Nov. 12, 1940. J. V. WILKIE 2,221,659

DISPLAY RACK

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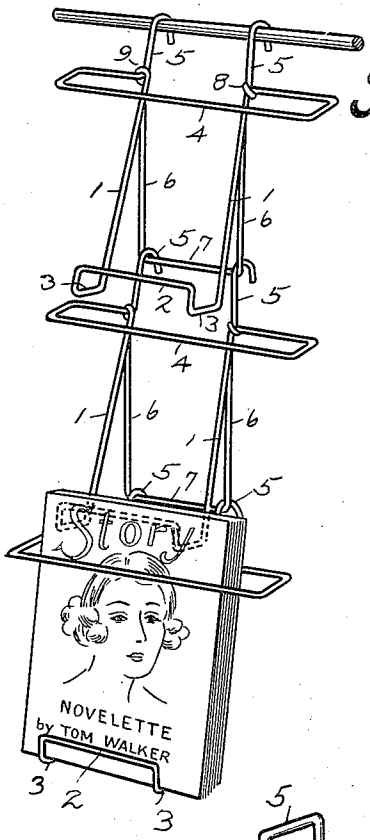

Fig.-1

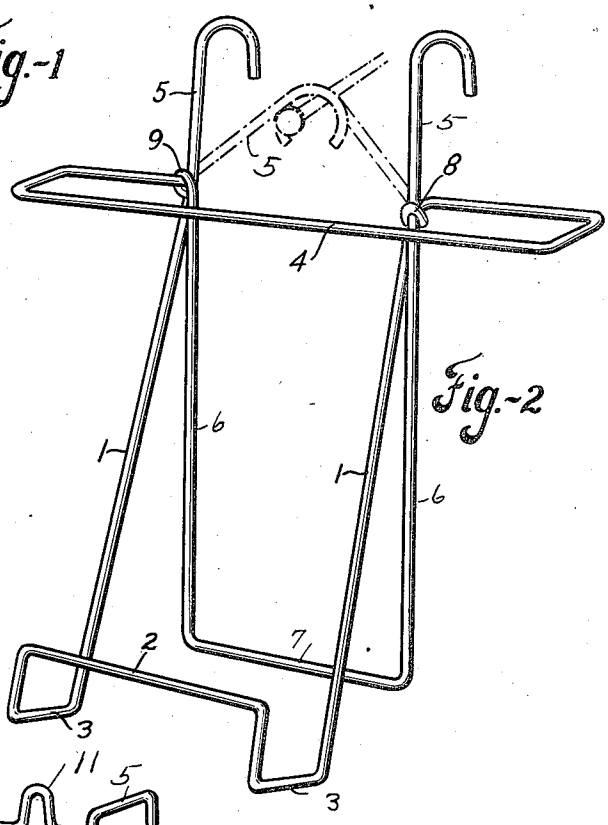

Fig.-2

