Nov. 19, 1940. W. H. SCHRAY 2,222,091

DISPLAY RACK

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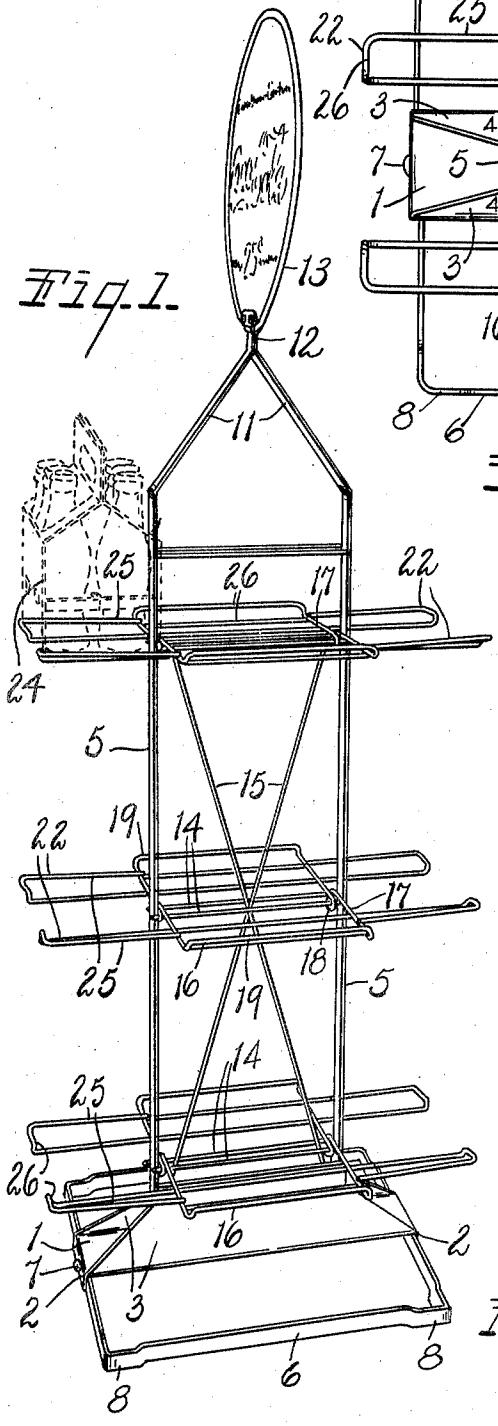


Fig. 1.

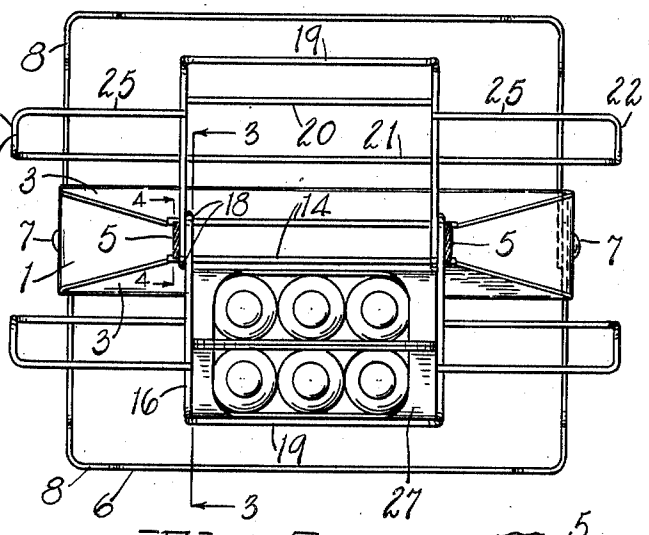


Fig. 2.

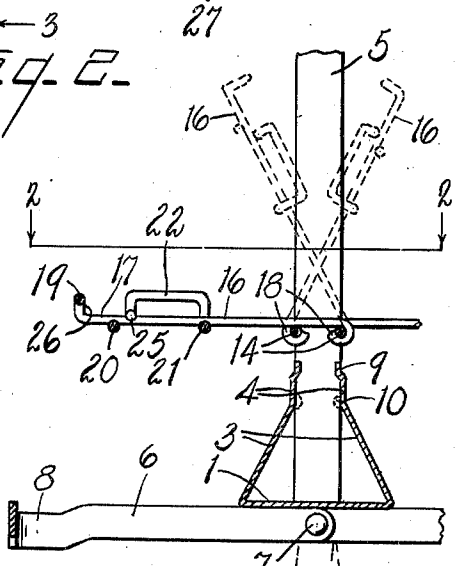


Fig. 3.

