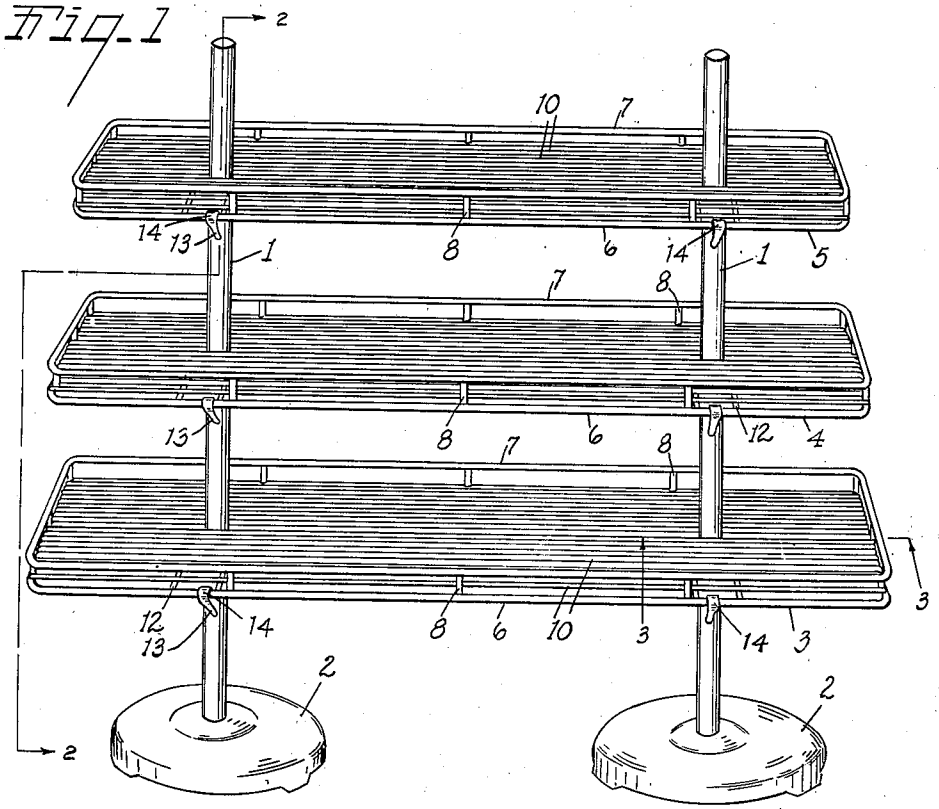
Feb. 4, 1941. S. F. CARVER 2,230,374

DISPLAY RACK

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Fig. 1



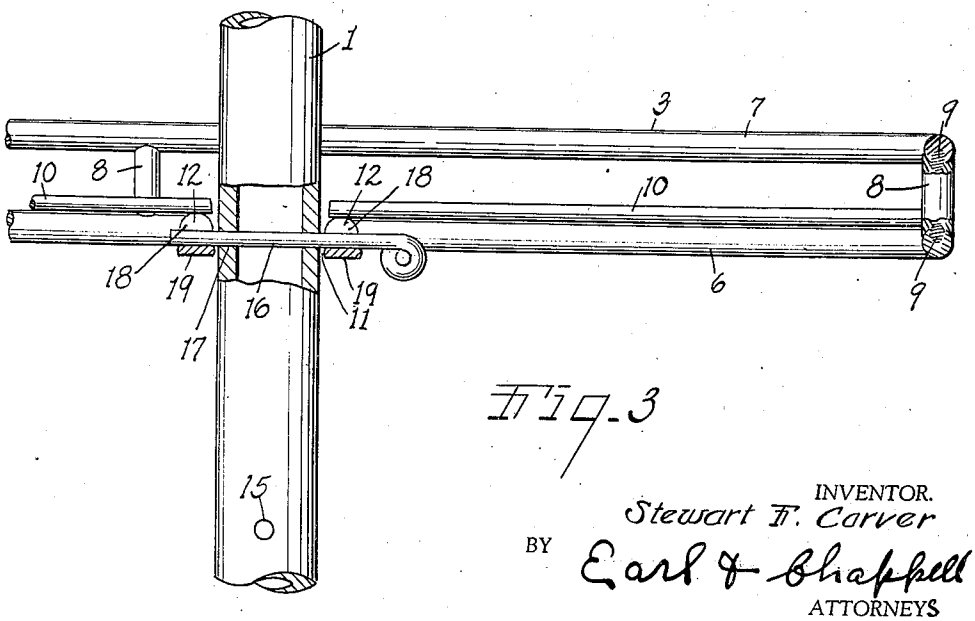


Fig. 3

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Fig. 2

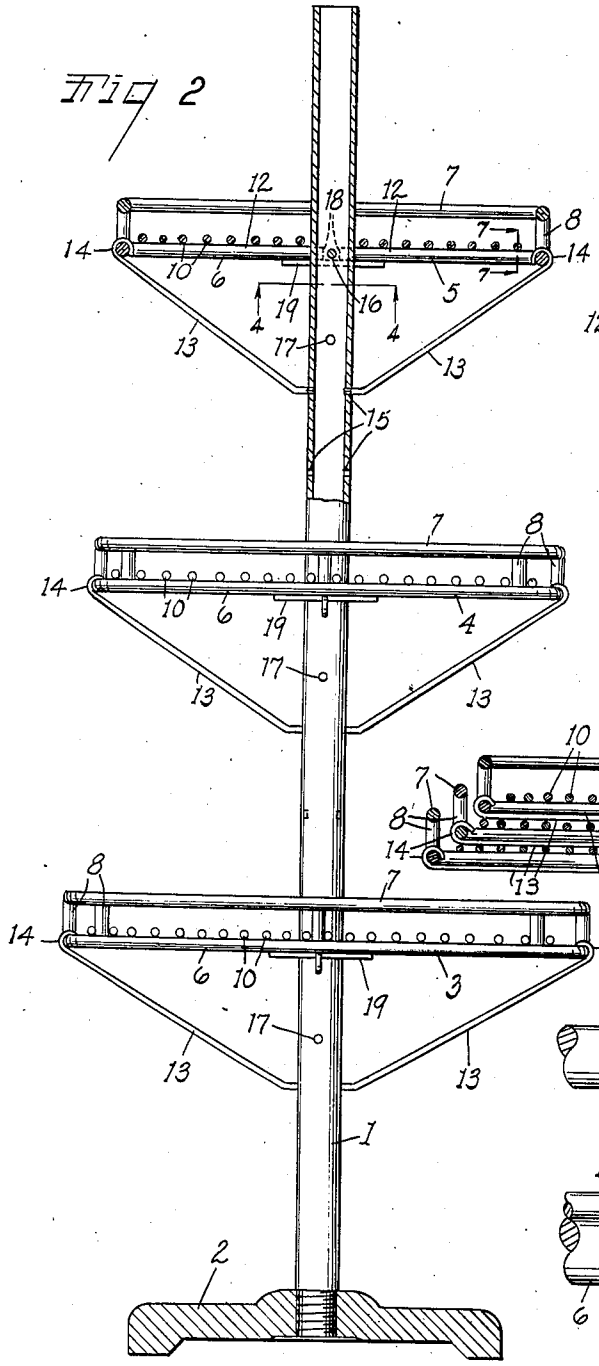


Fig. 4

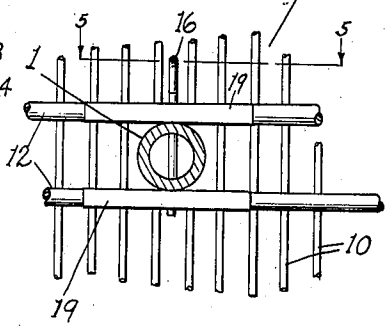


Fig. 5

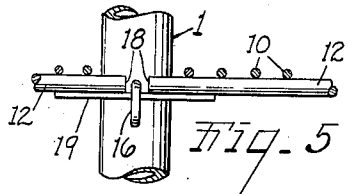


Fig. 6

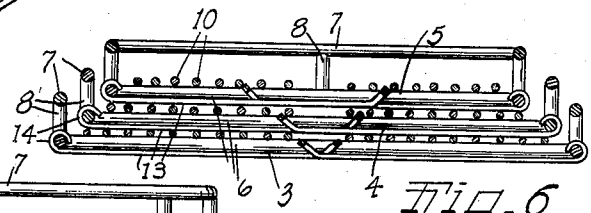
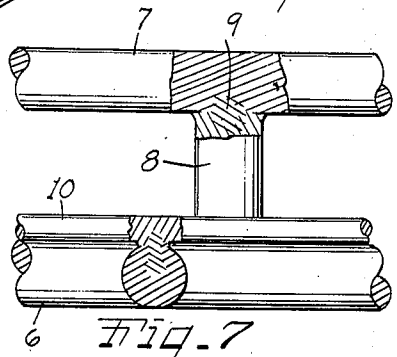


Fig. 7



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Patented Feb. 4, 1941 2,230,374

UNITED STATES PATENT OFFICE

2,230,374

DISPLAY RACK

Stewart F. Carver, Atlanta, Ga., assignor to Union Steel Products Company, Albion, Mich., a corporation of Michigan

Application April 9, 1938, Serial No. 201,066

6 Claims. (Cl. 211—128)

This invention relates to improvements in display racks.

The main objects of this invention are:

First, to provide a portable rack which is attractive in appearance and has relatively large capacity for the floor space occupied thereby.

Second, to provide a knockdown display rack which may be compactly arranged for shipment or storage and one which may be quickly set up or knocked down without the aid of tools.

Third, to provide a display rack having these advantages which is very stable.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a side perspective view of a display rack embodying the features of my invention.

Fig. 2 is an enlarged detail view partially in vertical section on line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary view partially in vertical section on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary view partially in section on line 4—4 of Fig. 2.

