

Jan. 10, 1928.

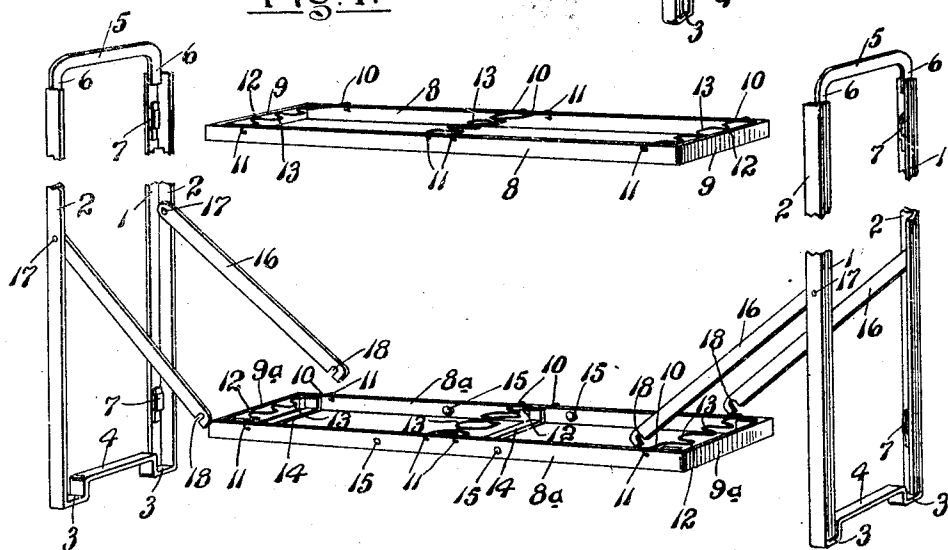
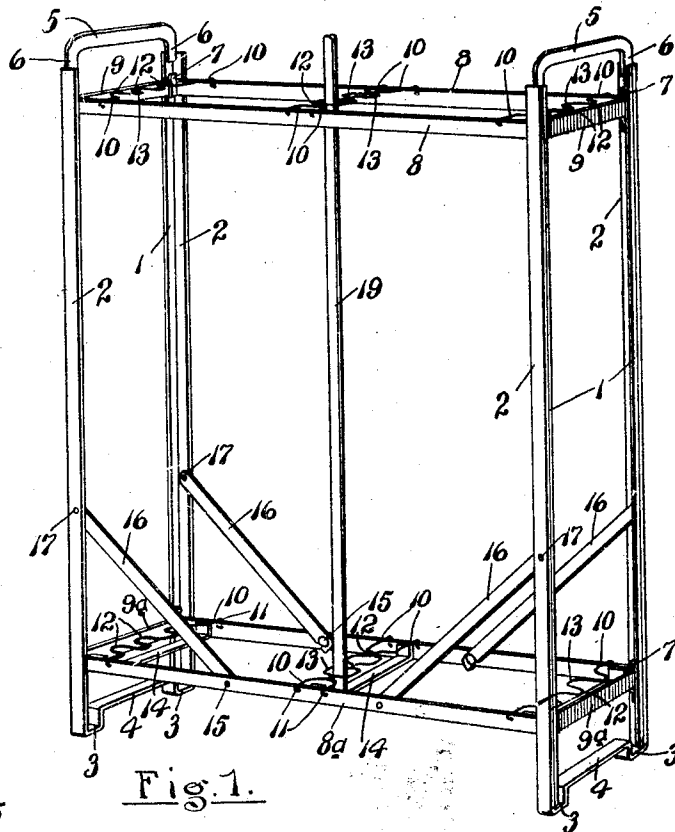
1,655,593

E. O. BULMAN

COLLAPSIBLE DISPLAY DEVICE

Filed Dec. 28, 1925

2 Sheets-Sheet 1



Inventor

Elvah O. Bulman

By Frank E. Liverance, Jr.
Attorney.

Jan. 10, 1928.

