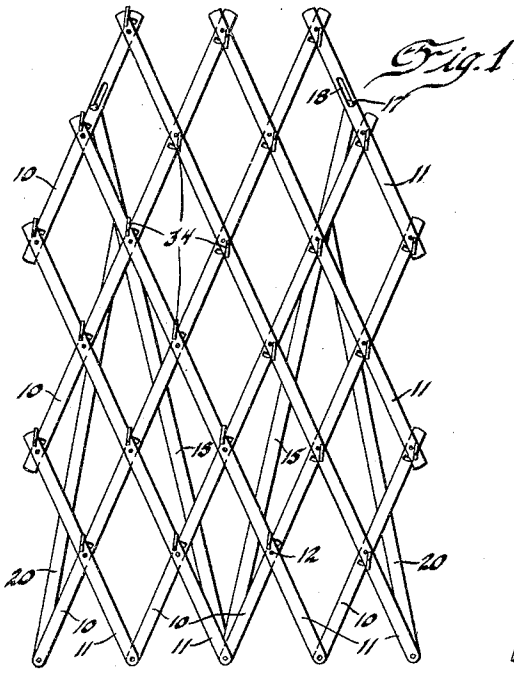
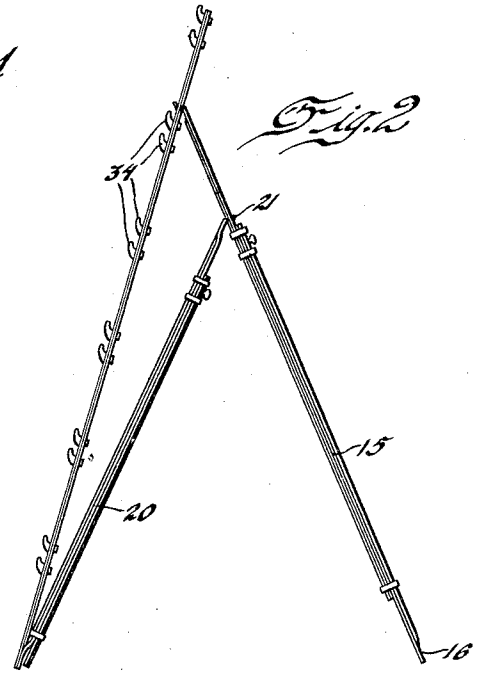
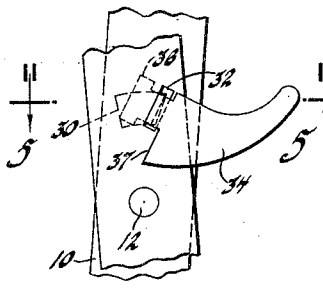
May 16, 1933. N. B. RANDALL 1,909,503

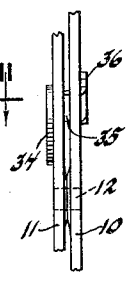
DISPLAY RACK

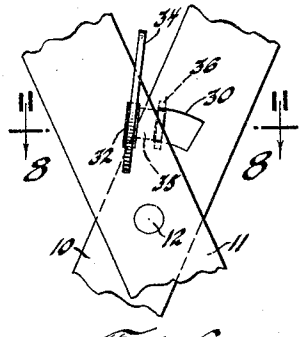
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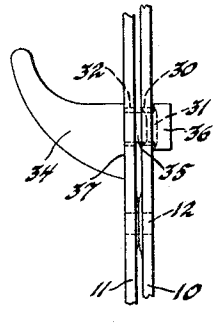


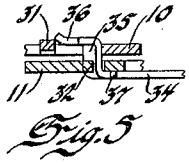


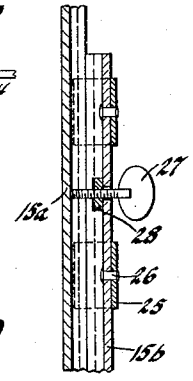


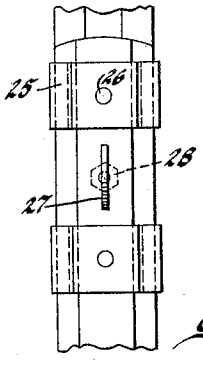


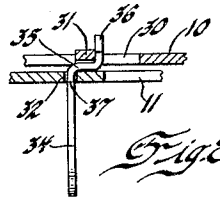












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Patented May 16, 1933 1,909,503

UNITED STATES PATENT OFFICE

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DISPLAY RACK

Application filed July 13, 1932. Serial No. 622,262.

