April 6, 1943. L. V. LUCIA ET AL 2,315,532

SHIPPING CONTAINER

Filed Oct. 3, 1940

Fig. 1.

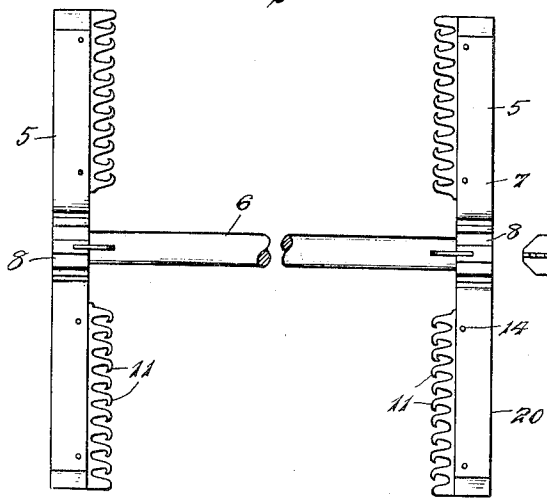


Fig. 2.

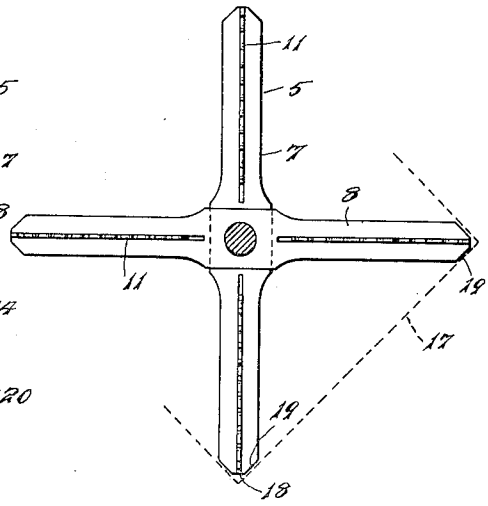


Fig. 3.

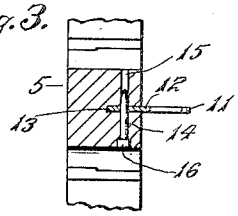


Fig. 6.

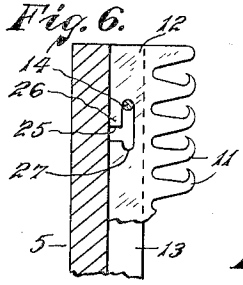


Fig. 4.

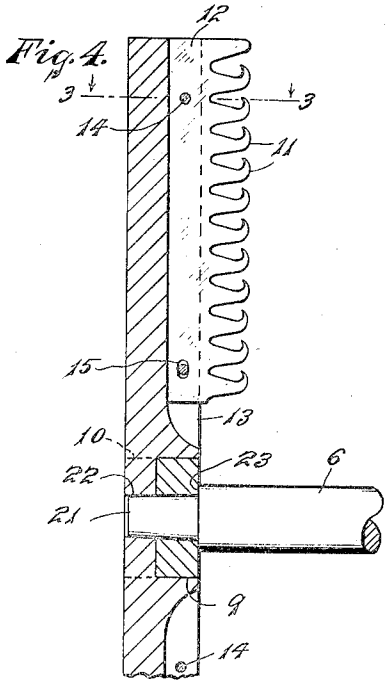
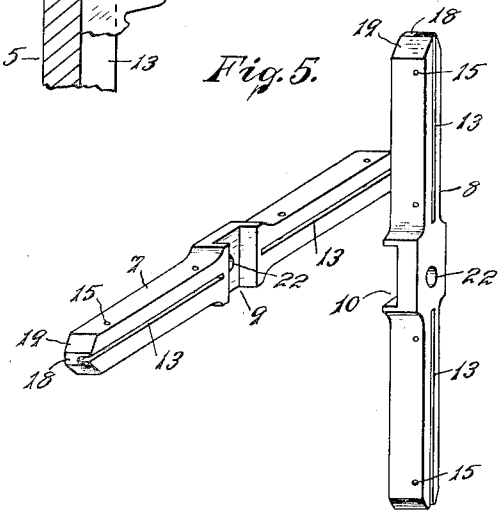


Fig. 5.