1,655,593

E. O. BULMAN

COLLAPSIBLE DISPLAY DEVICE

Filed Dec. 28, 1925

2 Sheets-Sheet 2

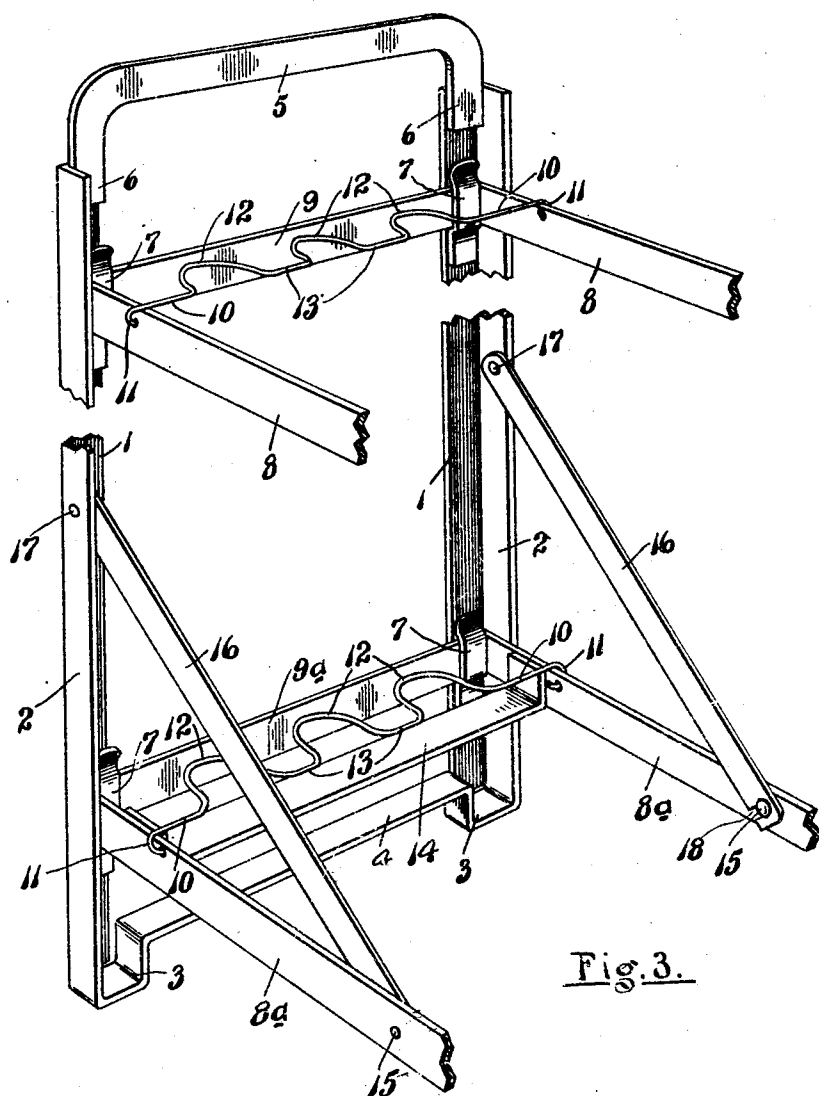


Fig. 3.

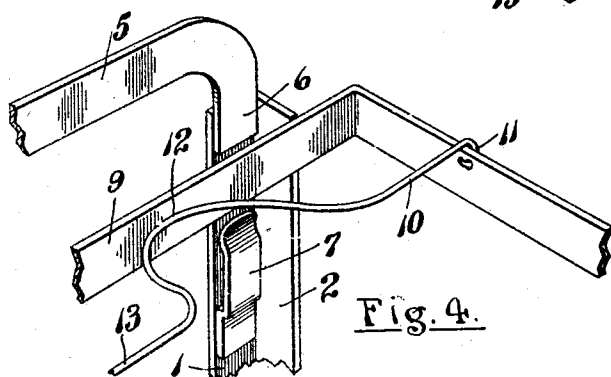


Fig. 4.