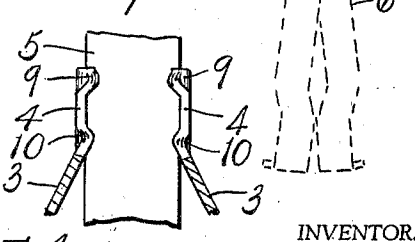


Fig. 4.

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DISPLAY RACK

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11 Claims. (Cl. 211—85)

This invention relates to improvements in display racks.

The main objects of this invention are:

First, to provide a display rack which is of relatively large capacity and stable when in erected position and at the same time may be collapsed for storage or shipment and readily set up for use without the aid of tools.

Second, to provide a rack having these advantages which is formed mainly of wire, rod, or light bar construction and at the same time is very rigid when set up and may be economically manufactured.

Third, to provide a display rack having these advantages which is attractive in appearance and effectively displays the product.

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 drawing, in which:

Fig. 1 is a perspective view of a rack embodying my invention with one of the several packages of bottles shown by dotted lines arranged in one of the supports.

Fig. 2 is a horizontal section on line 2—2 of Fig. 3 with the rack in erected position and with a package of goods to be displayed on one of the supports.

Fig. 3 is a fragmentary view in vertical section on a line corresponding to line 3—3 of Fig. 2, the shelf units being shown by full lines in erected position and in collapsed position by dotted lines.

Fig. 4 is a fragmentary view on line 4—4 of Fig. 2 showing details of the mounting and connection for the uprights to the base.

The embodiment of my invention illustrated is especially designed for the display of bottled goods in packages although of course various objects or articles may be displayed.

The structure illustrated comprises a base member 1 formed as a sheet metal stamping and provided with downturned end flanges 2 and upturned converging side members 3 terminating in parallel top portions 4 spaced to receive the uprights 5 between them.

The collapsible foot members 6 are U-shaped and are disposed in opposed relation with their arms in overlapping relation and secured by means of the pivots 7 to the inner sides of the base member flanges 2 so that they may be swung to a collapsed position as shown by dotted lines in Fig. 3 or to erected position in engagement with the under side of the base member. The corners or angle portions of these foot members are downwardly offset as shown at 8 to provide floor or support engaging feet, thus adding to the stability of the structure and accommodating such unevenness in a floor as quite commonly is found.

The uprights are formed of flat bar stock and the top portions 4 of the base are welded thereto and inwardly offset at 9 and 10 to provide a firmer engagement of these parts, one of the objects being to provide a rigid structure formed of relatively light stock.

The uprights have converging top portions 11 which are brought together at 12 and secured so as to provide a support for a sign panel holder 13. This connection of the uprights adds to their strength and also provides an effective mounting for the sign.

Cross pieces 14 are welded to the edges of the uprights in opposed pairs, the pairs being vertically spaced. Diagonally disposed braces 15 are arranged on the inner sides of these cross pieces and welded to the corresponding cross pieces of the pairs. This provides a rigid supporting structure although formed of comparatively light stock.

The shelves designated generally by the numeral 16 are arranged in opposed pairs to be upwardly collapsed as shown by dotted lines in Fig. 3. These shelves comprise the U-shaped shelf members 17 having eyes 18 at the ends of their arms, the eyes of the shelf member arms being pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of the pair to rest thereon when in erected position. The outer or bight ends 19 of the shelf members are upwardly offset providing shelf ledges for retaining the articles upon the shelves.

The shelf members are provided with slats 20 and 21 providing bottoms for the shelves, the slats 21 being provided with looped ends 22 extending beyond the shelf members and laterally beyond the uprights, the extensions of the pair of shelf members constituting coacting shelves for supporting an article or a package such as is shown by dotted lines 24 in Fig. 1.

