

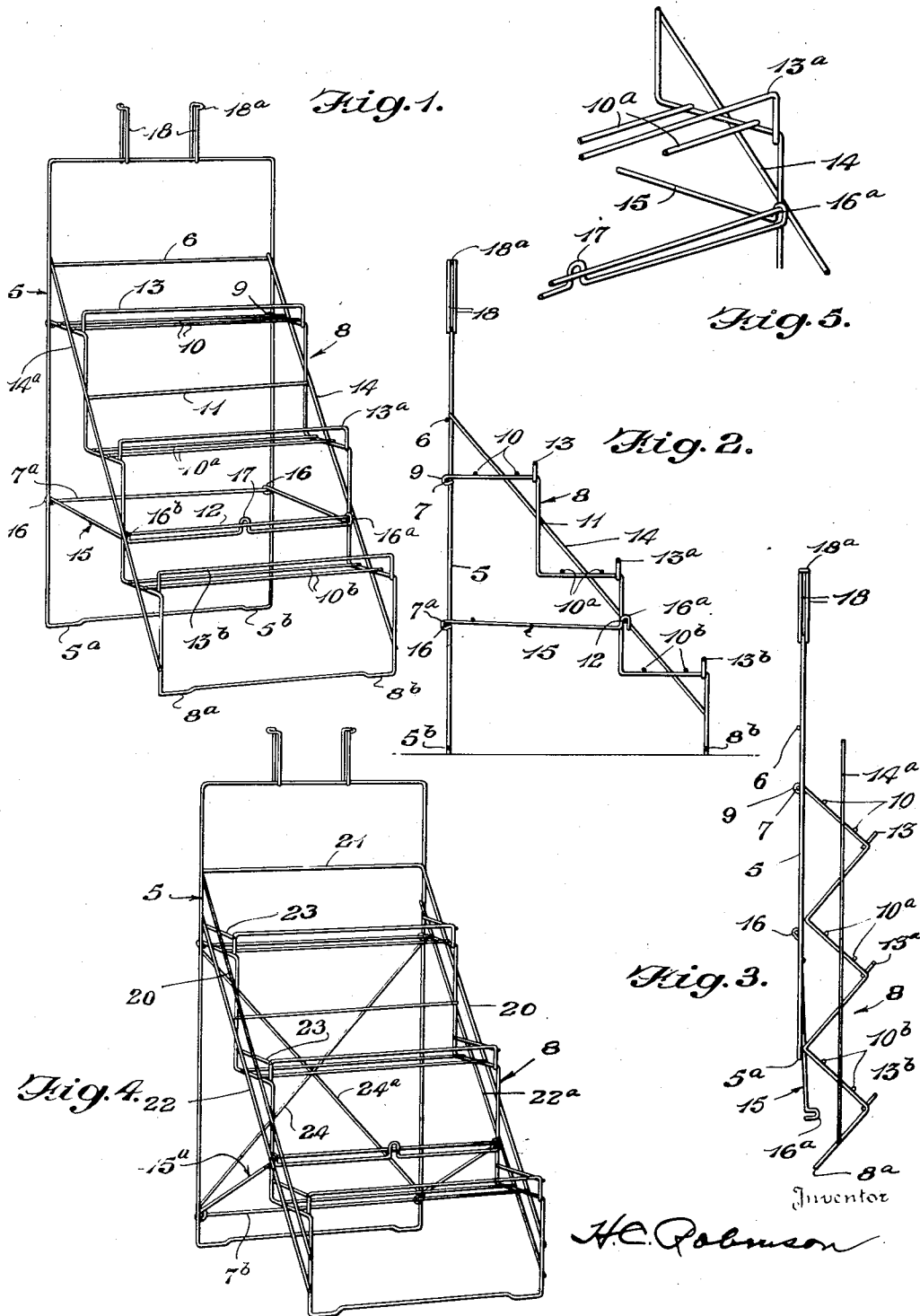
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DISPLAY RACK

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## UNITED STATES PATENT OFFICE

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## DISPLAY RACK

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3 Claims. (Cl. 211-142)

This invention relates to racks or stands broadly and particularly to display racks of the wire frame type designed to be folded or collapsed for shipment or storage.

5 The invention contemplates the provision of a wire rack wherein structural members are given a particular shape and coordinated to provide maximum supporting capacity and strength, and whereby, also, the rack may be quickly and easily  
10 folded and unfolded and set up and locked in set-up position, and when in the latter, position, constitutes a rigid structure wherein any tendency toward a rickety condition is avoided. Ease and economy in manufacture also constitute important  
15 features of the improved rack.

The foregoing and other objects and advantages will become apparent in view of the following description taken in conjunction with the drawing, wherein:

20 Fig. 1 is a view in perspective of a rack embodying the features of the present invention;

Fig. 2 is a view in transverse vertical section of the rack of Fig. 1;

25 Fig. 3 is a view in side elevation showing the rack in folded position;

Fig. 4 is a view similar to Fig. 1 of a modification in structure; and,

30 Fig. 5 is a fragmentary perspective view of the front central portion of the latch member and its coacting latch bar illustrating the locking action.

Referring to the drawing in detail, the improved rack comprises a substantially rectangular-shaped rear supporting frame and leg member, generally indicated at 5, having its lower  
35 portion shaped to provide legs 5a and 5b. This rear frame member is cross-connected by a plurality of cross rods 6, 7 and 7a. A combined shelf and front frame or leg member, generally indicated at 8, is provided, said member preferably being formed of a piece of rod stock bent  
40 in stepped, U-shape form with the bottom portion thereof shaped to provide supporting legs 8a and 8b. The upper free ends of the combined frame and shelf member 8 are each hingedly or pivotally connected to the cross rod 7, as at 9. The horizontal portions of each step of the frame member 8 is cross-connected by a plurality of  
45 shelf rods which together with the steps constitute shelves 10, 10a, 10b for the rack. To further reinforce the structure and to also provide a back wall member for each shelf, cross rods 11 and 12 connect the shelf steps of the frame member 8 along the vertical portions thereof. At the  
50 front of the respective shelf steps, substantially

U-shaped retaining rods 13, 13a and 13b are provided with the legs thereof projecting vertically and suitably secured to the front corner of the step as by welding.