This invention relates to display racks and more particularly to collapsible and distendable racks of the lazy tongs-pantograph type.

The principal object of the invention is to provide a display rack having article supporting hooks projecting therefrom, the hooks being movable automatically to a non-projecting position when the rack is being or has been collapsed and being movable automatically to a projecting or article supporting position when the rack is being or has been distended.

A still further object is to provide a novel hook construction particularly adapted for use with display racks.

A still further object is to provide a novel supporting construction for display racks, the construction being such that as the rack is collapsed the supports are drawn inwardly towards the rack, and as the rack is distended the supports are projected outwardly to rack supporting position.

A still further object is a display rack combining features outlined in the foregoing.

Still further objects will readily appear upon reference to the following detailed description of a preferred form of display rack and to the appended drawing showing the same.

In the drawing,

Figure 1 shows a display rack in distended position;

Fig. 2 is a side elevational view of the same, as if from the right of Figure 1;

Fig. 3 is an enlarged elevation view of a hook construction, with a hook shown lying along the plane of the rack;

Fig. 4 is a side elevation of Figure 3;

Fig. 5 is a section as if on line 5—5 of Figure 3;

Figs. 6, 7 and 8 are similar views, but showing the hook projected from the rack;

Fig. 9 is a sectional view of an adjusting construction for the rack support; and

Fig. 10 is another view of the same, as if from the right of Figure 9.

The rack

The display rack is in the nature of a grille formed along the lines of a lazy tongs-pantograph, and includes a plurality of parallel metallic strap-like members 10 arranged to intersect a second set of parallel metallic strap-like members 11. There are six of each set of straps in the rack shown, though it will of course, be understood, that more or less of these straps may be employed depending upon the desired size and spacing for the rack. Pivotal connections 12 at the intersections between straps 10 and 11 are provided in the embodiment shown and these are in the nature of pivot-forming rivets, though it will of course be understood, that other forms of pivotal connections may be employed, if desired.

The rack may be collapsed so that it occupies very little horizontal space, or it may be distended, for display purposes, these features being of course, inherent to the rack because of its lazy tongs pantograph construction.

For supporting the rack there are provided novel forms of supports, the same including a pair of legs and a pair of braces. The legs are in the form of rigid members 15 connected to each other at their lower extremities as shown in Fig. 2, and at their upper extremities having hook shaped ends 17 disposed in slots 18 of the outermost and uppermost ones of the straps 10 and 11. Connected to the lower corners of the grille in the form shown, or connected to the lower ends of extensions of the grille, in forms not shown, are braces 20, which at their upper ends are provided with hooks 21 disposed in apertures of the legs 15, intermediate the ends of the latter. The legs per se are arranged to form

a V, and the legs and braces together, when viewed from the front of the rack, form the upper case letter M.

The construction is such that when the rack is collapsed, the braces and the legs will automatically be moved towards the rack so that the complete rack will occupy very little space. When the rack is distended, however, the legs or braces will draw away from the rack, and will provide suitable supports for the same.

It will be observed that while the slot detracts somewhat from the automatic opening feature of the leg and brace movement, it provides a means for adjusting the position of the legs with respect to the rack and in this fashion permits the legs to be drawn from the rack, varying distances, as desired by the user. The slot 18 may be shortened or lengthened as desired.

