Dec. 22, 1959 W. P. MILNER 2,918,295

MOBILE KNOCK-DOWN DISPLAY RACK

Filed March 27, 1957 2 Sheets-Sheet 1

FIG. 2

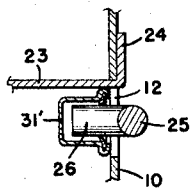
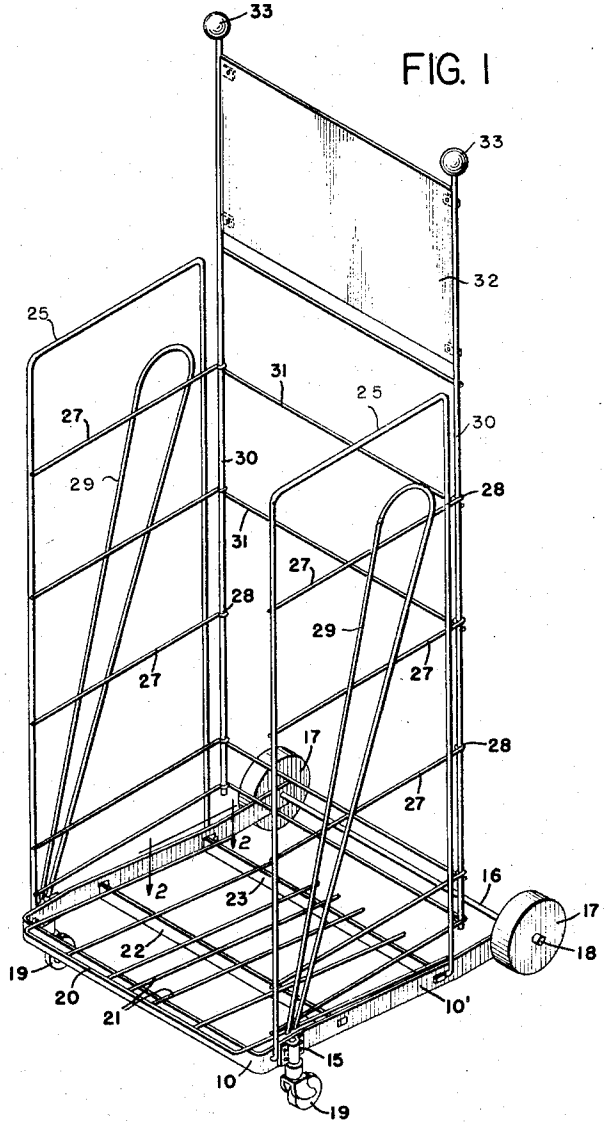


FIG. 1



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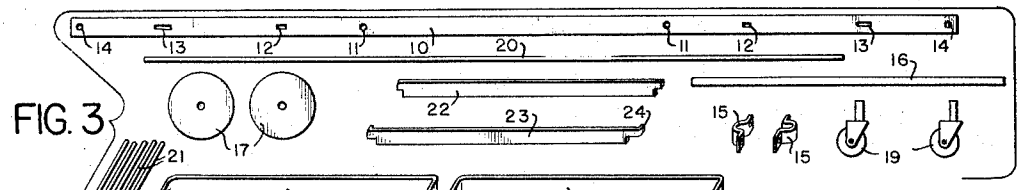


