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E. Y. CROSSMORE ET AL

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DISPLAY RACK AND BIN

Filed Aug. 26, 1929

Fig. 1

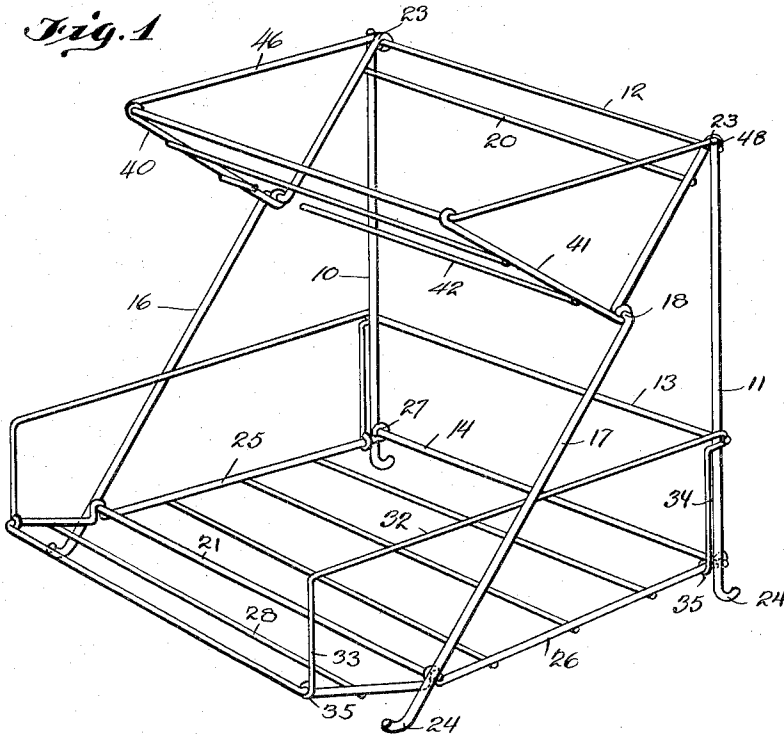


Fig. 2

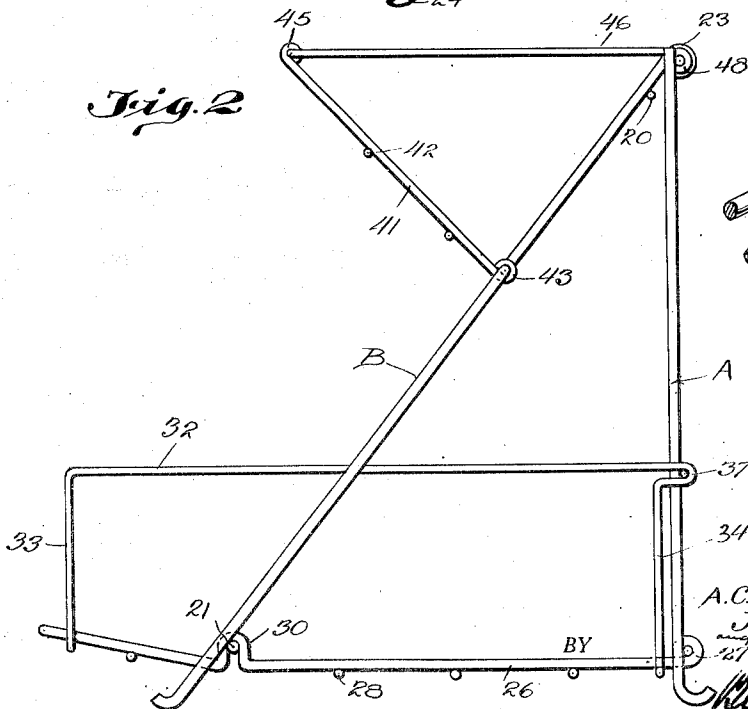
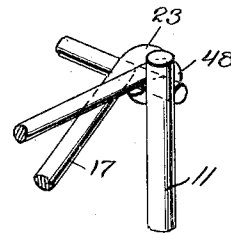


Fig. 3



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DISPLAY RACK AND BIN

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This invention relates to improvements in combined rack and bin constructions.

One of the objects of our invention is to provide a combined rack and bin which is collapsible and which can be shipped or stored flat. A further object is to provide an improved rack construction for advantageously carrying and displaying containers such as tin boxes, cartons, and the like. A further object is to provide an improved bin construction associated with a rack or easel, in which a part of the bin functions to maintain the rack in its set up position of use. A further object is to provide a combined bin and rack which is preferably constructed of wire throughout, and which is rugged and durable in use.

