June 25, 1940. A. F. McBRYDE 2,205,820

CURTAIN STRETCHER

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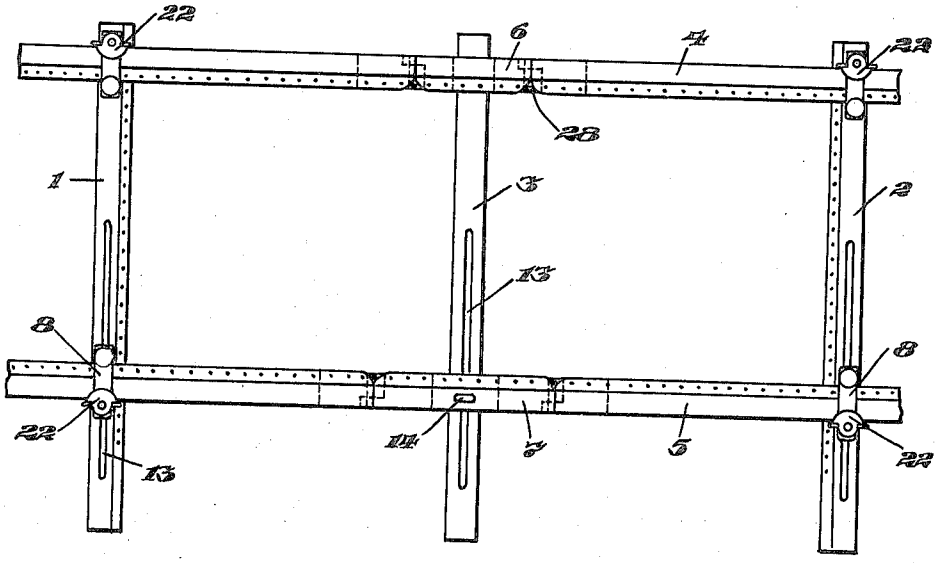
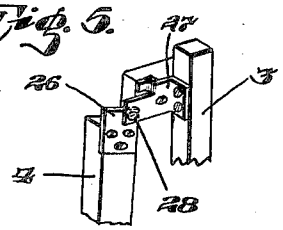


Fig. 1.

Fig. 6.



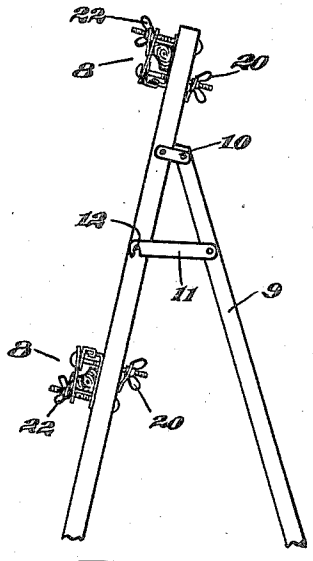


Fig. 3.

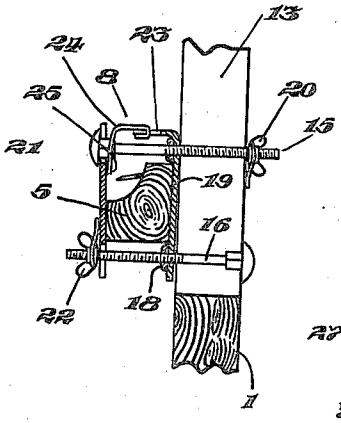


Fig. 4.

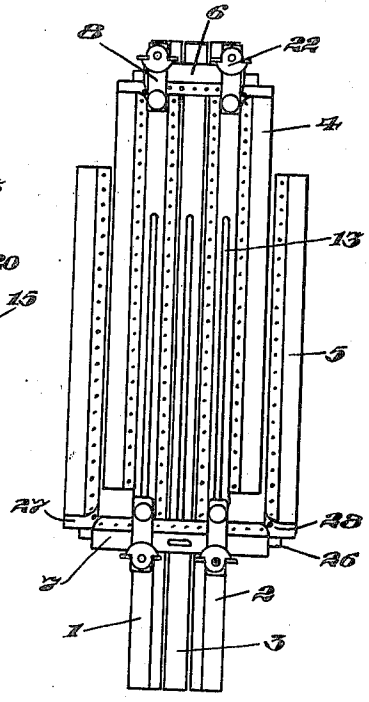


Fig. 2.

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CURTAIN STRETCHER

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3 Claims. (Cl. 45—24)

My invention relates to folding curtain stretchers intended for mounting all kinds of curtains and draperies in stretched condition and which can be easily collapsed or folded into a small and convenient arrangement for storage and carrying from one place to another.

Although various folding curtain stretchers have been proposed they have not come into general use due to the fact that the added convenience in their use was not sufficient to justify the added expense and complications involved. Furthermore, these devices were not so reliable or sturdy as the old original bar and rail construction in common use.

The object of my invention therefore is to produce a folding curtain stretcher which will be more convenient and simpler in use than others and which has almost none of the disadvantages of other folding stretchers. In other words, my aim is to provide a folding curtain stretcher which shall be relatively economical to manufacture adding only very slightly to the cost of a non-folding stretcher and at the same time, making it just as convenient and simple as possible so that the user will be justified in paying a slight extra cost for the added convenience.

In my curtain stretcher therefore I avoid any unnatural or complicated sliding or hinging arrangements. There are in fact only three simple operations all of which would be quite obvious to an unskilled person rather than arrangements which in effect would be a mechanical puzzle to the average housewife who would be expected to use such devices. This is especially important to the commercial success of a folding curtain stretcher because unless the mechanical operation of folding up the stretcher or setting it up is extremely simple, the person having no mechanical inclination would not be at all interested because she would be afraid of trouble from the mechanical complications and would prefer to stick to the old construction which has to be taken apart and put together with bolts.