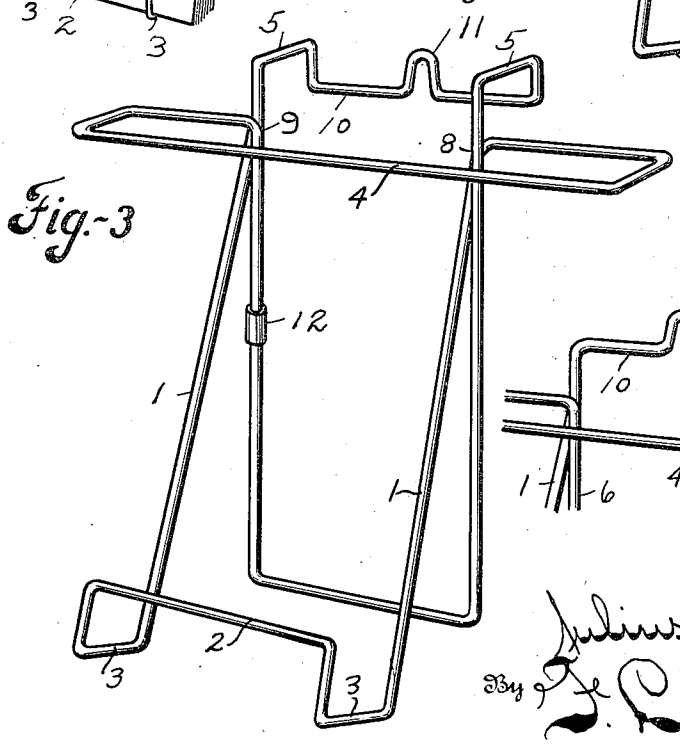

Fig.-3

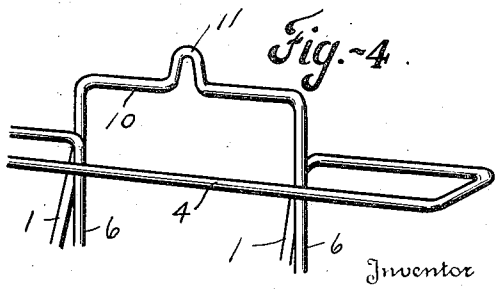

Fig.-4

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Fig.-5

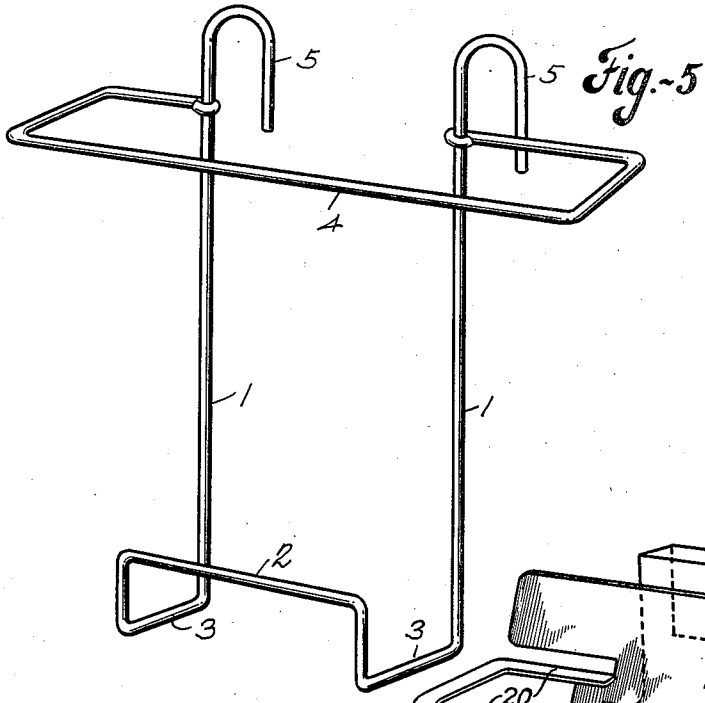
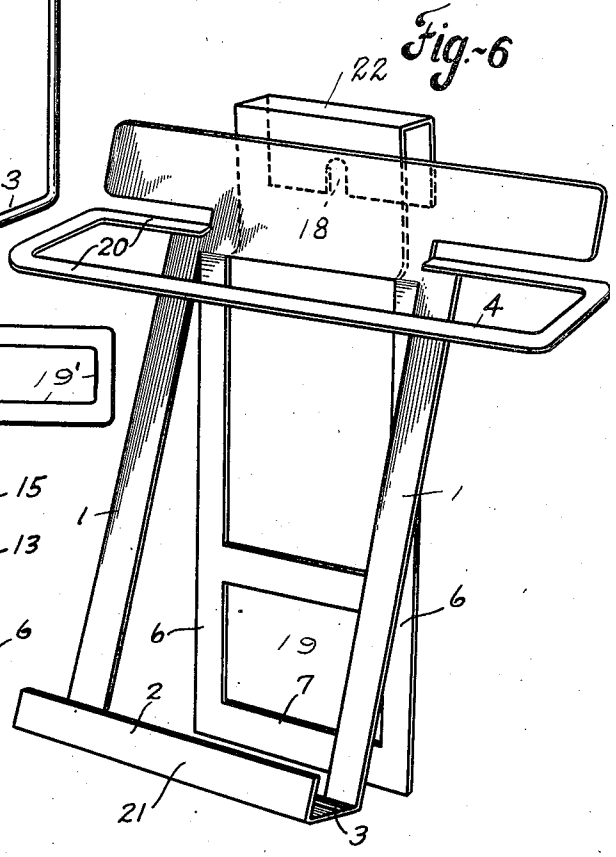


