Feb. 10, 1959 H. W. MAPSTONE 2,873,033

DISPLAY RACK

Filed Aug. 8, 1956 2 Sheets-Sheet 1

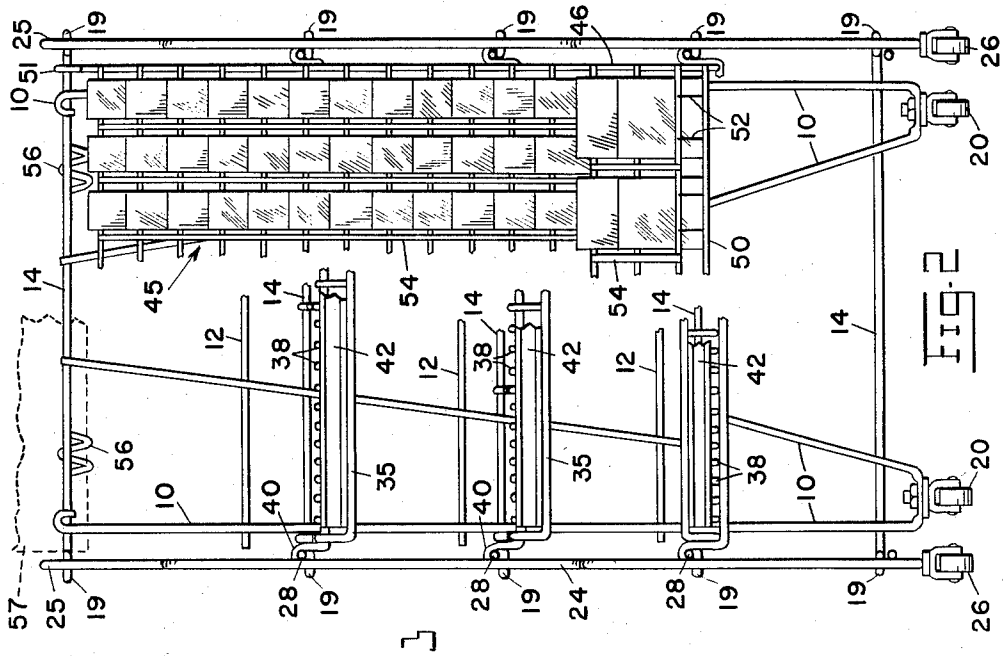


FIG. 2

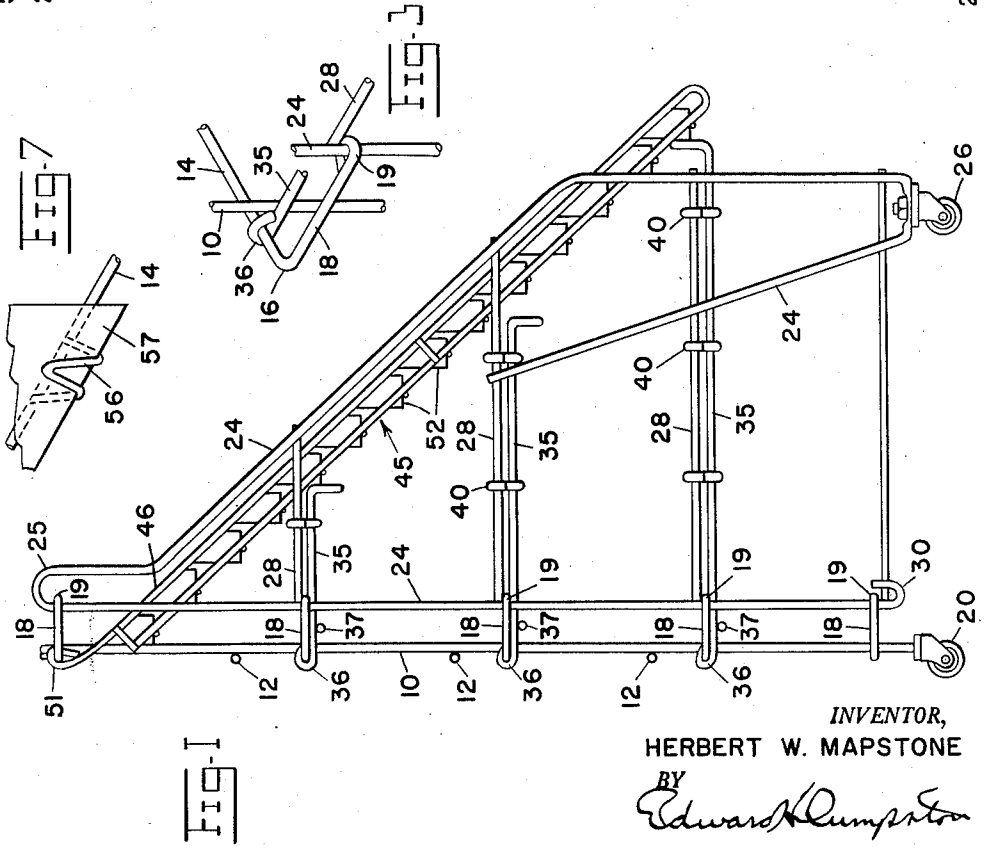


FIG. 1

FIG. 7

FIG. 7

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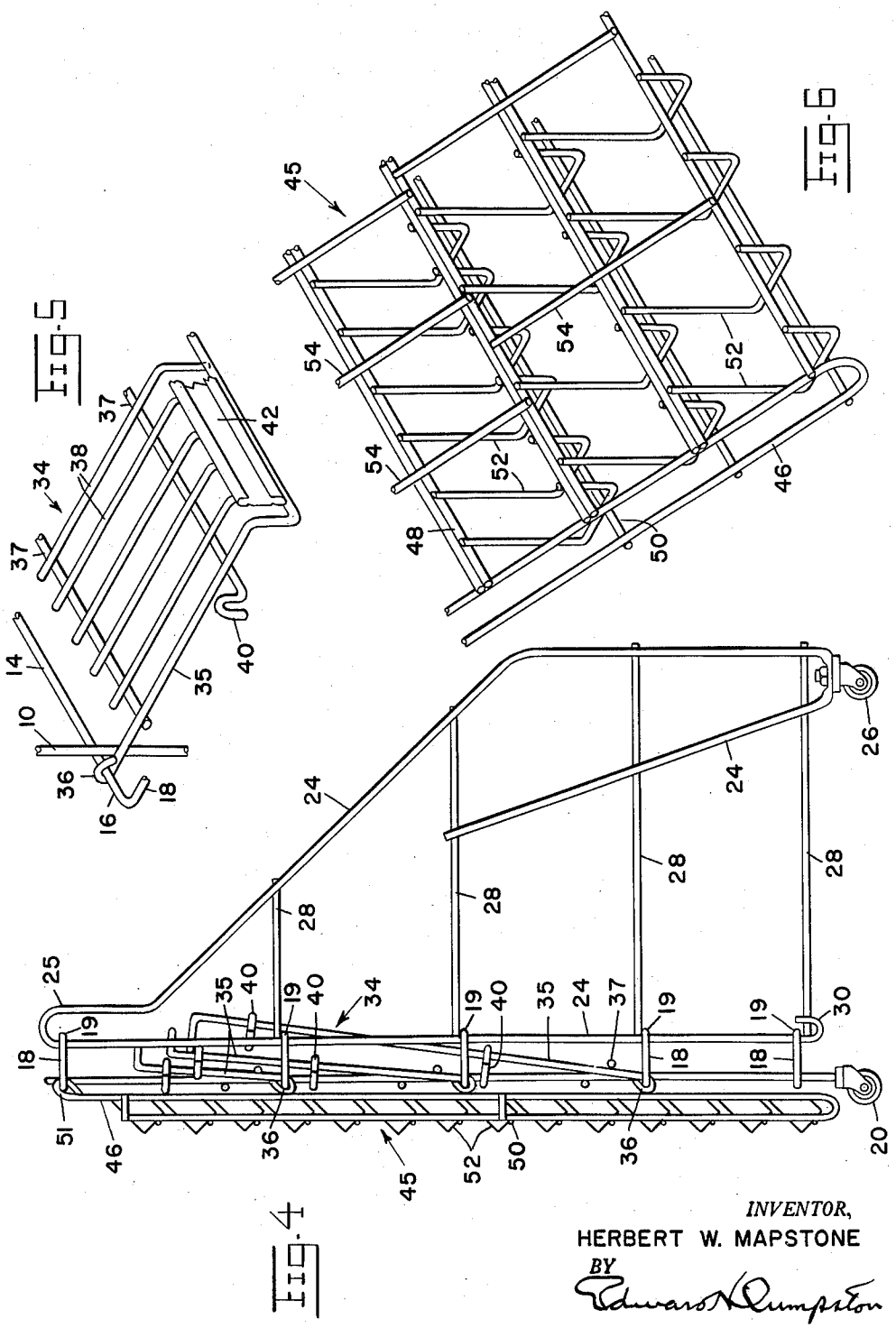


FIG. 6

FIG. 5

FIG. 4

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DISPLAY RACK

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5 Claims. (Cl. 211—2)

This invention relates to display racks, and more particularly to racks for displaying merchandise in an attractive and accessible manner, one object being the provision of a more practical rack of this description.