FIG. 3

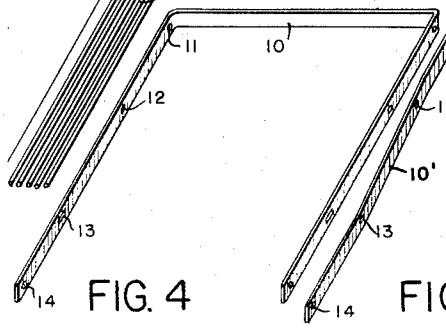


FIG. 4

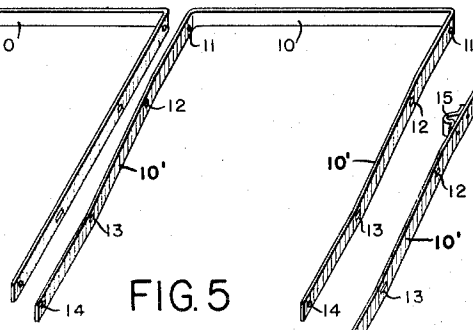


FIG. 5

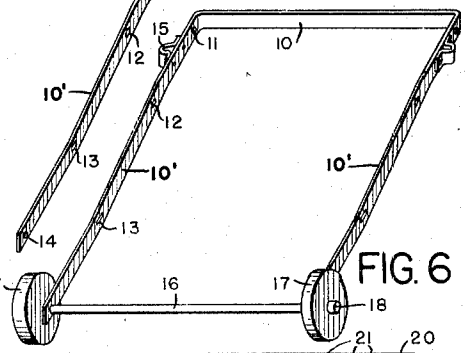


FIG. 6

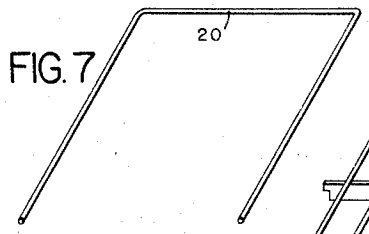


FIG. 7

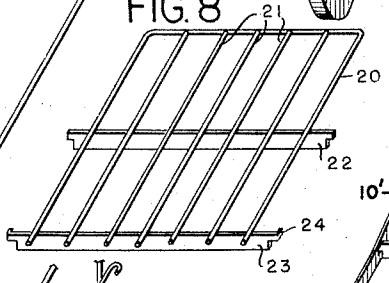


FIG. 8

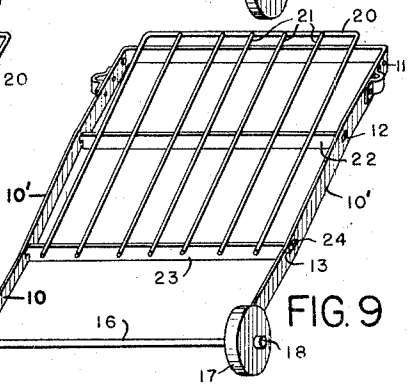


FIG. 9

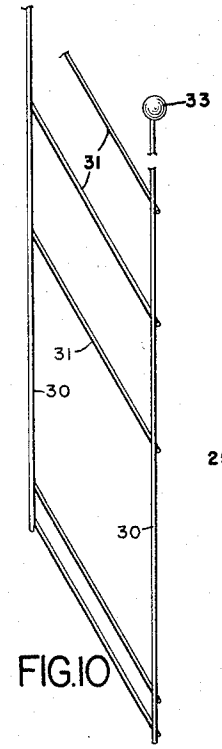


FIG. 10

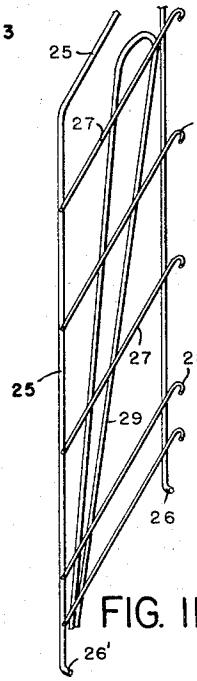


FIG. 11

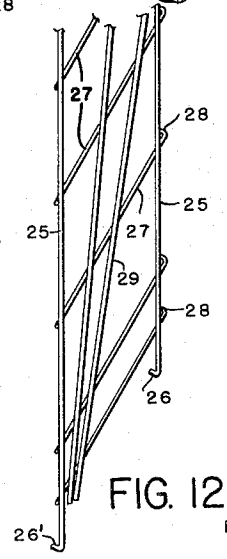


FIG. 12

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MOBILE KNOCK-DOWN DISPLAY RACK

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Application March 27, 1957, Serial No. 648,957

4 Claims. (Cl. 280—36)

This invention relates to the merchandising of commodities, to the equipment employed, and is particularly concerned with the sale of beverages in bottles and the like and the placing of the same on display in order to attract attention, to stimulate interest in the product and to cause the purchase of the same.

The invention relates particularly to display stands or racks, for supporting and displaying bottles and articles of all kinds, which racks are collapsible and ordinarily are fabricated from wire or rod stock, and can be quickly set up for use and taken down.

