

When the covers **18**, **19** are closed, the hooks **29** engage around the adjacent top bar **20**, and the hooks **28** engage over the bar as best shown in Fig. 7. The cover (as **19**) which is on the bottom of the basket (Fig. 7) is securely supported and forms a firm bottom closure. In Fig. 7, both covers are shown closed, and when it is desired to open the top cover, the rod or bar **20** will be bent inwardly near its center sufficiently to disengage the central hooks **29**. This allows the cover to be slid to the rear because the eyes **27** are elongated as shown in Figs. 7 and 11, until the hooks **28**, **29** will clear the bar **20**, when the lid may be raised and turned to the rear about its hinged connections **27**.

Referring now to Figs. 7 to 12, the ears **14** have contracted portions **51** which serve as trunnions to support the basket on the frame and about which the basket may be rotated when it is being turned upside down. As stated above, the side bars of the frame are bent to form ledges **34** and sockets **35**. Normally the basket is supported with the trunnions **51** in the sockets **35**, and the bottom of the basket resting on the tie rods **37** and **46**, the rod **37** being in front and lower than the rear rod **46** so that the top of the basket has a downward slope toward the front.

Fig. 11 shows the basket supported on the frame as it is in actual use with the top cover opened back against the rear side of the basket. Assume now that the basket has been filled with packages, such as packages of biscuit or crackers, and half or more of them have been sold. A clerk or agent will then level off the remaining packages in the bottom of the basket, and fill it to the top with fresh goods. The cover **18** is closed and the hooks **28**, **29** engaged with the top bar **20**. The basket is then lifted in the frame and the trunnions **51** rested on the ledges **34** as shown in Fig. 7. This raises the basket high enough so that it clears the rear tie rod **46**. The basket is then tipped toward the front (Fig. 8), turning on the trunnions **51** (Figs. 9 and 10), until the ears **14** become vertical when the trunnions will drop into the sockets **35** and the basket be reversed, coming to rest on the tie rods **37** and **46**. The cover **19**, which before reversal was on the bottom, is now opened and turned down against the back of the basket as shown in Fig. 11, exposing the older packages which are now on top. As often as may be necessary, the basket is refilled and turned upside down so that the older goods are sold first and there is no accumulation of stale merchandise.

As stated above, the sides and ends of the basket are pivotally connected together, and the braces and tie rods are pivotally connected to the sides of the stand. This permits the basket and stand to be collapsed or folded flat (in assembled position) for storage or shipment. To fold the entire rack as a unit, both covers **18**, **19** are opened and dropped down parallel to the front and rear sides of the basket, one from the top of the basket at the rear, and the other down from the bottom of the basket at the front, as shown in Fig. 1. When this has been done, pressure on diagonally opposite corners of the basket or stand will cause the two to fold flat. In Fig. 13, I have illustrated diagrammatically how the basket collapses, the covers and the frame being omitted from this figure to avoid confusion that would result from so many lines. When it is desired to set up the rack, the two opposite corners that were pressed in (corners **52**, **53**, Fig. 13) are pulled out until the basket and stand again become rectangular in outline. One of the covers **18**, **19** is then closed to form the bottom of the basket, and it is ready to be filled and used.

From the foregoing it will be seen that we have made an improved rack for effectually displaying merchandise of various kinds, that is convenient to use and will enable the merchant using it always to keep his stock fresh.

While we have shown the basket as rhomboidal, this is but one form that may be used, and we may often prefer to make the basket in the form of a cube or parallelepiped. In some instances, as when the basket is not to be collapsed, it may be cylindrical. We claim as our invention all modifications and variations of the stand and basket that come within the scope of our claims.

Having thus described one form that our invention may take, what we claim and desire to secure by Letters Patent is:

1. A display device comprising a basket, a stand having horizontal cross braces supporting the basket, and co-operating means on the stand and basket for inverting the basket on said cross braces.

2. A display device comprising a reversible bin, top and bottom covers hingedly connected to opposite sides thereof, means for securing the covers in closed position, a stand having side frames connected by diagonal braces, cross bars connecting said side frames and supporting said bin, and cooperating means on said bin and side frames for supporting the bin independent of the cross bars while it is being reversed.

3. A display device comprising a bin having top and bottom covers, a stand having side frames connected by diagonal braces, a front cross bar connecting said side frames, a rear cross bar connecting said side frames higher than said front cross bar, said bin being normally supported on said cross bars with its top and bottom covers inclined downward toward the front.

4. A display device comprising a reversible bin having top and bottom covers, a stand having side frames, a front cross bar connecting said side frames, a rear cross bar connecting said side frames, said bin being normally supported on said cross bars, said bin having side supports, said side frames having ledges adapted to receive said supports and rotatably support said bin above said cross bars.

5. A display device comprising a reversible bin having top and bottom covers, a stand having side frames, a front cross bar connecting said side frames, a rear cross bar connecting said side frames higher than said front cross bar, said bin being normally supported on said cross bars, said

bin having side supports, said side frames having ledges adapted to receive said supports and rotatably support said bin above said cross bars, and sockets in said side frames for receiving said side supports when said bin has been reversed.

6. A stand for a display device comprising a pair of side frames, each formed from a single rod, said rod being shaped to form front and rear legs with a diagonal brace extending from the foot of each leg upwardly to join the other leg, the legs converging above their juncture with the tops of the braces, and being joined at the top to form a socket and ledge; a pair of horizontal cross bars joining said side frames adjacent the tops of said diagonal braces; and front and rear diagonal tie rods joining the feet of said side frames to said cross bars.

7. A collapsible display device comprising a bin having its four sides hingedly connected, top and bottom covers hingedly connected to diagonally opposite edges of two of said sides, a stand having two spaced side frames, one on each side of said bin, ears on said bin engaging in sockets in said side frames, cross bars and braces pivotally connected to said side frames, said cross bars being disposed to support said bin, said pivotal connections being arranged to permit said bin and stand to be collapsed together.

8. A display device comprising a pair of side frames each having front and rear legs, said legs of each frame being joined at the top by means providing a ledge and socket, front and rear cross bars and braces joining said side frames, said rear cross bar being higher than said front cross bar, a rhomboidal shaped basket supported on said front and rear cross bars, top and bottom covers for said basket, trunnions on said basket adapted to engage said ledges and rotatably support the basket thereon and to engage in said slots when the basket is supported on said cross bars.

9. A stand for supporting a reversible bin comprising a pair of side frames, ledges on said frames for rotatably supporting the bin, cross bars at different heights connecting said frames and fixedly supporting the bin below said ledges, and vertical sockets on said side frames forming guides for said bin as it is moved from its fixed to its rotatable supports.

10. A display device comprising a basket having a single compartment closed by top and bottom covers, a stand, supports on the stand on which the basket rests, the supports extending across the bottom cover and preventing its being opened, means on the stand and basket for pivotally supporting the basket whereby the positions of its top and bottom covers may be reversed on said supports.

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