It has long been known that the attractive display of merchandise increases the sales in stores and markets, particularly when such displays are set up near associated merchandise. For example, an attractive display will increase the sale of seeds if such a display is set up in close association with gardening implements during the spring planting season, and the sale of other items may be similarly enhanced by attractive and imaginative displays. However, the type of merchandise and the most advantageous position of display varies from season to season, and for this reason it is another object of this invention to provide display means which are movable in order that they may be easily moved to the most advantageous position.

The character of the merchandise sold in many stores varies from season to season. For this reason, it is desirable to provide a convertible display rack, suitable for displaying both large and small packages, and the provision of such a rack is another object of this invention.

Since the sale of many kinds of merchandise is seasonal, racks and display devices are often in use during only part of each year. During other parts of the year, it is desirable to utilize the floor space occupied by the display rack for other purposes, and for this reason the rack must be removed and stored. However, since both floor and storage space are valuable, particularly in high rental retail areas, the storage of a bulky item presents a considerable problem. For this reason it is desirable that the display device be collapsible in order that it may occupy as little space as possible when not in use, and the provision of such a collapsible rack is another object of this invention.

Further objects include the provision of a rack that is attractive, light in weight, durable, and simple and inexpensive to manufacture.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 is a side elevation of a display rack embodying this invention with the small package tray in place;

Fig. 2 is a front elevation of the display rack of Fig. 1 with the left side showing the shelves in place and the right side showing the small package tray in place;

Fig. 3 is an enlarged, fragmentary, perspective view of a hinge joint between parts of the rack of Fig. 1;

Fig. 4 is a side elevational view of the rack with the shelves in collapsed condition;

Fig. 5 is a fragmentary, perspective view of a shelf in operative position;

Fig. 6 is a fragmentary, perspective view of the small package tray, and

Fig. 7 is a fragmentary, perspective view of the card holding element.

A display rack embodying this invention and herein disclosed for purposes of illustration comprises a vertically extending back section, a pair of hinged side sections, a plurality of hinged shelves, and a small package tray. The back section comprises a generally planar grid consisting of a series of vertical members 10 (Figs. 1 and 2) joined together by a series of transverse horizontal members 12 and 14. Members 10, 12 and 14 are made of heavy gauge steel wire, or other suitable material welded at the joints. Members 14 extend outwardly beyond members 10 as shown at 16 in Fig. 3, and then curve and extend forwardly forming extensions 18 having hooks or loops 19 on the ends thereof. The lower end of member 10 is bent upwardly in substantially U-shaped fashion (Fig. 2), the upper end of the U being fastened to one of the cross pieces 14. A caster 20 is fastened to the bottom of the U.

The side members comprise roughly triangular shaped panels formed of heavy gauge wire each comprising a main member 24, which extends vertically upwardly through hooks 19 on extensions 18 and is bent over in a U-shaped curve at 25 (Fig. 1) and thence proceeds downwardly and forwardly to a point near the front of the rack, thence downwardly to a second U and thence upwardly for a short distance. A caster 26 is fastened to the bottom of the last-mentioned U. A series of transverse members 28 are fastened across the triangular frame defined by main member 24, for strengthening the frame and for supporting the shelves, as hereinafter described.

The vertical portion of member 24 is firmly held in position by hooks 19. A hook 30 at the lower end of the vertical portion of member 24 is welded to the lowermost one of the transverse members 28. This lowermost member 28 is below the lowermost extension 18 and prevents member 24 from moving upwardly relative to the back section of the rack. The remaining members 28 are above the remaining extensions 18 and prevent side member 24 from moving downwardly relative to the back section. Thus, member 24 is prevented from moving upwardly or downwardly through hooks 19. However, the vertical portion of member 24 is free to rotate in hooks 19 and said member and hooks form a hinged joint between the back and side of the display rack.