The return bent arms 25 of these loop extensions 22 are disposed in an elevated position and secured to the upper sides of the arms of the pivoted shelf members thereby providing retaining ledges for the shelf constituted by the extensions

22. The bight ends of these looped extensions 22 are upwardly offset providing shelf ledges 26.

A package of bottled goods is shown at 27 in Fig. 2 on one of the main shelf members and, as stated, a package 25 is shown by dotted lines on the auxiliary shelf members described.

By this arrangement of parts, I provide a structure which is, as stated, quite strong and rigid even when formed of relatively light stock and at the same time it is stable and has considerable capacity. While the structure is especially designed for the display of packaged bottled merchandise, it may of course be used on a wide variety of goods and embodied in structures of any suitable weight or gauge of stock to meet the requirements, but in any event the parts are arranged so that they are effective in bracing and providing a relatively rigid structure without excess weight.

I have illustrated and described my improvements in one embodiment which I have found very satisfactory. I have not attempted to illustrate or describe other embodiments 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 display rack, the combination of a base member having downturned end flanges and with upwardly converging side portions terminating in parallel top portions, a pair of oppositely disposed U-shaped foot members disposed with the ends of their arms in overlapping relation on the inner sides of said base member flanges and pivoted thereto to be swung downwardly to collapsed position or to erected position in supporting engagement with the under side of the base member, the angle portions of said foot members being downwardly offset, uprights of flat stock disposed between and secured to said parallel top portions of said base side portions with their ends resting on the base member, said parallel top portions of said base side portions being welded to said uprights and having inwardly offset portions engaging the edges of said uprights, said uprights having converging top portions connected at their upper ends, cross bars secured to the edges of said uprights in vertically spaced pairs, diagonally disposed braces secured in crossing relation to the corresponding cross pieces of the pairs, U-shaped shelf members disposed in oppositely disposed pairs and having eyes at the ends of their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of a pair to rest thereon when in erected position, the bight portions of said shelf members being upwardly offset, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each shelf member having looped ends extending beyond the arms of the shelf members and the uprights and terminating in upwardly offset outer ends, the return bent arms of such slat members being secured to the upper sides of the shelf member arms and constituting article retaining members.

2. In a display rack, the combination of a base member having downturned end flanges and with upwardly converging side portions, a pair of oppositely disposed U-shaped foot members disposed with the ends of their arms on the inner sides of said base member flanges and pivoted thereto to be swung downwardly to collapsed position or to erected position in supporting engagement with the under side of the base member, uprights of flat stock disposed between and secured to the said parallel top portions of said base side portions, cross bars secured to the edges of said uprights in vertically spaced pairs, U-shaped shelf members disposed in oppositely disposed pairs and having eyes at the ends of their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of a pair to rest thereon when in erected position, the bight portions of said shelf members being upwardly offset, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each shelf member having looped ends extending beyond the arms of the shelf members and the uprights and terminating in upwardly offset outer ends, the return bent arms of such slat members being secured to the upper sides of the shelf member arms and constituting article retaining members.

3. In a display rack, the combination of a base member having downturned end flanges, a pair of oppositely disposed U-shaped foot members disposed with the ends of their arms on the inner sides of said base member flanges and pivoted thereto to be swung downwardly to collapsed position or to erected position in supporting engagement with the under side of the base member, uprights secured to said base member, cross bars secured to said uprights in opposed relation, U-shaped shelf members disposed in oppositely disposed pairs and having eyes at the ends of their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of a pair to rest thereon when in erected position, the bight portions of said shelf members being upwardly offset, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each shelf member having looped ends extending beyond the arms of the shelf members and the uprights and terminating in upwardly offset outer ends, the return bent arms of such slat members being secured to the upper sides of the shelf member arms and constituting article retaining members.

4. In a display rack, the combination of a base member having downturned end flanges, a pair of oppositely disposed U-shaped foot members disposed with the ends of their arms on the inner sides of said base member flanges and pivoted thereto to be swung downwardly to collapsed position or to erected position in supporting engagement with the under side of the base member, uprights secured to said base member, cross bars secured to said uprights in opposed relation, shelf members disposed in oppositely disposed pairs and having eyes at the ends of their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of a pair to rest thereon when in erected position, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each shelf member having ends extending beyond the arms of the shelf members and the uprights, the corresponding extended ends of the slats of the opposed shelf members coacting to provide a common article support.

