

March 25, 1941.

D. H. BITNEY

2,235,977

DISPLAY RACK

Filed Jan. 7, 1939

2 Sheets-Sheet 1

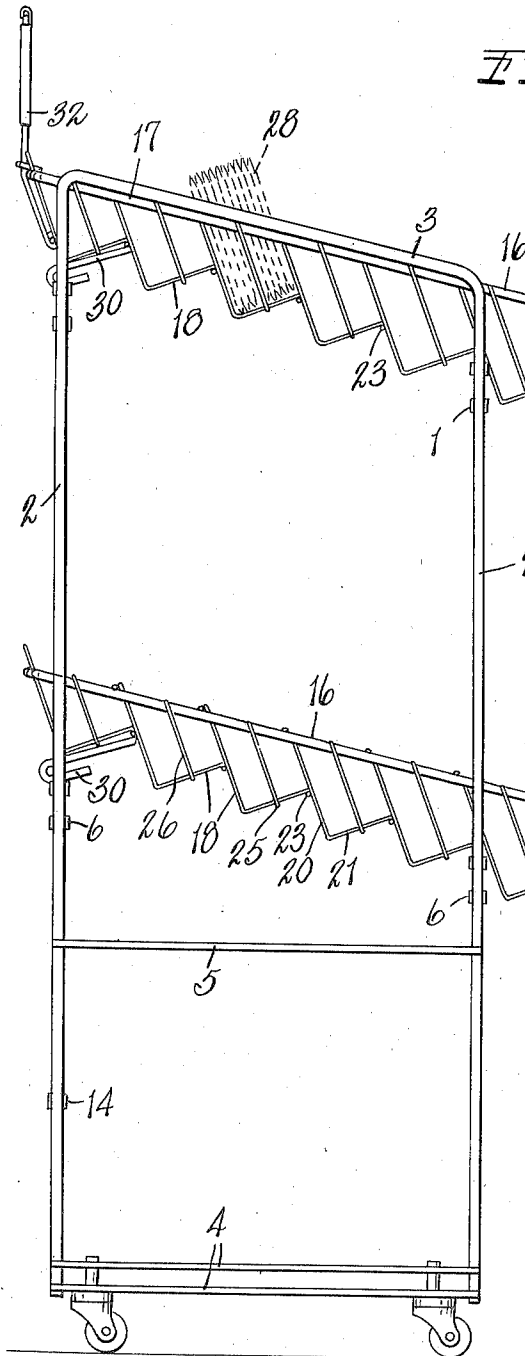


Fig. 1.

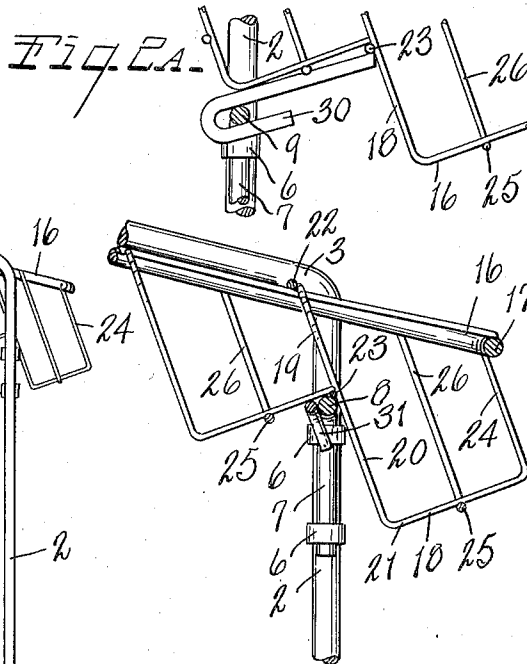
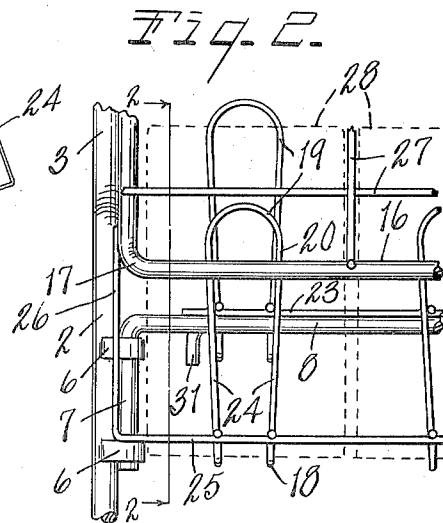


Fig. 3.