Since the side members are hingedly attached to extensions 18, they may be swung inwardly across the back of the rack to lie substantially in the same plane therewith for storage. However, when the rack is set up in operative position, the side members extend outwardly at right angles to the back, as shown in Fig. 1. A series of shelves 34 are hingedly attached to extensions 16, as shown in Figs. 1, 4 and 5. Shelves 34, shown generally in Fig. 5, each comprise a grid of heavy gauge wire having a main member 35, hingedly attached to extensions 16 by a hook 36. Member 35 extends forwardly in a horizontal direction from hook 36 to form one side of the shelf. Member 35 in the two upper shelves is then bent downwardly to form a depending lip at the front of the shelf (Fig. 5), and extends in a transverse direction to form a front edge of the depending lip, as shown in the figure. In the lower shelf, member 35 is bent upwardly to form the front edge of the shelf and support the small package tray hereafter described. A plurality of transverse members 37 extend across main member 35 and support a plurality of finer wires 38 which form the surface of the shelf. One or more of members 37 near

the front of the shelf extend beyond member 35 and are bent upwardly and then downwardly to form a hook 40. Hook 40 is adapted to engage transverse members 28, as shown in Figs. 1 and 2, to support the front edge of the shelf and prevent the shelf from tipping downwardly beyond the horizontal position. The depending lip formed by main member 35 and wires 38, is provided with a transversely extending channel member 42, which is adapted for holding price tags and the like. Shelf portions 34 have progressively increasing depth from top to bottom of the rack, as shown, to correspond with the triangular shape of the side portions or members.

A small package rack 45 is provided for displaying small packages and the like. The small package rack comprises two main U-shaped longitudinal members 46 (Figs. 4 and 6) connected by a plurality of transverse members 48 and 50. A series of troughs is formed by J-shaped wire members 52 welded between adjacent transverse members 48 and 50 as shown in Fig. 6. These troughs may be further subdivided into pockets or cells by additional longitudinal members 54, for the accommodation of packages of various widths.

Small package tray 45 is hingedly attached to transverse member 14 on the top of the back by hooks 51 (Fig. 1) formed in the upper ends of members 46. When in use, this tray overlies the shelves 34, as shown in Fig. 1 and in the right hand part of Fig. 2, and extends at an angle to the horizontal, supported by the bent up front edge of the lower shelf as shown. In this position, small merchandise such as envelopes of seeds, and the like, may be displayed in tiers and rows where they may be conveniently inspected by prospective purchasers, while larger articles of merchandise are simultaneously stored on the shelves 34. However, when it is desired to display larger merchandise, rack 45 is simply swung upwardly and backwardly about its pivot point on member 14 to a position lying substantially parallel to the back of the rack as shown in Fig. 4. When small package rack 45 is in this position, it occupies very little space and is out of the way of shelves 34. This exposes shelves 34 to unrestricted view, and allows the storage and display of larger merchandise thereon.

If desired, brackets may be affixed to top member 14 for holding a display sign. Such brackets may conveniently comprise W-shaped wire members 56 (Fig. 7) having their upright ends welded to member 14. Two or more brackets 56 may be provided for holding a card 57 as shown in Figs. 2 and 7.

In storage, the rack is in its folded position with a small package tray overlying the back of the rack and the shelves in substantially vertical position against the back as shown in Fig. 4. Both sides are also folded inwardly to overlie the shelves and each other to form a compact unit of minimum thickness. This unit may be conveniently rolled on casters 20 and 26 and stored when not in use.

When it is desired to use the rack, it is unfolded and set up as follows. The sides are swung out to a position at right angles to the back as shown in Fig. 4. The shelves are then swung forwardly and downwardly until hooks 40 on each shelf engage the corresponding members 28 as shown in Fig. 1 and the left hand portion of Fig. 2. In this position, the rack is set up for displaying large articles of merchandise. If desired, a sign may be set in brackets 56, and price tags or other information may be placed in channels 42 in appropriate positions. However, if it is desired to display small items, such as envelopes of seeds, greeting cards, or the like, small package rack 45 is swung upwardly and forwardly about its pivot point on member 14 until it rests on the front end of shelves 34, in the position shown in Fig. 1 and in the right hand portion of Fig. 2. The rack may now be easily moved to the desired position, and is ready for use.

Since the rack described above is mounted on casters, it may easily and conveniently be moved from place to place in order to display the merchandise most advantageously for increasing sales. Since it is convertible, it may be quickly adapted for the sale of small merchandise such as seeds, or for the display and sale of larger items, which would normally be kept on shelves. Thus this rack provides a most flexible display unit which may be adapted to the type of merchandise currently in season, and which may be moved to a most convenient and advantageous location. However, when no merchandise of the type adapted for display or self-service selling is in season, this rack may be completely collapsed in a few moments and stored in a very small area. The open wire construction of this rack makes it relatively light in comparison to racks of similar size and capacity, and facilitates movement and storage thereof.