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 thereof that they may embody the same by the numerous modifications in structure and relations 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 perspective of the combined rack and bin in assembled or set up position;

Fig. 2 is a side elevation of the construction illustrated in Fig. 1;

Fig. 3 is a broken-away detail of certain parts of the rack construction.

Referring now to the drawings, a rear frame generally designated at A comprises side legs 10 and 11 held in parallel spaced relation by top, intermediate and lower cross braces 12, 13, 14 respectively. The said cross braces are preferably spot-welded to the side legs throughout, altho any fast connection between said parts may be substituted. The

intermediate cross brace 13, as indicated in Fig. 1, is slightly longer than the normal space between the cross legs 10, 11, and extends beyond said legs for a purpose to be hereinafter described. The front frame of the rack, which is generally designated at B, is constituted as by legs 16, 17, each of which is provided, intermediate its ends, with an inwardly offset bend 18, the upper portions of the side legs thus being closer together than the lower portions thereof. The said side legs 16, 17 are maintained in rigid spaced relation as by upper and lower cross braces 20, 21, respectively, welded thereto as above described. The upper ends of the side legs 16 and 17 are bent to provide loops 23 disposed about the upper cross brace 12 of the rear frame A and providing a flexible or hinge connection therewith. The legs of the front and rear frames may terminate in curved extensions 24 which form feet for the rack and prevent scratching or marring of the surface upon which the rack is set up.

The said frames A and B are adapted to be maintained in set-up position by the disposition of spaced substantially parallel rods 25, 26, each having an eye or loop 27 formed at the rear ends thereof and engaging over the lower cross brace 14 of the rear frame A to provide a flexible connection therewith. Transversely extending rods 28 welded to said parallel rods maintain the same in fixed spaced relation, the said parallel rods being bent intermediate their ends as at 30 to form downwardly opening bends which detachably engage over the lower cross brace 21 of the front frame B, the said parallel rods 25, 26 extending forwardly of the bends 30. The rods 25, 26 and their associated transverse rods 28 form a unit or section constituting the bottom of a bin which extends between and forwardly of the side legs of the front and rear frames.

Sides are provided for said bin, each being preferably formed of a rod bent to form a three-sided frame, as illustrated, each frame comprising a cross portion 32 and downwardly extending legs 33, 34. The lower ends of the legs 33, 34 are formed in eyes or loops 35, both engaging about a cross rod

25, 26 and forming a hinge connection therewith. At the jointure of the parts 32, 34 of the side frame, an open loop 37 is provided which is adapted to be sprung over the outwardly projecting ends of the intermediate cross brace 13 of the rear frame A.

It will be understood that the resiliency of the rod 32, 34 permits the necessary flexing on or off the ends of the brace 13 for setting up or disassembling the rack and bin. Thus, as the loops 37 are disengaged from the ends of the rod 13, the side frames 32, 33, 34 may be swung downwardly as permitted by the hinge connection 35 to overlies the bottom section of the bin. When the rack and bin is in assembled or set-up relation, the cross brace 13 further serves as a rear bar for the bin to prevent cartons or like articles in the bin from being pushed rearwardly through the frame A. The weight of the containers or articles resting on the bottom section of the bin causes the bin section to be securely assembled with the frames A and B.

A shelf may be provided to extend forwardly of the front frame B and comprises side arms in the form of rods 40, 41 held in spaced parallel relation by transverse connecting rods 42 welded thereto. Both ends of the arms 40, 41 are preferably bent to form eyes or loops, of which the lower loops 43 engage over the side legs 16, 17 at the offset bent portions 18 thereof. The upper eyes or loops 45 engage over the bent supporting frame 46, the free ends of which are bent to form hooks 48 which detachably engage about the cross brace 12 of the rear frame.

By reference to Fig. 3, it will be seen that the hooks 48 of the supporting frame 46 for the shelf engage over the cross brace 12 next to the legs 10, 11 of the rear frame A. The spacing between the upper portions of the legs 16, 17 of the front frame B is such that the hinge eyes 23 formed thereon engage over the cross brace 12 inwardly of and next adjacent to the hooks 48 of the supporting frame 46. Thus, as the frame 46 is disconnected from the brace 12 as permitted by the hooks 48, a slight play is permitted between the front and rear frame members to thus obviate any binding as said frames are swung upon disassembly. When the frame 46 is attached to the brace 12, it is frictionally held thereto by the engagement of the eyes 23 to prevent accidental disconnection.

It will be apparent that as the frame 46 and shelf are detached from the cross brace 12, the frame and shelf may be swung downwardly to lie between the lower portions of the legs 16, 17 of the front frame. Further, the flexible connection between the side arms 40 of the shelf and the supporting frame 46 permit such parts to break relatively to each other during such folding action.