Fig. 5 is an enlarged fragmentary view on line 5—5 of Fig. 4.

Fig. 6 is a transverse section through the shelves in nested position.

Fig. 7 is an enlarged fragmentary view partially in section illustrating the manner of connecting the shelf parts.

The embodiment of my invention illustrated comprises a pair of uprights or standards 1 formed of sections of pipe or tubing and threaded at their lower ends to detachably engage the bases 2 which are preferably castings in order to provide suitable stabilizing weights.

The shelves, of which there are three in number in the embodiment illustrated, are duplicates except as to the matter of dimensions. They are preferably of varying sizes in order that they may be nested as shown in Fig. 6 and also as a matter of appearance when the several shelves are assembled on the uprights.

In the embodiment illustrated, the shelves designated generally by the numerals 3, 4 and 5 each comprise base frames 6, top frames 7 connected by the uprights 8, the uprights being secured to the frame by welding as indicated at 9.

Longitudinal bottom slats 10 formed of wire of suitable gauge are welded to the end members of the bottom frame. To provide openings 11 in the shelf bottoms adapted to receive the uprights and to further support the bottom slats, I provide pairs of cross pieces 12 which are welded to the undersides of the bottom slats, certain of the bottom slats being formed of sections terminating in the openings 11, see Figs. 3 and 4. With these openings, the shelves may be slipped over the upper ends of the uprights as is clearly shown in the drawings.