In the accompanying drawing I have shown for purposes of illustration one embodiment which my invention may assume in practice. In the drawing:

Fig. 1 is a front elevation view of the curtain stretcher set up for use;

Fig. 2 is a front elevation view of the stretcher in folded condition;

Fig. 3 is a side elevation view of the stretcher set up with the horizontal rail shown in section;

Fig. 4 shows a detail of one of the clamping devices; and

Fig. 5 is a perspective view showing one of the hinged constructions.

The stretcher comprises generally vertical side bars 1, 2, a vertical center bar 3 and upper and lower horizontal rails 4 and 5, respectively. The horizontal rails are formed principally in two sections hinged to cross-arms the upper one of which is designated by the numeral 6 and the lower one by the numeral 7, the cross-arms being mounted on the vertical center bar 3. The vertical side arms are connected to the horizontal rails by clamps generally designated by the numeral 8. There are also the usual propsticks 9 hinged to the vertical bars at 10 and carrying hooks 11 which engage over small pins 12 on the vertical bars when the frame is set up. The above few elements comprise the total general features of construction which the user need know about and it will be readily seen that the whole arrangement is symmetrical and extremely simple.

We shall now explain the detailed construction of the various units which makes the simple folding operation possible. One of the horizontal rails will be in relatively fixed position with reference to the vertical bars and the adjustment provided by movability of one of the rails relative to the bars. In the present case, the upper rail is shown in relatively fixed position and the lower rail adjustable to any position along the slots 13 of the rails. To provide for such adjustment the lower cross-arm is connected to the center bar by a bolt 14 of usual design extending through the slot and the clamps 8 which carry the ends of the horizontal rail 5 are as units adjustable vertically in the slots 13 since the entire clamp is supported on a screw or bolt 15. The head end of the bolt 16 which projects through the frame acts as a guide in the slot 13 during vertical adjustments of the clamp. In making vertical adjustments therefore of the lower rail 5 the thumb nuts 17 will be loosened and also the thumb nut on the screw 14.

The bolt 15 is fixed by soldering or screw threads 18 to the bar 19 of the clamp and at its end carries a thumb nut 20 which when tightened holds the bar 21 of the clamp tightly against the rail 5. For horizontal adjustments all of the four thumb nuts 22 are loosened and the vertical bars moved to any desired position on the horizontal rails. The clamp bar 19 is turned at a right angle to form an end portion 23 and

preferably a spring 24 is fixed to the same and extends across the bolt to engage at 25 on the inner side of the bar 21. Therefore, when the thumb nut 22 is loosened this spring will tend to push the bar 21 outwardly from the wooden rail to prevent sticking.

It will be noted that the cross-arm 6 is somewhat shorter than the cross-arm 7 for a purpose which will readily appear. The ends of rails 4 and 5 are joined to these cross-arms 6 and 7 by a recessed hinged construction preferably on the back sides of the rails. Each hinge comprises metal plates 26 and 27 attached to the ends of the bars to be joined by suitable screws and connected together by a pivot bolt or rivet 28, the pivot axis being very close to that edge of the rail which faces the other rail.

The operation of my improved curtain stretcher will be readily apparent in view of the above description. Assuming that the curtain stretcher is in use as shown in Fig. 1 and it is desired to fold it up, it is merely necessary to loosen the four front thumb nuts which control the horizontal adjustment of the side bars, move the bars inwardly toward the center and fold the ends of the horizontal rails into parallel overlapping relation, the ends of the upper rail being first folded downwardly and the ends of the lower rail being then folded upwardly. This provides a convenient assembly for carrying about, storing or transportation. There are no parts to become lost or to be put in place when it is again desired to put the stretcher in use. It is merely necessary to reverse the order of operations in setting up the stretcher for use.

While I have shown and described in this application one embodiment which my invention may assume in practice, it will be understood that this embodiment is merely for the purposes of illustration and that various other forms may be devised within the scope of my invention as set forth in the appended claims.

What I claim as my invention is:

1. A folding curtain stretcher comprising horizontal members and vertical members, the horizontal members being formed in sections hinged together, the sections of the horizontal member being hinged adjacent one of the vertical members, and means for mounting said other vertical members on the horizontal members, said mounting means surrounding the horizontal members and being slidable over said hinged connections to a position against said first vertical member to allow folding of the horizontal member sections into parallel relation with said first vertical member.

2. A folding curtain stretcher comprising vertical side bars, a center bar, horizontal rails each comprising a cross-arm carried by the center rail and side members hinged to opposite ends of the cross-arm, and clamping means adjustably connecting said side bars to the horizontal rails slidable over the hinged connections of said cross-arms and side members to allow the side bar to be moved against the center bar and said side members folded into vertical overlapping position along said side bars.

3. A folding curtain stretcher as defined in claim 2 wherein each of said clamping means comprises two metal bars on opposite parallel sides of the horizontal rail and bolts passing through said metal bars and through a slot in the adjacent vertical bar of the stretcher, the clamping means for holding said lower horizontal rail to said vertical bars having both of its bolts adjustably fixed in the metal bar between the horizontal rail and the vertical stretcher bar, one of the bolts having a thumb nut on the end which passes through the vertical bar, and the other of the vertical bolts having a thumb nut on the end which passes through the horizontal rail.

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