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E. Y. CROSSMORE ET AL

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DISPLAY RACK AND BIN

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Fig. 1

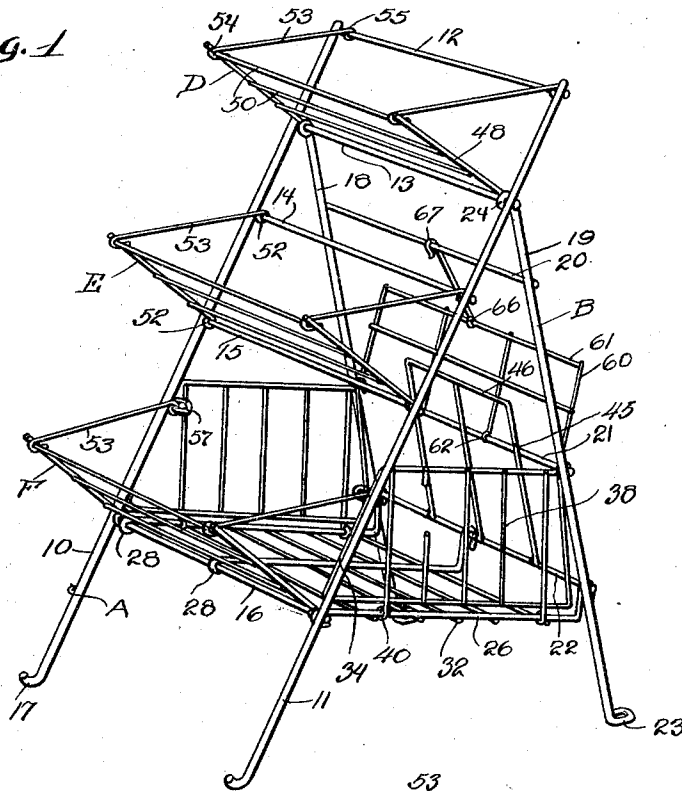
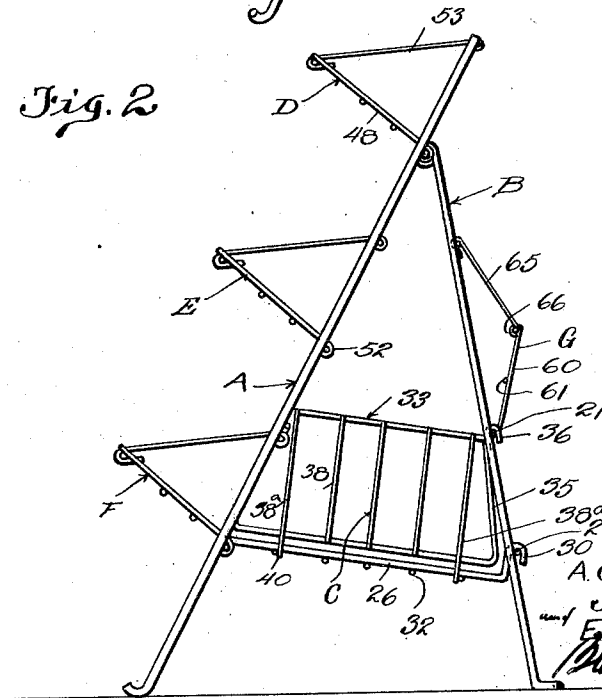


Fig. 2



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DISPLAY RACK AND BIN

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This invention relates to improvements in display racks or easels for packaged goods especially.

One of the main objects of our invention is to provide a display rack adapted to carry and display advantageously articles such as containers, tins, boxes, cartons, and the like. A further object is to provide a simple and inexpensive rack or easel of the above character, which supports articles in an angularly symmetrical manner for display. A further object is to provide a rack on which such articles may be arranged in tiers for display purposes, the rack being provided with a bin for holding a plurality of articles, such as cartons, which may be easily withdrawn therefrom. A further object is to provide a combined rack and bin which is preferably constructed throughout of wire rod and which will be durable and rugged when assembled. A further object is to provide a combined rack and bin of the last named character, which is capable of being collapsed and shipped or stored in flat condition.

Other objects will be in part obvious from the annexed drawing and in part hereinafter indicated in connection therewith by the following analysis 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 more completely outlined herein.

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

In the drawings—

Fig. 1 is a perspective of the rack and bin in assembled or set-up relation;

Fig. 2 is a side elevation of the rack and bin as illustrated in Fig. 1.

Referring now to the drawings, a front frame generally designated at A comprises side legs 10 and 11 and cross braces 12, 13, 14,

15, 16 disposed across said side legs in spaced substantially parallel relation. The said cross braces are preferably spot-welded to the relatively rear sides of the legs for facility in assembly, although any fast connection therebetween may be substituted. The lower ends of the legs may be curved as at 17, to provide a suitable foot for the frame and to prevent scratching of the floor or support upon which the frame may rest.