Fig.-6



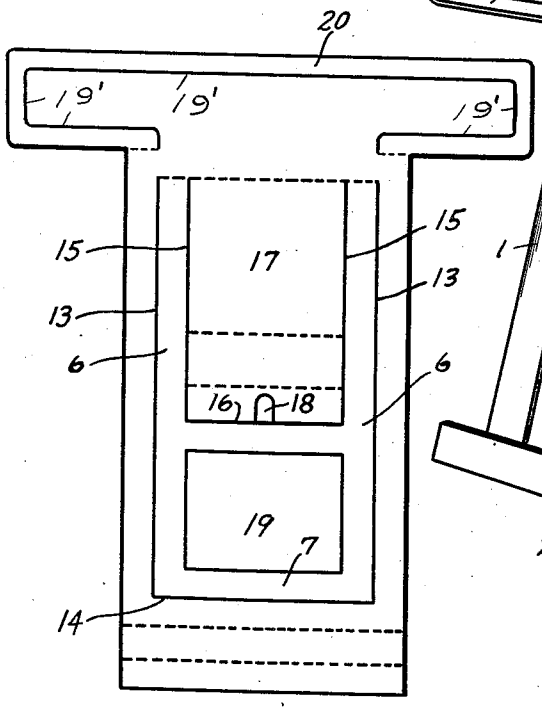


Fig.-7

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2,221,659

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DISPLAY RACK

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Application August 27, 1938, Serial No. 227,196

14 Claims. (Cl. 211—119)

This invention pertains to supports and racks, and more particularly, to a merchandise display rack for exhibiting magazines, small articles and box or package goods in upright position for easy observation.

The present display rack is of universal character, having alternate supporting means by which it may stand easel fashion or be suspended either singly or in detachably interconnected series from an elevated ledge or bar, or from a nail or hook, as may be most convenient.

The object of the invention is to improve the construction, as well as the means and mode of mounting merchandise display racks, whereby they may not only be economically manufactured, but will be of light weight and sturdy, strong construction, of unobtrusive appearance and unlikely to get out of repair.

A further object of the invention is to provide supporting and retaining means for displaying magazines and other merchandise in such relation that they may not be easily or accidentally dislodged.

A further object of the invention is to provide a display rack of skeletonized design, such that a minimum area of the face of the displayed article will be obscured by the rack, and which will not detract from the appearance of the merchandise, but which to the contrary to a great extent will be concealed from view thereby.

A further object is to provide a rack construction which will withstand hard usage, and which will not easily become broken or disarranged, and which may be compactly assembled for shipment or storage.

A further object of the invention is to provide optionally selective supporting means by which the rack may be self-supporting, or may be suspended singly or in detachably connected series.

A further object of the invention is to provide a display rack of integral construction, which may be produced from a single length of wire or a single sheet of material with minimum joints.

A further object of the invention is to provide a display rack having the herein mentioned advantageous structural features and inherent meritorious characteristics.

With the above primary and other incidental objects in view, as will more fully appear in the specification, the invention intended to be protected by Letters Patent consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described or illustrated in the accompanying drawings.