Inventor
Elvah O. Bulman

By Frank E. Liverance Jr.
Attorney.

UNITED STATES PATENT OFFICE.

ELVAH O. BULMAN, OF GRAND RAPIDS, MICHIGAN.

COLLAPSIBLE DISPLAY DEVICE.

Application filed December 23, 1925. Serial No. 78,049.

This invention relates to a display rack and in its specific adaptation it is to be used for holding and displaying brooms. The rack structure itself, particularly in the features of construction whereby it may be manufactured and shipped in disassembled and knock down form and readily assembled when it reaches its destination without the use of tools, is useful in connection with many types of racks, whether to hold brooms and like articles or various other kinds or types of articles.

It is an object and purpose of the present invention to make a novel construction of rack and one which can be easily made from commercial forms of iron at low cost, which is durable and efficient, is light and attractive in appearance and which will serve to hold articles of merchandise for display. A further object of the invention is to construct a rack particularly adapted for the display of brooms or like devices, a novel means being used whereby the brooms are supported and held against detachment from the rack. A still further object of the invention is to construct a rack with end frames and upper and lower horizontal connecting frames between the end frames which are detachably connected to the end frames in a novel manner, the same being very quickly assembled or disassembled and when once assembled making a rigid and serviceable rack for the purposes for which it is to be used. These and various other objects and purposes together with novel constructions and arrangements and combinations of parts for attaining the same, will be apparent as understanding of the invention is had from the following description taken in connection with the accompanying drawings, in which,

Fig. 1 is a perspective view of the complete assembled rack.

Fig. 2 is a perspective view showing the parts of the rack disassembled and separated from each other.

Fig. 3 is an enlarged perspective view of one end of the assembled rack, and,

Fig. 4 is a fragmentary perspective showing the manner in which the horizontal frames between the end supporting frames may be connected to and disconnected therefrom.

Like reference characters refer to like parts in the several figures of the drawings.

In the construction of the rack, two ver-

tical end frames are used and as the same are of identical construction, a description of one will suffice for both. The end frames include spaced apart vertical legs of angle iron having inwardly extending flanges 1 and side flanges 2 as shown. The flanges 1 are cut away at the lower ends of the legs while the flanges 2 are formed into feet 3 with a connecting bar 4 extending between. That is, this part of each end frame is made from a single length of angle iron an intermediate portion of one flange which being removed so as to permit the formation of the connecting bar and feet 3 from the intermediate portion of the other flange 2 remaining. The upper ends of the vertical side members of the end frame are connected by a bar 5 of flat metal having downturned short legs 6 which lie against the inner sides of flanges 1 and are spot welded thereto. A short distance below the upper end of each of the vertical side members of the frame and a short distance above the lower end thereof, spring clips 7 of metal are permanently secured to the inwardly extending flanges 1, as shown.

It is designed that upper and lower horizontal frames are to be located between the end frames of the rack. The upper frame is made from flat metal having parallel sides 8 connected by parallel ends 9 and the width of the frame is such that it is received between the side flanges 2 of the vertical side members of the end frames, the bars 9, adjacent their ends, being connected with the retaining clips 7 with which they are readily connected and from which they may be very easily disconnected for removal.

Adjacent each end of the upper frame, a wire or small rod 10 is located, the same at each end being formed into a loop or eye 11 passing through suitable openings in the opposed sides 8 of the frame. This wire or rod 10 is formed with a series of spaced apart outwardly bent loops or scallops 12 between which sections 13 of the wire 10 are left. The rod or wire is spaced a short distance from each end 9 and the loops 12 are bent toward and contact substantially with the inner side of the adjacent end 9 of the frame, as best shown in Fig. 3. Also intermediate the ends of the upper frame two of these wires or rods 10, similarly formed with spaced apart bent loops 12 with connecting sections 13 between them, are lo-

cated side by side, the middle portions of the loops 12 of the two wires being in contact. These intermediate wires are connected to the sides 8 of the upper frame in the same manner. One or more pairs of the wires 10 may be disposed between the ends of the upper frame though, as shown, but one pair is illustrated. It is evident, however, that the number may be increased if it is desirable.