A rear frame member generally designated at B comprises side legs 18, 19, held rigidly in spaced relation by cross rods 20, 21, 22 welded thereto in the manner previously described. Eyes 23 are preferably formed at the bottom portions of each of the legs 18 and 19, through which a fastening nail or screw is adapted to be inserted and thereafter secured in the floor or support. The top ends of the side legs 18, 19 may be bent or looped over the cross brace 13 of the frame A, as at 24, to form a hinge or flexible connection therewith.

The said frames A and B, are adapted to be held in extended position of use by means of spaced, substantially parallel rods 26, each provided with a loop 28 at one end extending over the lowest cross rod 16 of the front frame A. The said rods extend rearwardly at a slight inclination and at their other ends are bent upwardly and thereafter downwardly to form hook portions 30 which detachably engage over the lower cross rod 22 of the rear frame B, to thus secure and hold the frames A and B in inclined and fast relation with respect to each other.

Extending across and welded to the rods 26 to thus hold the same in fixed relation, are a plurality of transverse rods 32 which form with the said rods 26, an open frame constituting the bottom of a bin C. It will be understood that upon detachment of the hooks 30 from the cross brace 22, this bottom may be swung as a unit from the cross brace 16 of the front frame A.

Side sections for the bin are also provided, each preferably comprising a single rod 33 bent to form a substantially trapezoidal frame, of which the front side 34 may extend parallel to and between the legs 10, 11 of the

frame A when the rack is in set-up position. The opposite side 35 of each trapezoidal frame extends upwardly and substantially along the legs 18, 19 of the frame B, and at the upper end terminates in a hook 36 which detachably engages over the cross rod 21 of the rear frame B.

A plurality of joining rods 38 extend between the parallel sides of the trapezoidal frame 33 and are welded thereto. Preferably, the end rods 38^a extend below the lower portion of frame 33 to form loops 40 which engage about the parallel rods 26 to form a flexible hinge connection therewith. Thus, when it is desired to disassemble the rack and bin, the hooks 36 of the side sections of the bin C may be disengaged from the cross brace 21, and the said side sections swung about the hinges 40 to overlie the bottom frame of the bin, the said parts being then swung together about cross-brace 16 to overlie the front frame A.

A rear section for the bin C may be provided by positioning vertical rods 45 to extend upward from the cross brace 22 of the rear frame B, the said rods 45 extending above the brace 21 and being joined by a connecting rod 46. The rods 45 are secured by welding or otherwise to the front side of the cross rods 21, 22 and extend above rod 21 to provide one side of a bag compartment to be later described.

A plurality of shelves generally designated D, E, and F are provided to extend forwardly of the front frame A and at an inclined relation to the vertical. Each shelf is formed as by side rods 48 rigidly maintained in spaced relation by transverse rods 50 welded thereto. Each of said side rods 48 has one end formed in an eye 52, the said eyes 52 of the shelves, D, E and F engaging about the cross braces 14, 15, 16 respectively of the frame A. The said shelves are hung from the frame A in desired angular relation with respect thereto by link arms 53, each having at one end a hook portion 54 which engages over the outer transverse rod 50 of each shelf, and the other end being provided with an eye 55. The relatively upper shelves D and E are supported as shown by the eyes 55 being formed about the cross braces 12, 14 respectively of the frame A.

The lower shelf F extends in advance of the bin C, and in order to permit free access thereto, the link arms 53 of the shelf F are flexibly joined to opposed U-bars 57, of which the lower leg of each is welded to the side legs 10, 11. The said U-bars are of such small length as to leave a clear open space for placing in or withdrawing the articles contained in the bin C.

It is sometimes desirable to provide a means on the rack for holding paper bags and the like for dispensing articles withdrawn from the bin C. Such a means may comprise a

rearwardly inclined shelf G formed by vertical rods 60 and transverse rods 61 welded thereto. The lower ends of the vertical rods 60 are preferably looped about the cross rod 21 of the rear frame B as at 62 to form a hinge connection therewith, and the shelf is held in inclined relation by means of a link rod 65 having an eye 66 formed at the lower end thereof and about the outer transverse rod 61 and with a hook 67 at the other end adapted to detachably engage over the cross brace 20 of the rear frame B. Thus, a space for the reception of bags or the like is provided between the rearwardly inclined shelf G and the relatively forwardly inclined rear of the bin C formed by the rods 45, 46.

To disassemble the rack from its set-up position as illustrated, the link arms 53 of the shelves D, E and F are disconnected from their respective shelf sections, the said link arms 53 and the shelf sections being then swung to extend along and overlie the front frame A. Thereafter, the side sections of the bin C are disconnected from the brace 21 of the rear frame B and turned down to overlie the bottom section, which latter is then swung upwardly and forwardly against the front frame A. The front and rear frames A and B are then brought together as permitted by the hinge connection at 24, the bag shelf G being disconnected from the brace 20 and being swung against the rear frame B.