In order to provide means for adjusting the length of the legs and braces, the legs and braces are split and a suitable fastener shown in Figs. 9 and 10 is provided. This adjusting fastener may be of the form shown or of any other form, and may include two leg parts 15*a* and 15*b*, overlapping each other, and secured to each other by means of cross straps 25, riveted at 26 to the member 15*b* and hooked over the edges of the member 15*a* there being a screw bolt 27 for securing the members in the desired relative position, the screw bolt being threaded through a securing nut 28.

The hook construction

Adjacent desired ones or all of the pivotal intersections 12 are provided article supporting hook constructions. For purposes of convenience the hook constructions in the left hand section of the rack are so constructed that the hooks are above the pivotal intersections and when the rack is collapsed the hooks point to the right or towards the rack center. In the right hand section of the rack the hooks are below the pivots 12 and when the rack is collapsed the hooks point to the left but also towards the center. This suggestion need not be followed, if desired, though it is preferred to arrange the hooks in the fashion shown, for purposes of symmetry, and also in order to prevent the hooks projecting beyond the side edges of the rack, when the latter is collapsed.

In Figures 3 to 8 a hook construction per se is shown and the same will now be described, it being observed that the hook construction selected for purposes of disclosure is the hook construction employed in the left hand section of the rack.

In the back strap 10 an elongated arcuate slot 30 is provided and the strap at one end of the slot is formed with a slight hump 31. In the other strap, namely the front strap 11, a slot 32 is provided. The relative position of the slots is such that when the rack is collapsed the slots 32 and 30 will be in partial alignment and when the rack is distended fully slots 32 and 30 will be out of alignment.

The hook per se is a metallic piece of ogee shape, and includes a hook or end portion 34, an intermediate portion and a second end portion 36. Portions 34 and 36 are parallel and are connected by the intermediate portion 35 transverse to both of them. Further the intermediate portion 35 is narrower than the edge 37 of the hook portion 34 which is near strap 11 and is also narrower than the other end portion 36, substantially as shown in Figure 7. The hook is inserted through the slots 30, 32, in such a manner that portion 35 passes through both slots, portion 36 being in back of strap 10 and portion 34 being in front of strap 11.

When the straps, which are arranged in scissors fashion, as observed, are closed, that is to say when the rack is collapsed, the hook portion 34 lies alongside the cutting plane of the scissors formed by straps 10 and 11 and in front of strap 11; the portion 36 will lie alongside the cutting plane in back of an adjacent strap 10, the corner of portion 36 being caught and engaged by the hump 31 on strap 10, so that the hook is held tightly against the rack. When the scissors is opened, that is to say, when the rack is distended, the upper portion of strap 11 will move to the right with respect to the pivot 12. So moving it will pull the hook over towards the left hand edge of slot 30 and in a manner that will be observed from Figures 5 and 8 will cause the strap to be projected transversely to the plane of the scissors, such action being automatically effected in response to the distending of the rack.

Collapsing of the rack from its distended position will cause the hook to return to its original position to lie alongside the rack in such a manner as not to interfere with free handling of the rack.

It will be observed at this time that in the embodiment shown the straps 10 and 11 and the hook itself are made of strap metal of substantial weight and thickness and that the parts are stampings of the desired form. In this manner the hook construction is made relatively inexpensive.

It will also be observed that in the embodiment shown, distending of the rack automatically causes the legs to be moved to rack supporting position and simultaneously and also automatically causes the hooks to be moved to article supporting position. Collapsing of the rack causes the legs to be moved to a position where they are close to the rack and at the same time the hooks are automatically turned so that they are alongside the rack and do not project therefrom.

Now having described the invention and an embodiment of the same, reference will be had to the following claims which determine the scope of the invention, it being understood that the same are not to be limited to the specific details of construction shown and described.

What I claim is:—

1. In combination, a pair of stiff straps pivotally connected to each other and arranged scissors fashion, slots in said straps adjacent the pivot and positioned to be alined when the scissors is in its most nearly closed position, and an ogee shaped hook having three portions, the two end ones of which are substantialy parallel, and are connected by the transverse intermediate portion, the last mentioned portion being passed through the strap apertures, so that the end portions are on opposite sides of the scissors cutting plane.