The lower frame is substantially identical with the upper frame, having side bars 8^a and ends 9^a. This lower frame is adapted to be connected with the lower clips 7 in the same manner that the upper frame is connected with the upper clips. The lower frame is also equipped with the same loop or scalloped wire or rod 10 at each end and with a pair of the same between its ends. In the lower frame, underneath said looped or scalloped wires 10, at each end of the frame and underneath the pair of wires intermediate the ends of the frame, a horizontal cross bar 14 is disposed having its ends turned upwardly against the inner sides of the side bars 8^a and spot welded thereto.

Each of the side bars 8^a of the lower frame is equipped with two headed pins 15 located a distance inward from each end thereof. A diagonally disposed brace 16 is pivotally connected at its upper end at 17 to each of the flanges 2 of the four vertical legs or corner posts of the frame. The opposite free end of each member 16 is formed with a transverse slot 18 extending partly across the member making, in effect, a hook to detachably engage with a headed pin 15 as shown in Fig. 3. When thus connected the frame is braced against distortion and is rigid and permanent in effect. It is apparent, however, that by disconnecting the brace members 16 from the pins 15, both the upper and lower frames may be readily disconnected from the clips 7 and the rack packed in small compass, this being a feature of value in shipping the same from the factory to the place of use.

A rack as thus constructed is particularly desirable for holding and displaying brooms, the handles of the same, as indicated at 19 in Fig. 1, resting at their lower ends on the bars 14 and passing between the loops 12 of the wires 10, at the ends of the rack being retained from disconnection by the end bars 9 of the horizontal frame members of the rack, and intermediate the ends of the rack being held by the enclosures formed by the sections 13 located between the loops or scalloped 12.

A construction of the character described is simple and economical to make from a manufacturing standpoint, may be shipped

readily and occupies comparatively little space and when it reaches its destination may be very quickly and easily assembled without the tools of any character. The rack is rigid, strong and durable when in use. Many variations in detail of construction may be resorted to without departing from the invention defined in the appended claims, and the invention is to be considered comprehensive of all forms of structure coming within the scope of said claims.

I claim:

1. In a rack, vertical spaced apart ends, open horizontal upper and lower frames located between and connected to said ends, bars horizontally disposed across and lying between the sides of the lower frame, one of said bars being located adjacent each end of the frame, a member disposed across the lower frame at each end thereof over said bar and connected at its ends to the sides of the frame, said member being provided with a plurality of spaced apart loops bent toward and coming into close proximity to the adjacent end of the horizontal frame, and a like member disposed across and connected in like manner to the upper frame at each end thereof, directly over the first of said members, substantially as described.

2. A rack comprising spaced apart vertical ends, upper and lower open rectangular frames located between said ends, a horizontal bar disposed between and connected at its ends to the sides of the lower frame near each end thereof, a wire member disposed between and connected at its ends to the sides of the lower frame at each end thereof, said wire member being formed into a plurality of spaced apart loops, the bends of which lie closely adjacent the adjacent end of the lower frame, and a like wire member similarly disposed between the sides of the upper frame at each end thereof directly over the first wire member, substantially as described.

3. A rack, comprising spaced apart ends, upper and lower horizontal side bars disposed horizontally between said ends at each vertical side thereof, cross bars located between the lower horizontal bars and connected thereto, guiding and holding means located between and connected to said upper horizontal bars at a plurality of points between said ends of the rack, and additional guiding and holding means located between said lower horizontal side bars directly under the upper guiding means and over said cross bars, said guide and holding means being adapted to receive and hold an elongated article with its lower end bearing against said cross bars, substantially as described.

In testimony whereof I affix my signature.

ELVAH O. BULMAN.