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Patented Apr. 6, 1943

2,315,532

UNITED STATES PATENT OFFICE

2,315,532

SHIPPING CONTAINER

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Application October 3, 1940, Serial No. 359,572

5 Claims. (Cl. 206—51)

This invention relates to cloth winding racks such as shown and described in Patent No. 1,969,303 to Charles D. Gaudreau, August 7, 1934, which are particularly intended for holding velvet, or the like, in such a manner that the different turns, or layers of the fabric, are spaced apart so that they will not come into contact with each other and thereby prevent damage to the nap of the fabric.

Since such racks are usually discarded after the fabric has been removed therefrom, it is highly desirable that a rack for this purpose should be very inexpensive and yet possess the necessary strength to prevent breakage thereof in shipment.

The object of this invention, therefore, is to produce a rack which is extremely simple in construction and which can preferably be made of wood, or similar low-cost material, so as to reduce the cost thereof to the lowest degree.

A further object of the invention, is to produce such a rack that is light in weight, easy to assemble, convenient to use, and which will fit within a shipping carton in such a manner that it will not break through or damage the carton when roughly handled in transit.

Further objects and novel advantages of this invention will be more clearly understood from the following description and from the accompanying drawing in which:

Fig. 1 is a side view of a winding rack embodying our invention.

Fig. 2 is a front view of one of the end members of said rack.

Fig. 3 is a fragmental view on line 3—3 of Fig. 4.

Fig. 4 is a side view of a portion of said member in central vertical section.

Fig. 5 is a perspective view of one of said members disassembled to illustrate the construction thereof.

Fig. 6 is a view illustrating a modified form of our invention.

As shown in the drawing, a rack embodying our invention may comprise the end members 5, 5, which are connected in spaced relation by means of a bar 6.

Each of said members is preferably cross-shaped and constructed of two sections 7 and 8 which are notched, as at 9 and 10, so as to fit partly within each other to present a single thickness. The said sections may be secured together by nails or a suitable adhesive.

Each of said sections provides arms for supporting the hooks 11, in opposed relation within the rack, upon which the fabric is supported.

The said hooks are preferably provided by means of stamped plates 12 containing the desired number of the hooks and which plates are fitted within slots 13 in the end cross members and secured thereto by means of pins or nails 14 which are inserted in holes 15 that extend across said slots so that said pins may be passed through openings in the plates which register with said holes.

In order to reduce the time required for assembling the said plates to the cross arms, the said holes are drilled to correspond with the position of the openings in the plates and, to accommodate for any discrepancy between the distance of the holes in the arms and the holes in the plates, which may be caused by shrinkage or expansion of the cross arm material, one of the holes in the plate is elongated as at 15. This provides for ease in assembling the said plates to the cross arms since it simply requires pushing of the nails into the holes and through the plates. The said nails may then be driven so that the heads 16 thereof will be forced into the material to bind the nails so that they will not be accidentally removed. It will be noted that the holes 15 are drilled through the arms so as to permit removal of the nails should it be desired to detach a plate from a cross member or to replace the same should the hooks thereof be damaged.

The central portion of each of the sections 7 and 8 are enlarged in width in order to provide the necessary strength for resisting the pull of the material which is suspended within the rack and the plate supporting portions thereof are reduced in width so as to render the hooks more accessible for attaching the edges of the fabric thereto.

The corners of the ends of the cross arms are cut at right angles to provide squareness to the said end members so that the said ends will fit against the corners of the inside of a shipping carton, as illustrated by the dotted line 17 in Fig. 2, and the points of said cross members are cut off, as at 18, to prevent damage to said carton. The right angular formation at the ends of said cross arms provides flat surfaces 19 which will rest against the walls of the carton to support the rack thereon without damaging the said carton. Further, it will be noted that the outer sides of said end members present an unbroken surface 20 which contacts with the inside surface of the carton ends so as to support the weight of the rack and material thereon and distribute the said weight evenly over the area of the carton ends to prevent damage thereto.