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2 Sheets-Sheet 2

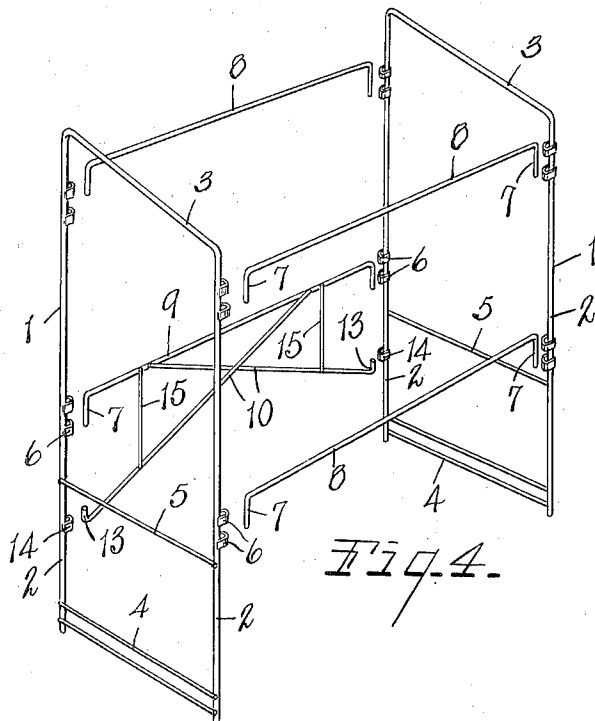


Fig. 4.

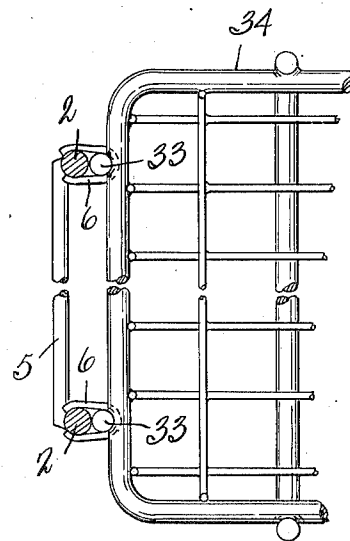


Fig. 7.

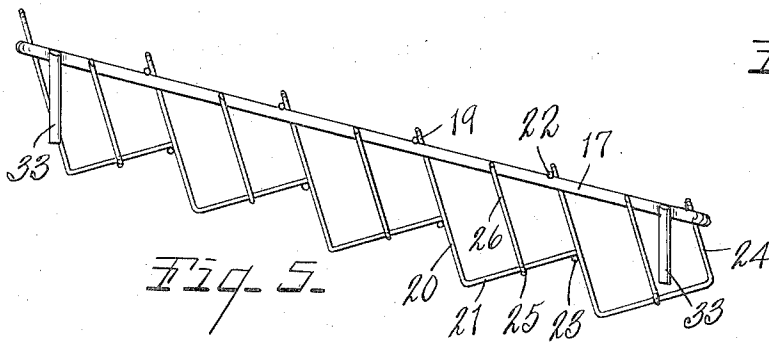


Fig. 5.

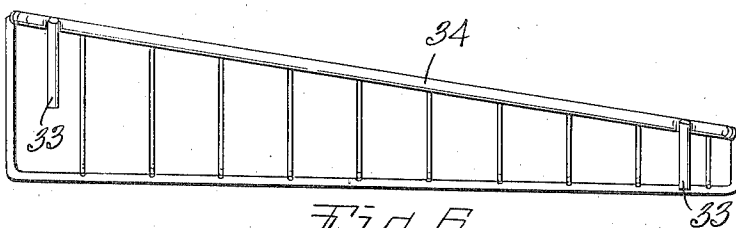


Fig. 6.

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UNITED STATES PATENT OFFICE

2,235,977

DISPLAY RACK

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Application January 7, 1939, Serial No. 249,710

10 Claims. (Cl. 211—55)

This invention relates to improvements in display racks.

The main objects of this invention are:

First, to provide an improved display rack which may be readily adapted for the display of seeds in packets or for the display of other merchandise.

Second, to provide a display rack which may be shipped in the knock-down and set up by merchants or others without the aid of tools, at the same time one which when set up is strong and rigid even when made of quite light material.

Third, to provide an all metal display rack which is attractive in appearance notwithstanding the simplicity of structure thereof.

Fourth, to provide a display rack having these advantages which when knocked down may be very compactly arranged for shipment or storage.