In the drawings, wherein are shown preferred, but obviously not necessarily the only forms of embodiment of the invention,

Fig. 1 is a perspective view of a series assembly of display racks embodying the present invention.

Fig. 2 is a perspective view of a rack herein described, formed from a single length of wire bent and rebent upon itself and disposed as a self-supporting easel.

Fig. 3 is a similar view of a modified construction.

Fig. 4 is a fragmentary view of a simplified form of device.

Fig. 5 is a perspective view of a further variation of construction.

Fig. 6 is a perspective view of the present display rack formed from sheet material.

Fig. 7 is a plan view of the blank from which the rack illustrated in Fig. 5 is produced.

Like parts are indicated by similar characters of reference throughout the several views.

The display rack forming the subject matter hereof is preferably formed from a single length of wire of suitable gage, bent and rebent upon itself to form the skeleton structure illustrated. It may, however, be formed from sheet material, either metal or fiber board.

The rack comprises a substantially rectangular frame-like structure, to be disposed in either upright or rearwardly inclined position. It includes parallel spaced sides struts 1—1 transversely interconnected at the lower end by a forwardly projecting and upturned portion 2, which provides spaced shelf-like hooks or rests 3—3 to receive the magazines. Disposed in parallel spaced relation adjacent the top of the frame and fixedly connected with the supports or rests 3—3 by the uprights 1—1 is a rectangular loop 4, which surrounds the upper portion of a magazine or article of merchandise when resting on the hooks 3 to prevent it from tipping off the support. Extending rearwardly and downwardly from the top of the frame and above the retainer loop 4 are suspension or hangar arms 5, comprising reversely bent extremities coincident with the frame sides 1 to be engaged over a supporting rail or ledge.

Extending downwardly and rearwardly from the top of the frame is a supporting brace or strut comprising legs 6 attached at their upper ends to the frame, and interconnected at their lower ends by the tie 7.

In constructing the form of rack illustrated in Figs. 2 and 3, a single length of wire is utilized, the extremities of which are interconnected in endless formation. Obviously, the start and finish of the endless meandering formation may be at ony point. In Fig. 2 the starting point selected is at the extremity of one of the hanger hooks or arms 5, and the finish is at the extremity of the opposite arm 5. Starting at the left hand hook 5, the wire is continued downwardly to form the left leg 6 of the supporting strut, thence across the bottom 7 and then upwardly forming the right leg 6 to the juncture 8, where it is bent at right angle and thence formed into the rectangular loop 4 which terminates at the juncture 9.

Here the left hook arm 5 is given a wrap about the wire at the juncture 9 and the wire is continued downwardly forming one of the side frames 1 and the rest 3, from which it is extended transversely at 2 and formed into the right rest 3, from which it is extended upwardly as the right side 1 of the frame and is given a wrap about the juncture of the rectangular loop 4, and the strut leg 6 at 8 and is continued into the right terminal hook arm 5.

The hook arms 5 may be engaged over a rod, ledge, or other support, as shown in Fig. 1, but if the rack is to be suspended from a nail or the like, the arms 5 are bent into overlapping relation, as indicated by dotted lines, for engagement over a nail.

The construction illustrated in Fig. 3 is quite similar to that previously described, except that the extremities of the hook arms 5 are interconnected by a transverse tie 10 having therein an inverted U-shaped bight 11 for engagement over a nail instead of bending the arms into overlapping relation, as in Fig. 2. In this form of embodiment, the wire from which the rack is formed is terminally interconnected into endless formation at 12. In forming the rack, and starting at 12, the wire is extended upwardly to form the upper half of one leg 6 of the supporting strut, and is then bent at right angle at 9 and formed into the rectangular loop 4 terminating at 8, where the wire is extended downwardly as one side 1 of the main frame, and then formed into the rests 3—3 and interconnecting upturned cross tie 2, and is continued upwardly as the left side of the main frame to the juncture 9, where the wire is continued upwardly and rearwardly and thence downwardly as the left hanger arm 5. From the one hanger arm 5 the wire is extended transversely as a tie 10 medially formed into the bight 11 and thence to the right hanger arm 5. From the right arm 5 the wire extends downwardly as the right leg 6 of the supporting strut and is carried transversely as the bottom 7 and then upwardly to the starting point 12. The left frame side 1 and hanger hook 5 and the right hanger hook 5 and strut leg 6 are preferably, although not necessarily, given one wrap each about the terminals of the rectangular loop 4 at the junctures 9 and 8 to make the structure more rigid.

