Sept. 3, 1940. W. J. EVANS 2,213,879

PINLESS CURTAIN STRETCHER

Filed Aug. 26, 1938

FIG. I.

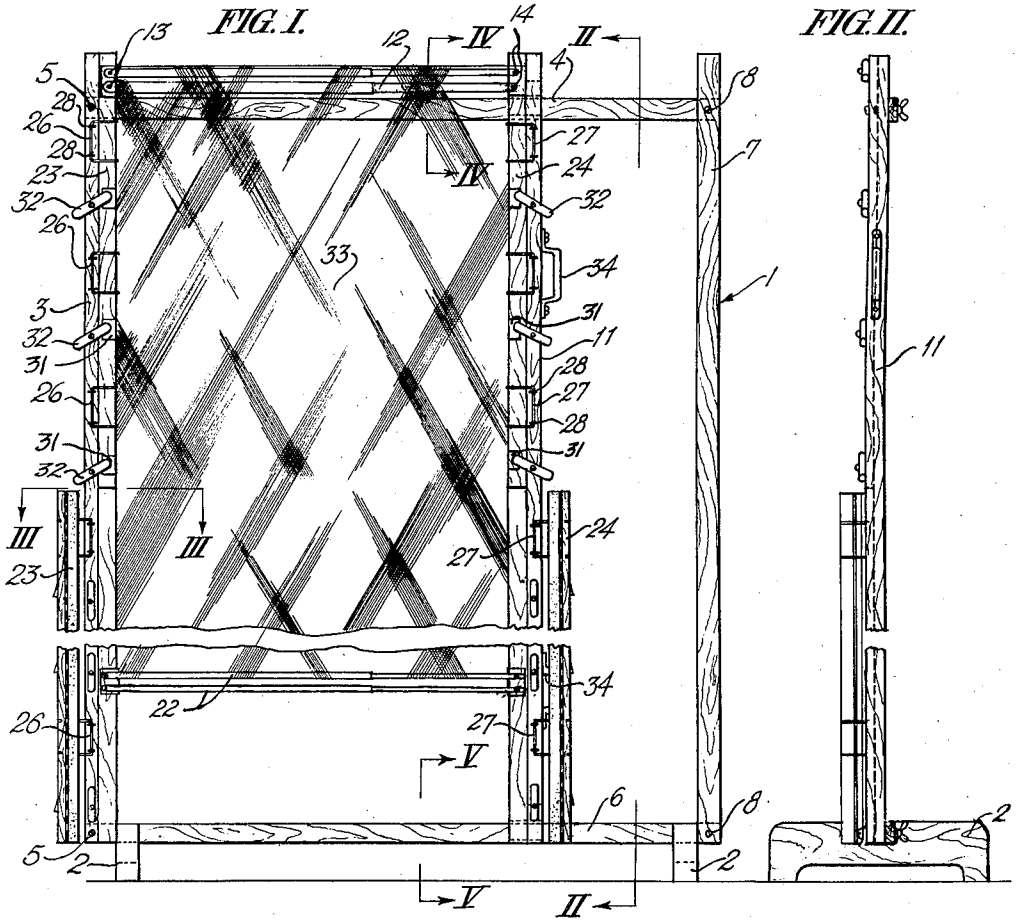


FIG. II.

FIG. III.

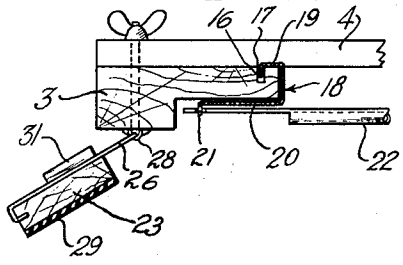


FIG. V.

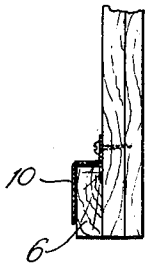


FIG. VI.

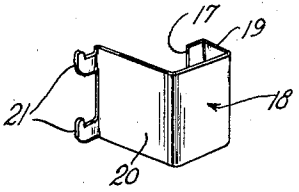
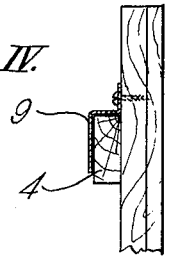


FIG. IV.



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PINLESS CURTAIN STRETCHER

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4 Claims. (Cl. 45—24)

This invention relates to curtain stretchers and more particularly to a device adapted to hold a curtain or the like with uniform tension or stretch throughout the edges thereof.