Fifth, to provide a tray unit for the display of seeds which is effective for the purpose, attractive in appearance and at the same time economical in structure.

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.

Preferred embodiments of the invention are illustrated in the accompanying drawings, in which:

Fig. 1 is an end elevation of a display rack containing one embodiment of my invention adapted as a seed display rack, seed packets being illustrated by dotted lines in one of the trays of the upper rack unit.

Fig. 2 is an enlarged fragmentary section on line 2—2 of Fig. 3.

Fig. 2A is an enlarged fragmentary section showing details of the mounting of a tray unit at the rear of the rack.

Fig. 3 is a fragmentary front elevation.

Fig. 4 is an exploded perspective view of frame parts of the embodiment of Figs. 1 to 3 inclusive.

Fig. 5 is an end elevation of a slightly modified form of tray unit.

Fig. 6 is an end elevation of another modified form of tray unit in which the separate trays are omitted.

Fig. 7 is a fragmentary view partially in horizontal section showing details of the frame end members adapted for the tray units of Figs. 5 and 6.

The embodiment of my invention illustrated in Figs. 1 to 4 comprises a pair of end members designated generally by the numeral 1, 1 and comprising corner uprights 2 connected at their upper

ends by the top cross piece 3 formed integrally therewith and at their lower ends by a pair of cross pieces 4 welded to the uprights and I also preferably provide an intermediate cross piece 5, also welded to the uprights. These uprights are provided with pairs of loop-like socket members 6 adapted to receive the downturned dowel projections of the dowel members 7 of the longitudinal rods or bars 8. The rear bottom longitudinal bar which for convenience I designate by the numeral 9 is provided with the dowels 7 and has crossed diagonally disposed struts 10 having upturned dowels 13 at their outer ends engageable with the socket members 14 by springing the strut members 10. This serves as an effective bracing means for the end members. The struts 10 are connected to the member 9 by means of the upright braces 15.

When the rack is assembled, the end members are held against pivotal collapsing movement on their dowels by the tray units designated generally by the numeral 16. These tray units comprise the continuous top frames 17 which are adapted to fit between the uprights of the end members and serve as braces therefor. The tray units 16 are provided with a plurality of trays 18 arranged in stepped series, these trays being formed of loop-like elements 19 having angled arms 20, the looped ends of the elements constituting the rear walls of the trays and the angled portions of their arms 21 the bottoms thereof. The upright portions 20 of the arms are welded to the cross rods 22 which are in turn welded to the side members of the frame 17 and the ends of the parts 21 are welded to the cross rod 23 which is in turn welded to the upright portions 20. The parts 21 of the front tray elements have upturned portions 24 which are secured to the top frame.

In the embodiment illustrated, the reinforcing cross pieces 25 are provided extending across and secured to the portions 21 intermediate thereof and terminating in upturned ends 26 secured to the frame 17. This provides a very strong construction although the parts are of light material.

The partition rods 27 extend from front to rear of the rack, dividing the trays into pockets adapted to receive seed packets or other merchandise as indicated at 28, see Figs. 1 and 3 where the merchandise is indicated by dotted lines.

These tray units are, as stated, disposed between the end members and as best illustrated in Figs. 1, 2 and 3 are provided with hooked supports 30 which hook over and rest upon the rear

longitudinal members, the tray unit resting upon the front longitudinal members with the front tray overhanging the same as is clearly shown in Figs. 1 and 2. Lugs 31 are provided to engage behind the longitudinal members 8 and coast with the front tray in preventing any shifting movement of the tray unit which would disengage its supports 30 from the rear longitudinal members. It can be readily disengaged however by an upward swinging and sliding movement. It will appear from the foregoing that the parts of the rack including the tray units and front, rear, and end members may be completely dismounted from operative relation to one another and stacked in compact form for shipment or storage.

I preferably provide a display card holder 32 which is detachably secured to the rear of the upper tray unit, the securing means not being illustrated.

In the embodiment shown in Fig. 5, the tray unit is provided with downwardly projecting dowels 33 engageable with the sockets on the end member uprights so that the tray unit constitutes both the longitudinal and bracing members for the frame, the longitudinal members 8 and 9 being omitted. The structure is more economical than that shown in Figs. 1 to 4 and is a satisfactory structure.

In the embodiment shown in Fig. 6, the tray designated generally by the numeral 34 is provided with dowels 33, this tray differing from that of Fig. 5 in that it is not provided with a plurality of pockets or compartments. This shelf or basket type of tray is further illustrated in Fig. 7.