To support the shelves on the uprights, I provide pairs of struts 13 which are pivoted to the bottom members of the shelves at 14, the struts being adapted to engage in the opposed pairs of holes 15 in the uprights or posts, see Fig. 2. There are a plurality of these pairs of holes disposed in vertically spaced relation so that the shelves may be selectively positioned in the posts or uprights.

To prevent the struts from becoming disengaged, I provide retaining pins 16 which are arranged through holes 17 vertically spaced to correspond to the vertical spacing of the holes 15 and preferably disposed in angular relation thereto. To provide space to receive these pins, the cross pieces 12 are formed of sections with their inner ends spaced at 18 as clearly shown in Fig. 5, splice pieces 19 being welded on the undersides of the cross pieces so that they are in effect continuous cross pieces with central openings adapted to receive the pins 16 as shown in Fig. 3. These pins, it will be noted, engage above the splice pieces 11 and in assembling the shelves the struts are engaged and the parts are so proportioned that in order to engage the pins 16 it is necessary to spring the shelves downwardly somewhat and when the pins are inserted and the shelves released, the parts are under retaining stress or tension. The struts are not likely to become disengaged and cannot ordinarily be pulled out without exerting very considerable stress until after the retaining pins have been removed. The struts are collapsible against the underside of the shelves as is shown in Fig. 6 and when in this position the several shelves may be compactly arranged for shipment or storage.