Wire racks for handling bottled beverages and the like have been expensive, complicated and cumbersome and the manufacture of the same has been excessive in the amount of time required and in cost.

It is an object of the invention to overcome the disadvantages enumerated and to provide a mobile knock-down display rack comprising a base or dolly and an upright side, rear and back frame unit which can be knocked down flat, taking the lowest possible freight rate in its class, as well as a device of this character which is inexpensive and simple to manufacture, easy to assemble with only two push nuts and with plug-in type casters, and with minimum forwardly exposed rod ends.

A further object of the invention is to provide a simple method of producing a mobile knock-down display rack which can be compactly packaged for storage and shipment and involving minimum material and labor in its manufacture as well as in seting up and taking down the device.

Other objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings wherein:

Fig. 1 is a perspective illustrating one aspect of the invention;

Fig. 2, a fragmentary detail on the line 2—2 of Fig. 1;

Fig. 3, a layout of the components employed in the production of the base frame;

Fig. 4 illustrates the frame strip with openings, which is the first step in producing the base frame;

Fig. 5 illustrates the second step in which the end portions of the side members are offset relative to each other;

Fig. 6 illustrates the next step, namely, the adding of the axle with the wheels and plug-in caster brackets;

Fig. 7 illustrates the next step which is bending of the secondary base frame;

Fig. 8 discloses the next step which includes the addition of the longitudinal supports and base strips to the secondary base frame;

Fig. 9, the manner of combining the primary and secondary base frames;

Figs. 10, 11 and 12, are perspectives of the back and two side frames respectively.

Briefly stated the invention comprises a base and wall units, said base being composed of a U-shaped strip or primary frame having openings in which are received an axle to which wheels are attached and a pair of cross

strips which form a part of a secondary base frame independently produced and welded or otherwise attached to the base frame. The wall units includes a back and pair of side frames hinged thereto, the back being of substantially the same width as the base frame and with the side frames provided with angular feet which are inserted in the sides of the primary frame and are secured therein by the application of push nuts with the feet at the front ends of the side members.

With continued reference to the drawings, the base-dolly and upright side and back frame units are fabricated separately. In manufacturing the base or dolly a single strip **10** is simultaneously cut to the desired length and punched to provide the necessary openings. Thereafter this strip is bent to U-shape, as shown in Fig. 4, and then the central portion **10'** of each leg of the U is shaped to provide lower offset portions at the remote ends of the legs of the U-shaped member, as shown in Fig. 5.

The strip **10** is provided with a pair of openings **11**, a pair of slots **12**, a pair of slightly longer slots **13**, and a pair of end openings **14** for receiving respectively the rear ends of the side frames, the rear cross-member of the secondary dolly frame, the forward cross-member of the secondary dolly frame and the forward body end of the side frames, and the roller supporting axle.

After the strip **10** is given its final shaping it may have plug-in caster brackets **15** applied one on each side although the caster brackets **15** may be applied after the assembly of the rack is completed. An axle **16** is inserted in the openings **14**, and is provided with wheels **17** secured in place by push nuts **18** (note Figs. 6 and 9).

A frame rod **20** and a series of, for example, five intermediate rods or bars **21** are cut to length, as are also a couple of transverse bars **22** and **23**. Thereafter the rod **20** is bent to U-shape (Fig. 7) and is assembled with the rods **21** and bars **22** and **23** (Fig. 8) and welded to provide a complete unit. The bars **22** and **23** are identical except that the front rod **23** is provided with a rearwardly disposed extension **24**.

Next the secondary frame of the dolly, which includes the rods **20** and **21**, and bars **22** and **23** is applied to the primary frame formed of the strip **10**, so that the reduced ends of the bar **22** are disposed in the slots **12** and the laterally turned ends **24** of the bar **23** are inserted through the slots **13** of the strip **10**. Then the sub-frame of the elements **20**, **21**, **22** and **23** is pushed rearwardly in the U-shaped member formed from the bar **10**, as shown in Fig. 9, and a weld is placed where the bars **20** and **21** cross the connecting portion of the U-shaped member **10** of the primary frame. The base or dolly is then complete except for the addition of the casters **19**.