In Fig. 4 is shown the top of the structure, wherein the hanger arms 5 are omitted and the transverse tie 10 with its medial bight 11 is extended directly from the juncture 8 to juncture 9. The construction is otherwise as before described and performs the same functions.

While for strength and economy of manufacture, and to avoid breakage, the rack is formed as described of a single length of wire, it may be formed of initially separate members which are subsequently interconnected, as is shown, for example, in Fig. 5. In this form of embodiment, the side members 1 are interconnected at their lower ends by the forwardly and upwardly turned tie portion 2 and rests 3 as before. The upper ends of the uprights 1—1 are bent rearwardly and downwardly into the suspension hooks 5—5, as before described. Intermediate the hanger top portion and the article supporting rests 3, a transversely disposed, separately formed retained loop 4 is connected at its ends to the side members 1, and corresponds to and forms the same function as the loop 4 previously described.

While, as before stated, for strength and economy, and to skeletonize the rack and so minimize its component parts that they will not obscure the merchandise, it is preferably constructed from wire, it may nevertheless be formed from sheet material, as illustrated in Figs. 6 and 7. As illustrated in Fig. 7, a flat sheet of material is longitudinally incised at 13 and the ends of such cuts interconnected at 14 to outline the brace or supporting strut. The area thus defined is again longitudinally cut at 15 and the cuts interconnected at 16 to form a flap 17, having at its lower margin a notch 18. Below this flap a section 19 is entirely removed to provide the brace legs 6 and cross tie 7, and provide an opening in which a second rack may be engaged over the cross tie 7. The top of the blank is incised at 19′ on three sides and part of a fourth side in close parallel relation with the margin of the blank and the narrow C-shaped portion 20 thus defined is bent into perpendicular relation with the plane of the blank to form the retainer loop 4. The lower margin of the blank is bent forwardly and upwardly as at 21 to correspond to and perform the functions of the rests 3 and retainer flange 2. The larger flap formed by the cuts 13 and 14 is pushed rearwardly into inclined relation to afford the supporting brace or strut. The smaller flap 17 is reversely bent into close parallel relation with the blank and the extremity of such upturned flap 17 is bent rearwardly and downwardly, thus forming a suspension extension 22 corresponding to the hanger arms 5, while the medial notch 18 is engageable over a nail in the same manner as the inverted bight 11 of the wire structure.

Either form of rack may be supported easel fashion by its rearwardly inclined strut, or in lieu thereof they may be suspended from a rod, bar or ledge by the suspension arms 5. In event it is desired to suspend a series of such racks, they may be detachably coupled together by engaging the hanger arms 5 of one rack over the transverse tie 7 of the brace portion of a preceding rack. They may be thus interlinked into a chain of any desired length.

It is found quite advantageous to make the display rack as herein described from a single piece of material either wire or sheet metal, or fiber. Heretofore racks for sundry purposes have been produced from separate pieces united by spot welding, soldering, riveting, and otherwise. It is found, however, that under hard usage to which the racks are subjected such joints become broken or disconnected and the parts disarranged or lost. The wire comprising the embodiment shown in Fig. 3 is endless, whereas that illustrated in Fig. 2, although comprising a single continuous length of wire, the ends are disconnected. Furthermore, the rack may be made