It will thus be seen that the invention accomplishes its objects and while it has been herein disclosed by reference to the details of a preferred embodiment, it is to be understood that such disclosure is intended in an illustrative, rather than a limiting sense, as it is contemplated that various modifications in the construction and arrangement of the parts will readily occur to those skilled in the art, within the spirit of the invention and the scope of the appended claims.

I claim:

1. A convertible, collapsible display rack having a substantially vertically extending back portion, a series of substantially horizontal shelf portions hingedly attached to said back portion and movable to a horizontal position and upwardly to a vertical collapsed position substantially overlying said back portion, a pair of generally triangular side portions inclined generally downwardly and forwardly at their forward edges from top to bottom of said rack, said side portions being hingedly attached to said back portion and adapted to be moved to a position substantially at right angles to said back portion, said shelf portions having progressively increasing depth from top to bottom of said rack to correspond with the triangular shape of said side portions and means for supporting said shelf portions, said side portions being movable to a collapsed position enclosing said shelf portions between said side portions and said back portion for compact storage of said rack, and a display member comprising a cellular tray hingedly attached to the top of said back portion and movable to an inoperative position substantially overlying the back portion and to an operative position overlying said shelves for provision of an alternate display means.

2. A collapsible display rack comprising a back portion of wire framework, a plurality of shelf members comprising wire framework and hingedly attached to said back portion, said shelf members being movable to a substantially horizontal article supporting position and to a vertical collapsed position overlying said back portion, a pair of side portions comprising wire framework hingedly attached to said back portion and movable to a position at substantially right angles to said back portion, said shelf members having progressively increasing depth from top to bottom of said rack and means for supporting said shelf members, said side portions being movable to a collapsed position substantially overlying said back portion for convenient storage of said rack, and a display member comprising a wire framework having a multiplicity of small compartments hingedly attached to said back member, said display member being movable to an inoperative position overlying the back of said back member and movable to an operative position overlying said shelf members in said horizontal position thereof for provision of a second display means for displaying small packages while said shelf members are in article supporting position.

3. A convertible, collapsible, storage and display rack having an upstanding back portion of wire framework, a plurality of shelf portions hingedly attached to said back

portion for movement downwardly to horizontal operative positions for supporting large articles and upwardly to collapsed positions adjacent said back portion, a pair of side portions of wire framework hingedly attached to said back portion for movement to positions at right angles to said back portion, means for supporting said shelf portions in operative positions on said side portions in said right angular positions thereof, said side portions being movable to a collapsed position overlying said shelf portions and back portion in said collapsed position of said shelf portions and a display member comprising a wire framework having a multiplicity of small compartments hingedly attached to said back portion, said display member being movable to an inoperative position overlying the back of said back portion and to an operative position overlying said shelf portions in said operative positions thereof for displaying small packages while said shelf portions are in said operative position for storage of large packages.

4. A collapsible display rack comprising a back portion of wire framework composed of a plurality of vertically and horizontally extending members, said horizontally extending members having forwardly extending ends terminating in hinge loops, a plurality of shelf members composed of wire framework and hingedly attached to the horizontal members of said back portion, said shelf members being movable to a substantially horizontal, article supporting position and upwardly to a collapsed position overlying said back portion, a pair of generally triangular side portions inclined generally downwardly and forwardly at their forward edges from top to bottom of said rack, said side portions comprising wire framework hingedly connected with said loops of said horizontal members of said back portion and movable to a position substantially at right angles to said back portion, said shelf members having progressively increasing depth from top to bottom of said rack to correspond with the triangular shape of said side portions and means for supporting said shelf members in horizontal position on said side portions in said right angular position thereof, said side portions being

movable to a collapsed position substantially enclosing said shelf members in collapsed position between said side portions and said back portion for compact storage of said rack.

5. A collapsible display rack comprising a back portion of wire framework composed of a plurality of vertically and horizontally extending members, a plurality of shelf members composed of wire framework and hingedly attached to the horizontal members of said back portion, said shelf members being movable to a substantially horizontal article supporting position and upwardly to a collapsed position overlying said back portion, a pair of side portions composed of wire framework hingedly attached to the vertical members of said back portion and movable to a position substantially at right angles to said back portion for supporting said shelf members, means for supporting said shelf members in horizontal position on said side portions, said side portions being movable to a collapsed position substantially enclosing said shelf members in collapsed position between said side portions and said back portion for convenient storage of said rack, and a display member composed of a wire frame having a multiplicity of small compartments hingedly attached to the uppermost horizontal member of said back portion, said display member being movable to an inoperative position overlying the back of said back portion and to an operative position overlying the front of said shelf members in said horizontal position thereof to provide a display means for displaying small packages while said shelf members are in said article supporting position.

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