In the manufacture of the pair of side frames lengths of wire or rod stock are cut to form the longitudinal, transverse, and diagonal braces which combine to form the side frames. One of the lengths **25** of wire or rod stock is bent to U-shape with lateral feet or extremities **26** and **26'**. Transverse wires **27** have curved ends **28** for encircling the side rod of the back frame, and the rods **29** are bent to provide diagonal braces. The parts are assembled and are welded together. The opposite side frame is produced in similar manner except that the parts forming the opposed side frames are assembled so that they will be in the proper position when placed one in front of the other.

The back frame is fabricated in a similar manner. It comprises a pair of side members **30** having a series of cross members **31**, all of which are cut to the proper length, assembled, and welded. In applying the side and back frames to the dolly which forms the base of the rack, the feet **26** at each side adjacent to the back are inserted in the openings **11** and the feet **26'** are inserted in the

openings 13 ahead of the strip 23 and are fastened therein by means of push nuts 31' placed over the ends of such feet. If desired sign 32 may be employed and finishing knobs 33 may be placed on top of the side members 30.

What is claimed is:

1. A mobile knockdown rack comprising separable base and wall units said base unit comprising a U-shaped frame including two legs and a connecting member, a second U-shaped frame comprising two legs and a connecting member, cross members on said second frame, a series of supporting members disposed lengthwise of said second frame and joined to the connecting member of said second frame and to said cross bars, said first U-shaped frame having aligned longitudinally spaced transverse apertures in its legs, said cross members having end portions received within certain of said aligned apertures, said second frame overlying the connecting member of said first frame and secured thereto, said wall units comprising pivotally connected back and side portions, said side portions having angular foot portions receivable in other of the apertures in the legs of said first U-shaped frame, means detachably securing the foot of each side portion in other apertures of said legs to hold the base and wall units in assembled relation for providing a space opening toward said connecting members, and anti-friction means on said base for facilitating ready movement of said rack.

2. A mobile knock-down rack comprising separable base and upright units, said base unit comprising larger and smaller substantially U-shaped frames each including spaced legs and a connecting portion, cross members on said smaller frame, a series of supporting members disposed lengthwise and joined to the connecting portion of said smaller frame and to said cross members, the larger frame having longitudinally spaced apertures in its legs with the apertures in one leg opposite those in the other leg, said cross members having end portions received within certain of said oppositely located apertures and said smaller frame overlying the connecting portion of the larger frame, said upright units comprising pivotally connected back and side portions, the latter having angular foot portions receivable in other of the apertures in the legs of said larger frame, attaching means detachably securing a foot of each of the side portions of said frame in certain of said apertures to hold the base and upright units in assembled relation providing a spaced opening toward said connecting members, and anti-friction means attached to said base for facilitating ready movement of said rack from place to place.

3. A mobile knock-down rack comprising separable base and upright units, said base unit comprising larger and smaller substantially U-shaped frames each including spaced legs and a connecting portion, cross members on said smaller frame, a series of supporting members disposed lengthwise and joined to the connecting portion of said smaller frame and to said cross members, the larger frame having longitudinally spaced apertures in its legs with the apertures in one leg opposite those in the other leg, said cross members having end portions received within certain of said oppositely located apertures and said smaller frame overlying the connecting portion of the larger frame, said upright units comprising pivotally connected back and side portions, the latter having angular foot portions interlockingly receivable in other of the apertures in the legs of said larger frame, and antifriction means attached to said base for faciliating ready movement of said rack from place to place.

4. A mobile knock-down rack comprising separable base and upright units, said base unit comprising a substantially U-shaped frame including a pair of spaced legs and a connecting portion, a supporting member connected to said frame and extending transversely of the legs, said frame having longitudinally spaced openings in its legs, said upright unit comprising a back frame and a pair of side portions with said pair of side portions each pivotally connected to said back frame at adjacent edge portions, the pair of side portions each having foot portions along the lower edge receivable respectively in the openings of the legs of the U-shaped frame in interlocking, separable relation, and anitfriction means attached to said base for facilitating ready movement of said rack from place to place.

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