2. In combination, a pair of stiff straps pivotally connected to each other and arranged scissors fashion, slots in said straps adjacent the pivot and positioned to be alined when the scissors is in its most nearly closed position, and an ogee shaped hook having three portions, the two end ones of which are substantially parallel and are connected to the transverse intermediate portion, the last mentioned portion being passed through the strap apertures, so that the end portions are on opposite sides of the scissors cutting plane, both end portions being longer than the slots and the intermediate portion so that the hook cannot be removed from the straps without difficulty.

3. In combination, a pair of stiff straps pivotally connected to each other and arranged scissors fashion, slots in said straps adjacent the pivot and positioned to be alined when the scissors is in its most nearly closed position, and an ogee shaped hook having three portions, the two end ones of which are substantially parallel, and are connected by the transverse intermediate portion, the last mentioned portion being passed through the strap apertures, so that the end portions are on opposite sides of the scissors cutting plane, one of the slots being wider than the other, and arranged to be out of alinement with the other when the scissors is in its most nearly open position.

4. In combination, a pair of stiff straps pivotally connected to each other and arranged scissors fashion, slots in said straps adjacent the pivot and positioned to be alined when the scissors is in its most nearly closed position, and an ogee shaped hook having three portions, the two end ones of which are substantially parallel, and are connected by the transverse intermediate portion, the last mentioned portion being passed through the strap apertures, so that the end portions are on opposite sides of the scissors cutting plane, the two end portions lying alongside the cutting plane when the scissors is closed and projecting transversely thereof when the scissors is open.

5. In a diplay rack, a grille formed of a plurality of relatively stiff straps pivotally connected to one another in the fashion of a lazy-tongs pantograph, and a leg or supporting construction for said rack, including a pair of legs, pivotally connected to each other at their lower extremities, each being pivotally connected to the grille at their upper extremities, the legs being arranged in the form of a V, and a pair of braces, each of which is connected at its lower extremity to a lower corner of the grille and at its upper extremity to a leg.

6. In a display rack, a grille formed of a plurality of relatively stiff straps pivotally connected to one another in the fashion of a lazy-tongs pantograph, and a leg or supporting construction for said rack, including a pair of legs, pivotally connected to each other at their lower extremities, each being pivotally connected to the grille at their upper extremities, the legs being arranged in the form of a V, and a pair of braces, each of which is connected at its lower extremity to a lower corner of the grille and at its upper extremity to a leg, the legs and braces being movable automatically towards the grille as the latter is collapsed and away from the grille as the latter is distended.

7. In a display rack, a grille formed of a plurality of relatively stiff straps pivotally connected to one another in the fashion of a lazy-tongs pantograph, and a leg or supporting construction for said rack, including a pair of legs, pivotally connected to each other at their lower extremities, each being pivotally connected to the grille at their upper extremities, the legs being arranged in the form of a V, and a pair of braces, each of which is connected at its lower extremity to a lower corner of the grille and at its upper extremity to a leg, the legs and braces being adjustable in length.

8. In a display rack, a grille formed of a plurality of relatively stiff straps pivotally connected to one another in the fashion of a lazy-tongs pantograph, and a leg or supporting construction for said rack, including a pair of legs, pivotally connected to each other at their lower extremities, each being pivotally connected to the grille at their upper extremities, the legs being arranged in the form of a V, and a pair of braces, each of which is connected at its lower extremity to a lower corner of the grille and at its upper extremity to a leg, the legs and braces being movable automatically towards the grille as the latter is collapsed and away from the grille as the latter is distended, said grille also having a plurality of

article supporting hooks mounted on the straps adjacent pivotal intersections so as to lie along the grille plane when the grille is collapsed and to project transversely from the grille plane when the grille is distended, said hooks being movable automatically to and from each of their positions by and upon collapsing or distending of said grille.

In testimony whereof I affix my signature.

N. B. RANDALL.