in various sizes. In larger size it is quite useful for displaying newspapers.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute, the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. A display rack for merchandise formed from a single length of wire bent and rebent upon itself, including a pair of substantially parallel upright side members, merchandise rests formed by forwardly and upwardly bending the lower ends of said upright side members, a transverse tie interconnecting the extremities of the upturned rests, rearwardly and downwardly turned hanger arms at the upper ends of the side members, a rectangular loop disposed in substantially perpendicular relation to the common plane of the side members and interconnecting said members one with the other intermediate the terminal merchandise rests and hanger arms thereof, and a substantially U-shaped supporting strut disposed in rearwardly and downwardly divergent relation with the said uprights, the whole forming a single unitary skeleton structure.

2. A display rack including a main frame, a forwardly and upturned bottom margin forming a rest for merchandise, a rearwardly and downwardly turned top margin forming hanger means by which the structure may be suspended, a rectangular loop portion extending substantially perpendicular to the plane of the frame to surround merchandise supported thereon, and a duo-functional rearwardly and downwardly inclined strut portion for optionally supporting the frame easel fashion or forming a hanger in which the rearwardly and downwardly turned top portion of a succeeding rack may be engaged in series relation.

3. A display rack for merchandise comprising a single continuous length of wire bent and rebent upon itself into a plurality of integral series connected rack parts including a pair of substantially parallel side members, a transverse tie member interconnecting the side members at their lower ends, merchandise rests formed by forwardly and upwardly bending the interconnected ends of said side members whereby the transverse tie forms a retaining member overlapping the merchandise when supported on said rests, rearwardly and downwardly extending hanger arms disposed at the upper ends of said parallel side members, and a rectangular retainer loop to surround an article of merchandise supported on the rests of greater width than the space between the parallel side members and disposed in substantially perpendicular relation to the common plane thereof and connecting said side members one to the other.

4. A display rack comprising a single integral structure formed from a single piece of material including a substantially upright main portion, an upturned bottom margin thereof forming a merchandise rest, a rectangular loop disposed in substantially perpendicular relation to the upright main portion, a hanger extension at the top of the structure beyond said rectangular loop and a downwardly and rearwardly extending strut portion, all integrally united each with the others.

5. A merchandise display rack comprising a single unitary piece of material shaped and formed into a plurality of integrally united rack parts including a supporting frame, a merchandise rest located at the bottom of said frame, a retainer loop to surround an article of merchandise disposed in a plane substantially perpendicular to that of the supporting frame, and optionally selective hanger means, a suspension device and a prop strut, by either of which the frame may be supported in substantially upright position with an article of merchandise supported thereon.

6. A merchandise display rack including a substantially upright main body, means for supporting an article of merchandise thereon, a duo-functional prop strut extending downwardly and rearwardly in relatively fixed relation with the main body for supporting said main body in easel fashion, and coupling means at the top of the prop strut detachably engageable with the lower end of the prop strut of a preceding rack for detachably connecting the racks into a series chain, wherein the main bodies of succeeding racks are supported in downwardly and forwardly inclined relation to the perpendicular.

7. A wire display rack including substantially parallel relatively spaced uprights, a transverse tie member interconnecting the uprights at their bottom, a merchandise rest formed by bending the bottom tie and adjacent portions of the uprights forwardly and upwardly, a retainer loop to surround merchandise disposed in spaced relation with the rest and in a plane substantially perpendicular to the common plane of the uprights, a tie interconnecting the upper ends of the substantially parallel relatively spaced uprights in rearwardly spaced offset dependent relation with the plane of the uprights, and an inverted U-shaped bight in said tie for suspension engagement over a hanger stud.

8. A wire display rack including substantially parallel relatively spaced uprights, a transverse tie member interconnecting the uprights at their bottom, a merchandise rest formed by bending the bottom tie and adjacent portions of the uprights forwardly and upwardly, a retainer loop to surround merchandise disposed in spaced relation with the rest and in a plane substantially perpendicular to the common plane of the uprights, and a pair of relatively spaced rearwardly and downwardly extending hanger arms at the top of the structure for suspension engagement with a second like device.