My improved rack is well adapted for use in self-service stores as the merchandise is effectively displayed and is very accessible. The rack may be easily kept in a sanitary condition. The upper ends of the uprights are adapted to receive a display panel which, however, is not illustrated.

I have illustrated and described my improvements in a very practical embodiment thereof.

I have not attempted to illustrate certain embodiments or adaptations as it is believed that this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a knockdown display rack, the combination of spaced independent uprights having vertically spaced opposed pairs of strut receiving holes and corresponding vertically spaced retaining pin receiving holes disposed in an angular relation thereto, a plurality of shelves each comprising base and top frames and connecting uprights therefor, longitudinally disposed slats welded to the base frame and pairs of cross pieces spaced to receive said uprights between them and welded to said slats, said cross pieces being formed of aligned sections spaced at their adjacent ends and connected by splice pieces welded to the undersides thereof, opposed pairs of supporting struts pivotally mounted at the sides of said base frame to collapse against the undersides of the shelves and detachably engageable with said opposed holes in said uprights, and retaining pins arranged through said uprights above said splice pieces and engaging said splice pieces under tension for retaining the parts in assembled relation, said shelves being of varying dimensions so that when they are dismounted from the uprights and the struts collapsed against their undersides they may be disposed in nested relation.

2. In a knockdown display rack, the combination of spaced independent uprights having vertically spaced opposed pairs of strut receiving holes and corresponding vertically spaced retaining pin receiving holes disposed in an angular relation thereto, a plurality of shelves each comprising base and top frames and connecting uprights therefor, longitudinally disposed slats welded to the base frame and pairs of cross pieces spaced to receive said uprights between them and welded to said slats, said cross pieces being formed of aligned sections spaced at their adjacent ends and connected by splice pieces welded to the undersides thereof, opposed pairs of supporting struts pivotally mounted on said base frame to collapse against the undersides of the shelves and detachably engageable with said opposed holes in said uprights, and retaining pins arranged through said uprights above said splice pieces and engaging said splice pieces under tension for retaining the parts in assembled relation.

3. In a display rack, the combination of an upright having vertically spaced opposed pairs of strut receiving holes and corresponding vertically spaced retaining pin receiving holes disposed in an angular relation thereto, a shelf comprising a base, longitudinally disposed slats welded to the base frame and a pair of cross pieces spaced to receive said upright between them and welded to said slats, said cross pieces being formed of aligned sections spaced at their adjacent ends and connected by splice pieces welded to the undersides thereof, means for supporting said shelf on said upright comprising opposed supporting struts pivotally mounted on said base frame to collapse against the underside of the shelf and detachably engageable with said opposed holes in said upright, and a retaining pin arranged through said upright above said splice pieces and engaging said splice pieces under tension for retaining the parts in assembled relation.

4. In a display rack, the combination of spaced independent uprights having strut receiving holes and correspondingly spaced retaining pin receiving holes, a plurality of shelves comprising base frames, cross pieces spaced to receive the uprights between them, opposed supporting struts pivotally mounted at the sides of said base frames to collapse against the undersides of the shelves and detachably engageable with said holes in said uprights, and retaining pins arranged through said uprights to engage said shelves while the parts are under sprung tension or thrust.

5. In a display rack, the combination of spaced independent uprights having strut receiving holes, a plurality of shelves comprising base frames, cross pieces spaced to receive the uprights between them, and opposed supporting struts pivotally mounted at the sides of said base frames to collapse against the undersides of the shelves and detachably engageable with said holes in said uprights.

6. In a display rack, the combination of an upright having vertically spaced opposed pairs of strut receiving holes and corresponding vertically spaced retaining pin receiving holes disposed in an angular relation thereto, a plurality of shelves each comprising base frames and cross pieces spaced to receive said upright, means for supporting said shelves on said upright comprising opposed supporting struts pivotally mounted on said base frame to collapse against the undersides of the shelves and detachably engageable with said opposed holes in said upright, and retaining pins arranged through said upright above said cross pieces and engaging the latter under tension.

STEWART F. CARVER.