5. In a display rack, the combination of uprights, cross bars secured to said uprights in opposed relation, U-shaped shelf members dis-

posed in oppositely disposed pairs and having eyes at the ends of their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of a pair to rest thereon when in erected position, the bight portions of said shelf members being upwardly offset, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each shelf member having looped ends extending beyond the arms of the shelf members and the uprights and terminating in upwardly offset outer ends, the return bent arms of such slat members being secured to the upper sides of the shelf member arms and constituting article retaining members.

6. In a display rack, the combination of uprights, cross bars secured to said uprights in opposed relation, shelf members disposed in oppositely disposed pairs and having eyes at the ends of their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of a pair to rest thereon when in erected position, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each shelf member having ends extending beyond the arms of the shelf members and the uprights, the corresponding extended ends of the slats of the opposed shelf members coacting to provide a common article support.

7. In a display rack, the combination of a base member having downturned end flanges at the ends thereof and with upwardly converging side portions terminating in parallel top portions, a pair of oppositely disposed U-shaped foot members disposed with the ends of their arms on the inner sides of said base member flanges and pivoted thereto to be swung downwardly to collapsed position or to erected position in supporting engagement with the under side of the base member, the angle portions of said foot members being downwardly offset, uprights of flat stock disposed between and secured to the said parallel top portions of said base side portions with their ends resting on the base member, said parallel top portions of said side base portions being welded to said uprights and having inwardly offset portions engaging the edges of said uprights, cross bars secured to the edges of said uprights in vertically spaced pairs, diagonally disposed braces secured in crossing relation to the corresponding cross pieces of the pairs, and shelf members pivotally engaged with one cross piece of a pair and disposed above the other to rest thereon when in erected position.

8. In a display rack, the combination of a base member having downturned end flanges at the ends thereof and with upwardly converging side portions, a pair of oppositely disposed U-shaped foot members disposed with the ends of their arms on the inner sides of said base member flanges and pivoted thereto to be swung downwardly to collapsed position or to erected position in supporting engagement with the under side of the base member, uprights disposed between and secured to the said base side portions, cross bars secured to the edges of said uprights in vertically spaced pairs, and shelf members pivotally engaged with one cross piece of a pair and disposed above the other to rest thereon when in erected position.

9. In a display rack, the combination of spaced uprights, cross bars secured to the said uprights in vertically spaced pairs, diagonally disposed braces secured in crossing relation to the corresponding cross pieces of the pairs, U-shaped shelf members disposed in oppositely disposed pairs and having eyes at the ends if their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of the pair to rest thereon when in erected position, the bight portions of said shelf members being upwardly offset, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each pivoted shelf member having looped ends extending beyond the arms of the shelf member and the uprights and terminating in upwardly offset outer ends, the return bent arms of such slat members being secured to the upper sides of the pivoted shelf member arms and constituting article retaining members.

10. In a display rack, the combination of spaced uprights, cross bars secured to the said uprights in opposed relation, U-shaped shelf members disposed in oppositely disposed pair and having eyes at the ends of their arms pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of the pair to rest thereon when in erected position, the bight portions of said shelf members being upwardly offset, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each pivoted shelf member having looped ends extending beyond the arms of the shelf member and the uprights and terminating in upwardly offset outer ends, the return bent arms of such slat members being secured to the upper sides of the pivoted shelf member arms and constituting article retaining members.

11. In a display rack, the combination of spaced uprights, cross bars secured to said uprights in opposed pairs, shelf members disposed in oppositely disposed pairs and pivotally engaged with one of a pair of cross pieces and disposed above the other cross piece of the pair to rest thereon when in erected position, and shelf slat members secured to the arms of said pivoted shelf members, one slat member of each pivoted shelf member extending laterally beyond the shelf member and the adjacent upright, the corresponding extending ends of the slats of the opposed shelf members coacting to provide an article support at the side of the uprights.

WALTER H. SCHRAY.