When the fabric is wound on such racks, a

considerable pull is exerted tending to draw the end members together and it is therefore necessary that maximum strength be provided to resist this pull. Under such pull, the section 7, which is on the outside of the rack, will tend to bend inwardly and squeeze the sides of the notch 9 against the sides of the section 8 and thereby reinforce the said section. The section 8, which will also tend to bend inwardly, does not have such a reinforcement. Therefore, in order to strengthen the same, it will be noted that the notch 9 in the section 7 is deeper than the notch 10 in the section 8 to thus provide more material at the weakest point of the section 8 than there is in the section 7. The strength in said sections is thereby provided in proportion to the action upon them by the pull of the fabric and their resistance to the said pull, as well as to any pressure applied against the ends of the rack, such as during shipment or handling, is thereby equalized.

The ends of the bar 6 are provided with reduced portions 21 which extend through the holes 22 that are drilled in the center of the cross members and which provide a shoulder, 23, at each end of the bar, which will bear against the inner surface of the cross members to support them in spaced relation against the pull of the material thereon. The said reduced portions are preferably tapered and the holes are drilled straight to permit proper fit of said reduced portions in the holes and provide the necessary tolerance to accommodate any discrepancies that may occur to effect a proper fit.

As shown in Fig. 5, the plates 12 may be formed to include therein a notch 25 adapted to form a hook 26 to receive the fastening pin 14. In this construction, the plate 12 may be readily assembled to the end members by inserting them in the slots over the pins 14 and then moving them towards the center of the rack to engage the pins within the hooks 26. When the cloth material is wound on the rack the plates will be pulled inwardly thereon and thereby prevent accidental disengagement of the plates. Should the plates at the bottom of the rack, slide outwardly before the cloth material is attached thereto, the pins would be received in the portion 27 of the notches and thereby prevent the said plates from dropping out.

With this construction, our invention provides a further advantage since it permits assembling of the hook plates to the racks, just prior to the winding of the cloth thereon, and thereby eliminates the possibility of damage to said hooks such as could occur in the handling of the racks.

It will be understood from the above description that we have provided a rack which is highly efficient and economical to produce and which can be readily assembled just prior to winding the fabric thereon, so as to permit the hook plates 12 being assembled to the cross arms just before the fabric material is wound on said racks and thereby limit the possibility of damage to said hooks before use.

We claim:

1. A cloth winding rack of the character described comprising in combination, slotted end members, plates having a plurality of hooks, one of said plates being mounted in each of the slots of said end members with the hooks projecting inwardly in said rack, and means for releasably anchoring said plates in the slots in said end members.

2. A cloth winding rack of the character described comprising in combination, slotted end members, and plates having a plurality of hooks, one of said plates being releasably secured in each of the slots of said end members with the hooks projecting inwardly in said rack.

3. A cloth winding rack of the character described, wherein a rack has end members formed of radial arms, wherein the end members are connected by a centrally positioned bar, and wherein hook plates are carried by the radial arms, the arms of the racks being longitudinally slotted with the slots extending radially of the longitudinal axis of the centrally positioned bar, and the hook plates being seated and secured in the arm slots with the hooks extending inwardly from the end members in the direction of the bar, the securing of the hook plates in the slots comprising pins extending across the slot and through said plate.

4. A cloth winding rack of the character described, wherein a rack has end members formed of radial arms, wherein the end members are connected by a centrally positioned bar, and wherein hook plates are carried by the radial arms, the arms of the racks being longitudinally slotted with the slots extending radially of the longitudinal axis of the centrally positioned bar, and the hook plates being seated and secured in the arm slots with the hooks extending inwardly from the end members in the direction of the bar, the securing of the hook plates in the slots comprising pin and bearing slot connections between the slotted arms and hook plates.

5. For a rack of the character described, an end member comprising a pair of elongated sections secured together to form a cross-shaped member having arms adapted to support a plurality of hooks thereon extending inwardly in said rack; the said sections having the intermediate portions thereof oppositely notched to permit a connection between said sections whereby the surface thereof is disposed substantially upon a single plane; the section disposed outwardly in said rack having the sides of the notch therein bearing against sides of the intermediate portion of the other section, whereby the intermediate portion of the said outwardly disposed section is reinforced; the other section, which is disposed inwardly in said rack, having the intermediate portion thereof of greater thickness, whereby the said section is rendered substantially equal in strength with the outwardly disposed section in said rack.

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