9. A wire display rack including substantially parallel relatively spaced uprights, a transverse tie member interconnecting the uprights at their bottom, a merchandise rest formed by bending the bottom tie and adjacent portions of the uprights forwardly and upwardly, a retainer loop to surround merchandise disposed in spaced relation with the rest and in a plane substantially

perpendicular to the common plane of the uprights, and a substantially U-shaped prop strut extending downwardly and rearwardly from the structure for supporting the rack easel fashion in substantially upright position and a rearwardly projecting hook extension at the top of the rack engageable in the U-shaped prop strut of a second like rack for suspending the rack one from another.

10. A wire display rack including substantially parallel relatively spaced uprights, a transverse tie member interconnecting the uprights at their bottom, a merchandise rest formed by bending the bottom tie and adjacent portions of the uprights forwardly and upwardly, a retainer loop to surround merchandise disposed in spaced relation with the rest and in a plane substantially perpendicular to the common plane of the uprights, a substantially U-shaped dependent strut extending downwardly and rearwardly from the structure and a pair of rearwardly and downwardly directed hanger arms at the top of the structure engageable in the U-shaped dependent strut of another rack for supporting the racks in a series chain.

11. A merchandise display rack formed from a single blank of material, a flap cut therefrom in spaced parallel relation with the side and bottom margins thereof adapted to be deflected rearwardly to form a prop strut, a second flap cut from within the first flap, a hanger extension formed by bending said second flap rearwardly and upwardly in substantially parallel relation with the blank and then reversely bending the extremity thereof rearwardly and downwardly into inverted channel formation, a merchandise rest at the bottom of the blank formed by bending the bottom margin thereof forwardly and upwardly into channel formation, and a retainer loop disposed in perpendicular relation to the plane of the blank by cutting from the top margin thereof a narrow border portion including at least spaced parallel side and a transverse interconnecting portion, the whole comprising a single integral unitary structure.

12. A display rack formed from a single unitary piece of material including a substantially upright frame, an integral merchandise rest formed by an upturned portion at the bottom of the frame, an integral retainer loop disposed in substantially parallel spaced relation with the upturned merchandise rest and in a plane substantially perpendicular to that of the upright frame, an integral rearwardly and downwardly inclined prop strut for duo-functionally supporting the rack easel fashion in upright position and alternately providing for intercoupling a second rack thereto, and a hanger arm extension disposed at the top of the structure duo-functionally engageable over a support for suspending the rack therefrom and alternately engageable with the prop strut of another rack for detachably interconnecting the racks in a series chain.

13. A display rack for merchandise including a substantially upright frame, a merchandise rest projecting forwardly from the lower portion of the frame, a retainer loop projecting forwardly from the upper portion of the frame in substantially parallel relation with the merchandise rest and in substantially perpendicular relation to the plane of the frame, a prop strut projecting downwardly and rearwardly from the frame and duo-functionally serving to support the frame in substantially upright position and alternately affording a coupling connection from which another rack may be suspended, and rearwardly and downwardly extending hanger means at the top of the structure duo-functionally engageable over a support and alternately engageable with the prop strut of another rack for intercoupling the racks in series chain.

14. The herein described method of forming a display rack from a single sheet material blank, including cutting from the interior of the blank a relatively large flap leaving thereabout an endless frame to which the flap is integrally connected at one end, cutting from the interior of the first flap a second flap attached to the frame at the same end, cutting from the blank a top marginal border including a transverse portion and parallel return arms at each side of the blank, bending the large flap rearwardly into divergent relation with the frame, bending the smaller flap rearwardly and upwardly into parallel relation, bending the top border portion forwardly into substantially perpendicular relation with the blank, bending the terminal portion of the upturned smaller flap rearwardly and downwardly, and bending the lower terminal portion of the frame forwardly and upwardly.

JULIUS V. WILKIE.