Containers in the form of tins, boxes, or cartons are adapted to be supported and displayed on the shelves D and E, and on the shelf F, if desired. The containers, being of greater height than the respective distances of the bars 12 and 14 above the shelves D and E, rest against the bars which prevent them from sliding rearwardly off the shelves. The bin C may be supplied with the small vendible cartons of the goods which may be readily withdrawn through the relatively open front side of the bin or from the sides thereof. It will be understood that the number of shelves on the front frame A may be reduced or increased according to the particular uses to which the rack and bin are especially adapted, and all such modified arrangements are included within the scope of the present invention. The rack, being made of wire rod, preferably spot-welded throughout, may be inexpensively constructed, and, when weighted down by the goods or articles carried thereby, is firmly held in its assembled or set up position.

Without further analysis the foregoing will so fully reveal the gist of this invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and therefore such adaptations should

and are intended to be comprehended within the meaning and range of equivalency of the following claims.

We claim:

5 1. A display rack comprising a front frame member, a rear frame flexibly connected to the upper portion thereof, and a section constituting the bottom of a bin and flexibly secured to one of said frame members and detachably secured to the other frame member to hold said members in spaced inclined relation, and sections constituting sides for the bin flexibly secured to said bottom section.

10 2. A display rack comprising a front frame member, a rear frame flexibly connected to the upper portion thereof, and a section constituting the bottom of a bin and flexibly connected to one of said frame members and detachably secured to the other frame member to hold said members in spaced inclined relation, and sections constituting sides for the bin flexibly secured to said bottom section and detachably secured to one of said frame sections.

15 3. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and flexibly connected to said front frame and detachably secured to the rear frame to hold said frames in spaced inclined relation, and sections constituting sides for the bin flexibly secured to said bottom section.

20 4. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and linked to said front frame and detachably secured to the rear frame to hold said frames in spaced inclined relation, and sections constituting sides for the bin flexibly secured to said bottom sections and detachably secured to said rear frame.

25 5. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and flexibly connected to said front frame and detachably secured to the rear frame to hold said frames in spaced inclined relation, sections constituting sides for the bin flexibly secured to said bottom section, a plurality of shelves flexibly connected to the front frame, and means to suspend said shelves in advance of the front frame in inclined relation thereto.

30 6. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and linked to said front frame and detachably secured to the rear frame to hold said frames in spaced inclined relation, sections constituting sides for the bin flexibly secured to said bottom sections and detachably secured to said rear frame, a plurality of shelves flex-

ibly connected to the front frame, and means to suspend said shelves in advance of the front frame in inclined relation thereto.

70 7. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and linked to said front frame and detachably secured to the rear frame to hold said frames in spaced inclined relation, sections constituting sides for the bin flexibly secured to said bottom sections, and a rear section for the bin formed on said rear frame.

75 8. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and linked to said front frame and detachably secured to the rear frame to hold said frames in spaced inclined relation, sections constituting sides for the bin flexibly secured to said bottom sections and detachably secured to said rear frame, and a rear section for the bin formed on said rear frame.

80 9. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section extending across the lower portions of said frame members and operative to maintain said members in spaced inclined relation, said section constituting the bottom of a bin and comprising spaced rods, each having an eye at one end hingedly connected to the front frame, and a hook at the other end detachably secured to the rear frame, and transverse rods extending across said spaced rods; sections constituting the sides of the bin and each hingedly joined to one of said spaced rods of the bottom section, and each provided with a hook detachably engaging said rear frame member, said side sections, upon detachment of said hooks, being adapted to overlie said bottom sections.

85 10. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and including spaced rods flexibly connected to one of said frame members and detachably secured to the other of said frame members, and sections constituting the sides for the bin each comprising a rod bent to form a substantially trapezoidal frame, and transverse rods extending across two sides of said last-named frame; at least one of said transverse rods extending below said frame to engage about a spaced rod to provide a flexible connection therewith.

90 11. A display rack comprising a front frame member, a rear frame member flexibly connected to the upper portion thereof, a section constituting the bottom of a bin and including spaced rods flexibly connected to one of said frame members and detachably secured to the other of said frame members,

and sections constituting the sides for the bin each comprising a rod bent to form a substantially trapezoidal frame, and transverse rods extending across two sides of said last-named frame; at least one of said transverse rods extending below said frame to engage about a spaced rod to provide a flexible connection therewith, one side of the trapezoidal frame being extended to form a hook engaging the rear frame to provide a detachable connection therewith.

12. A display rack comprising a front frame having side legs and braces extending thereacross, a rear frame comprising side legs flexibly connected to the front frame and cross braces extending between said side legs, means extending between said frames and flexibly secured to a cross brace of one frame and detachably secured to a cross brace of the other frame to maintain said frame in extended position of use, a plurality of shelves each flexibly connected to a cross rod of the front frame, supporting links flexibly connected with other cross bars of the front frame and detachably secured to the outer portions of the upper shelves, opposed U-bars disposed on each leg of the front frame above the lower cross brace thereof, and supporting links for the lowest shelf flexibly secured to said U-bars and detachably secured to the lowest shelf.

Signed at New York, New York, this 23rd day of August, 1929.

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