The above construction of rack and easel permits one or more tins or containers to be

held between the shelf and cross rod 20 of the front frame member for display purposes, whereas a plurality of smaller cartons containing the goods displayed in the containers may be arranged in the bin for quick withdrawal. The weight of the articles carried on the bottom section 25, 26, 28 of the bin causes the bends 30 of rods 25, 26 to securely engage the cross brace 21, thus to restrain the frame members A and B from movement toward or away from each other.

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:

1. A rack comprising a front frame member having side legs and a lower cross brace, a rear frame member having side legs and a lower cross brace, said frame members being flexibly connected near their top, and spaced rods linked to the cross brace of one frame member and having a downwardly opening bend intermediate the ends thereof extending over the cross brace of the other frame member, said rods adapted to maintain said frames in extended position of use, said spaced rods having transverse rods welded thereto and constituting therewith the bottom frame of a bin, and sides for said bin each comprising a rod bent to provide legs and a connecting portion, the legs being each flexibly connected with a spaced rod.

2. A rack comprising a front frame member having side legs and a cross brace, a rear frame member comprising side legs and a cross brace, said frame members being flexibly joined adjacent their top portions, and spaced rods linked to the cross brace of the rear member and each having a downwardly opening bend therein intermediate its ends extending over the cross brace of the front frame member, said spaced rods adapted to maintain said frame in extended position of use, transverse rods extending across said spaced rods and constituting therewith the bottom of a bin, and sides for said bin, each comprising a rod bent to form legs and a connecting portion, the legs of which are each provided at the ends with eyes disposed about the spaced rods of the bottom and forming a hinge connection therewith.

3. A rack comprising a front frame member comprising side legs and a cross brace, a rear frame member comprising side legs and cross braces, said frames being hingedly connected near their top, a cross brace of the

rear frame member extending beyond said side legs thereof, spaced rods linked to another cross brace of the rear frame and each having a downwardly opening bend therein intermediate its ends extending over the cross brace of the front frame member, transverse rods extending across said spaced rods and constituting therewith the bottom of a bin, and sides for said bin each comprising a rod bent to form legs and a connecting portion of which the legs are flexibly connected with the spaced rods, and an open loop formed in each of said side frames detachably engaging over the ends of said extending cross brace of the rear frame.

4. A display rack comprising a front frame member having side legs, of which each has an inwardly extending offset bend intermediate its ends, a cross brace joining the side legs, a rear frame comprising side legs and a cross brace, a flexible connection between the upper portion of said frames, means flexibly secured to the cross brace of the rear frame and detachably engaging a cross brace of the front frame to hold said frames in extended position of use, and a shelf comprising side arms and transversely extending rods extending thereacross, the side arms each having flexible connection with the offset bend of the front frame legs, and a supporting frame flexibly connected to the side arms of the shelf, and detachably engaging with said rear frame member.

5. A display rack comprising a front frame member having side legs, of which each has an inwardly extending offset bend intermediate its ends, a cross brace joining the side legs, a rear frame comprising side legs and a cross brace, a flexible connection between the upper portion of said frames, means flexibly secured to the cross brace of the rear frame and detachably engaging a cross brace of the front frame to hold said frames in extended position of use, and a shelf comprising side arms and transversely extending rods extending thereacross, the side arms having an eye at the lower ends thereof engaging over the offset bend of the front frame legs and providing a hinge connection therewith, and a supporting frame flexibly connected to the side arms of the shelf, and detachably engaging with said rear frame member.

6. A display rack comprising a front frame member having side legs, each having an inwardly extending offset bend intermediate the ends thereof, the upper ends of said legs being formed in an eye, and upper and lower cross braces extending between said legs, a rear frame having side legs and upper, intermediate, and lower cross braces extending thereacross, the ends of the intermediate cross brace extending beyond the side legs, the eyes of the side legs of the front frame engaging about the upper cross rod

of the rear frame, a shelf flexibly connected to the offset bends of the front frame legs, a supporting frame flexibly connected to said shelf and detachably connected to the upper cross brace of the rear frame, spaced rods linked to the lower cross brace of the rear frame, and each having a downwardly opening bend intermediate the ends thereof engaging over the lower cross brace of the front frame, transverse rods extending across said spaced rods and constituting therewith the bottom of a bin, and sides for said bin each comprising a rod bent to form legs and a connecting portion, of which the vertical legs are flexibly connected to said spaced rods, each side frame having formed therein a loop engaging over the ends of the intermediate cross brace of the rear frame member.

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

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