To lend rigidity to the rack and to materially  
5 reinforce the same, side reinforcing rods 14 and 14a are provided and extend diagonally across the step portions of the frame and shelf member 8 and are connected thereto preferably by weld-  
10 ing. In the form of rack shown in Figs. 1 to 3 inclusive, the upper ends of the side brace rods 14 and 14a project free and terminate inside of the vertical legs of the rear frame member 5.

A latch member of a particular advantageous type is provided and is generally indicated at 15,  
15 said member preferably being in the form of a generally U-shaped wire or rod having its rear ends hingedly connected to the lower cross rod 7a at 16 and its front portion formed with upwardly bent or hook shaped latches 16b, 16a  
20 and a central latch tab 17. The latches 16a and 16b are adapted to hook over the front cross rod 12, while the latch tab 17 constitutes in effect a locking tab which may be used in the position  
25 clearly illustrated in Fig. 5, the front cross rod of the latch member being sprung downwardly and inwardly until the tab 17 engages under tension in rear of the cross bar 12, whereupon it  
30 locks the frame members against accidental release, permitting the rack when in unfolded position to be roughly handled without danger of collapse.

The top of the rack may be provided with sign-holding guards or members 18 which in their preferred form consist of a piece of wire bent  
35 double with the upper end thereof projecting laterally as at 18a, the center of the member being thus provided with a guide slot to receive a card of any other matter used in an advertising or  
40 descriptive sense.

The rack is shown in folded position in Fig. 3, the latch member 15 having been released from its cross rod 12, dropping down parallel with the rear frame 5. The rear bend of each step may be  
45 pressed under slight tension between the upright rods of the rear frame member 5 so that the rack will retain its folded position irrespective of careless handling. To unfold the rack, it is only necessary to spread the frame members and hook  
50 the latch member to the cross bar 12.

A rack embodying the principles of construction as above set forth has been found to be capable of supporting unusually heavy weight, and in fact the construction is such that a rack  
55 of practically any desired size and capacity may

be made of wire or rod stock of relatively small gauge. Furthermore, there is no tendency towards a rickety condition common in wire racks and especially those of the larger type.

5 In Fig. 4, a modification in structure is shown wherein the main reinforcing side member, indicated at 20, is of generally U-shaped form with the closed portion thereof continued across the rear frame member and constituting a cross  
10 bracing rod 21. To give added strength, additional side brace members or rods 22 and 22a may be provided, said members paralleling the main reinforcing member 20 and having their upper ends terminating free in a manner similar to the side members 14 used in connection  
15 with the form shown in Figs. 1 to 3 inclusive. The shelves in Fig. 4 are completely rimmed by the addition of members 23. Under heavy load there may be in certain instances a tendency of the rear frame member to sway or spread below  
20 the hinge point of the latch member. To ensure against such action, in Fig. 4 the bottom cross member, indicated at 7b, is lowered to a point, say, from one to three inches above the floor  
25 level, and the latch, indicated at 15a, is disposed at an angle, or is inclined upwardly from its hinge connection with the rear cross member 7b. To offset any loss of bracing effect resulting from lowering of the cross member 7a, means in the  
30 form of rear cross braces 24 and 24a are connected between the uprights of the rear frame member 5. In this figure, the latch 15a is shown with the latch tab in non-locking position. In other respects the rack of Fig. 4 is similar to the form  
35 heretofore described and like reference characters are applied to like parts.

It will be understood that certain changes in construction and design may be adopted without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

40 1. A wire rack for display and like purposes including a pair of pivotally connected front and rear wire leg frames, one or more cross bars connecting the side members of said leg frames, and  
45 a latch member of generally U-shaped form piv-

otally connected at one extremity to one of the leg frames and at its opposite extremity being formed with a plurality of U-shaped hooks adapted to engage one of said cross bars and an intermediate tab member adapted to be sprung  
5 downwardly and rearwardly and engage under tension in rear of said cross bar between said hooks.

2. A wire rack for display and like purposes comprising a rear frame member of closed substantially rectangular form shaped to provide a supporting leg for the rack and a front frame member of generally U-shaped form having its closed end positioned at the bottom of the rack to provide a front leg for the rack and its free  
10 ends pivotally connected to the rear frame member adjacent the upper extremity of the latter, said front frame member being given a generally step shaped contour to provide one or more shelves for the rack, and one or more bracing  
15 rods extending diagonally of the stepped portions of the front frame member and rigidly connected to the latter.

3. A wire rack for display and like purposes comprising a pair of pivotally connected wire leg  
25 frames, one of said leg frames being of closed substantially U-shaped form and constituting the rear frame member of the rack and the other frame member being of substantially U-shaped form with one or more steps therealong to provide  
30 one or more shelves for the rack, the rear frame member extending vertically when the rack is set up and the front frame member being hingedly connected to the rear frame member and extending at an angle to the latter, a plurality of  
35 cross rods connecting said front frame member, one or more side bracing rods extending diagonally with respect to the stepped portions of the front frame member and connected to the latter, and a latch member of generally U-shaped form  
40 pivotally connected to a cross rod of the rear frame member and having its front portion bent to provide one or more hooks to engage a cross rod of the front frame member.

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