It is believed that with these illustrations of the several embodiments or adaptations of my invention that those skilled in the art to which my invention relates will be able to embody or adapt the same as may be desired for the various purposes for which my improvements are desirable.

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 pair of end members comprising corner uprights and connecting cross pieces therefor, the top cross piece being formed integrally with the uprights, said uprights having loop-like sockets welded thereto, front and rear longitudinal members having downturned socket engaging dowels at their ends detachably engageable with said sockets, the lower rear longitudinal member being provided with diagonally disposed crossed struts terminating in upturned dowels engaged in coacting sockets, the struts being springable to engage their dowels with their said coacting sockets and retained in engagement therewith by their resiliency, and tray members carried by said longitudinal members.

2. In a display rack, the combination of end members provided with sockets, front and rear longitudinal members having socket engaging dowels detachably engageable with said end member sockets, the lower rear longitudinal member being provided with struts terminating in dowels engaged in coacting sockets on the end members, a tray unit comprising a frame and a plurality of trays arranged in stepped relation secured within said frame, said tray unit having a hooked support engageable with a rear longitudinal member and resting upon a front longitudinal member with the front tray overhanging the

same, and a lug mounted on the underside of the next adjacent tray of the unit to engage behind said front longitudinal member on which the tray rests, said tray unit frame fitting between the end members and constituting a bracing member for the uprights.

3. In a display rack, the combination of end members provided with sockets, pairs of front and rear longitudinal members having socket engaging dowels detachably engageable with said end member sockets to maintain the end members in erected position, and a tray member having a hooked support engageable with one longitudinal member and resting upon another longitudinal member, said tray member fitting between the end members and having a frame including front-to-rear elements in lateral supporting engagement with said end members whereby to constitute a bracing member for the uprights, said front, rear, end, and tray members being dismountable from operative relation to one another to compact the parts of the rack for shipment or storage.

4. In a display rack, the combination of end members provided with sockets, pairs of front and rear longitudinal members provided with dowels detachably engaging said sockets, and a tray member arranged between said end members in supported relation to a pair of front and rear longitudinal members, said tray member being provided with a hooked support engaging one of the pair of longitudinal members and resting upon the other, the tray unit comprising a frame including front-to-rear elements in lateral supporting engagement with said end members and constituting a bracing means for supporting the end members against wracking movement, said end members, longitudinal members, and tray member being dismountable from erected relation to one another to compact the rack for shipment or storage.

5. In a display rack, the combination of end members provided with sockets, pairs of front and rear longitudinal members provided with dowels detachably engaging said sockets, and a tray member arranged between said end members in supported relation to a pair of front and rear longitudinal members, the tray member comprising a frame including front-to-rear elements in lateral supporting engagement with said end members and constituting a bracing means for supporting the end members against wracking movement.

6. In a display rack, the combination with corner uprights provided with dowel receiving sockets, of pairs of front and rear longitudinal members having dowel portions detachably engageable with said sockets to maintain the uprights in erected position, and rack members engageable with said longitudinal members and acting when engaged therewith to restrain the uprights and longitudinal members against pivotal collapsing movement relative to each other.

7. A tray unit comprising a top frame member and a plurality of spaced cross members welded thereto and looped tray elements having angled arms, the upright portions of the tray elements being welded to said cross members on said frame and their angled arms constituting the bottoms of the trays being welded to a cross member which is in turn welded to the upright portions of the tray members in advance thereof, the elements constituting the front tray being of U-shape and having their forward arms welded to the forward cross member of the frame.

8. A tray unit comprising a top frame member and a plurality of spaced cross members welded thereto and looped tray elements having angled arms, the upright portions of the tray elements
5 being welded to said cross members on said frame and their angled arms constituting the bottoms of the trays being welded to a cross member which is in turn welded to the upright portions of the tray members in advance thereof.
- 10 9. A tray unit comprising a top frame member and a plurality of spaced cross members and angled tray elements, the upright portions of the tray elements being secured to said cross members on said frame and their horizontally disposed portions constituting the bottoms of the
15 trays being secured to a cross member which is

in turn secured to the upright portions of the tray members in advance thereof, the tray elements constituting the front tray being of U-shape and having their forward arms secured to the forward cross member of the frame.

10. A tray unit comprising a top frame member and a plurality of spaced cross members and angled tray elements, the upright portions of the tray elements being secured to said cross members on said frame and their horizontally
10 disposed portions constituting the bottoms of the trays being secured to a cross member which is in turn secured to the upright portions of the tray members in advance thereof.

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