A major object of the present invention is to provide a simple, inexpensive device for stretching curtains, when wet and heavy, in the same normal position that they will usually hang and without producing "scallops" in the edges thereof.

Prior to my invention numerous devices have been proposed to stretch wet curtains. The most common of these utilizes a frame usually mounted with the longitudinal axis in a horizontal position, the frame being provided with a large number of closely spaced pins on which the edges of the curtains must be hooked individually. Placing curtains on such stretchers is very tedious, time consuming and the operator almost invariably pricks his fingers on the pins. Other types have been provided in which the curtains may be stretched longitudinally but without any means being provided to prevent the sides of the curtain from pulling inwardly due to the longitudinal stretch. One of the main disadvantages of the prior stretchers is that they are not adapted to permit uniform stretching the full length and width of the curtain.

According to the present invention I provide means for holding the curtain from one end so that it hangs under the action of gravity to give a preliminary stretch and then I provide means to further stretch longitudinally and clamp the sides to prevent "bowing" inwardly.

Accordingly a further object of the present invention is to provide a simple, inexpensive device for simultaneously stretching curtains longitudinally and transversely thereof throughout the full extent thereof.

Another object is to provide a novel and improved device for frictionally engaging said curtains throughout the full length thereof.

Another object is to provide an improved device for supporting the upper and lower edges against "bowing" while permitting the lateral margins of the curtain to be clamped and the curtain stretched transversely.

Another object is to provide an improved stretching device that can be easily and quickly adjusted to stretch curtains, or the like, of various lengths and shapes and hold such curtains free of any wrinkles or scallops in the edges and which will be inexpensive, durable and efficient.

Other and further objects of the invention will appear from the following description taken in connection with the accompanying drawing, in which;

Figure I is a front elevation of a device embodying the present invention, showing a curtain in place.

Figure II is a side elevation on the line II—II of Figure I.

Figure III is a horizontal section on line III—III of Figure I.

Figure IV is a vertical section along line IV—IV of Figure I.

Figure V is a vertical section along line V—V of Figure I; and

Figure VI is a perspective view of the guide and rod holding unit shown in detail section in Figure III.

Referring to the drawing an illustration of the invention comprises an upright frame 1, preferably supported by suitable feet or pedestals 2. The frame 1 has one side member 3 which serves as part of the frame and as one of the clamping members for one side of the curtain to be stretched. Suitable upper and lower cross members 4 and 6, respectively, are secured to the side member 3 by means of bolts 5, the member 3 being recessed to hold the cross members in fixed angular relation with respect to the side member 3. The second side member 7 is secured to the cross members in like manner by means of bolts 8.

For the purpose of providing means to stretch the curtains laterally a clamping member 11, similar to the combination side frame and clamping member 3, is slidably mounted on the upper and lower cross members 4 and 6 through means of the Z-shaped members 9 and 10 suitably secured to member 11 as shown in the details of Figures IV and V.

Suitable telescopic rods 12 have one end supported by screws 13 on the side member 3 and the other ends are supported by the clamping member 11 by means of suitable screws 14. It is to be noted that the cross section of members 3 and 11 is as shown in Figure III and that the screws 13 and 14 are located in the notch, in order that the edge of the curtain will be in a position to be clamped in a manner presently to be described.

In order that a wet curtain may be stretched from corner to corner means are provided to adjustably hold the upper and lower edges of the curtain in a position for the clamping means to engage the curtain from end to end of the lateral margins regardless of the position of the ends when the curtain is stretched the desired amount. Since the construction of the clamping members 3 and 11 is substantially identical only clamping member 3 will be described. To this end, the side and clamping member 3 has a narrow groove 16 in its back face in which a tongue 17 of a guide member 18 is adapted to slidably engage. The guide member 18 comprises a U-shaped member having a short leg 19, with which the tongue 17 is contiguous, and which is adjacent to the back face of member 3, and a long leg 20 embracing the front face thereof The leg 20

has integral protuberances 21, on which one end of telescopic rods 22 may be held. The ends of the rods 22 are flattened in order that the rod will not prevent the functioning of the clamp. Although only two rods 22 are shown, it is to be understood that this number may be varied as desired without departing from the spirit of the invention.

The clamping members 3 and 11 are provided with clamping bars 23 and 24 which are preferably in two or more sections. The sections are hinged to the members 3 and 11, as at 26 and 27. The hinges may be conventional construction or, as shown, may consist of heavy, stiff wire secured to the clamps 23 and 24 by suitable staples, or the like, and may be pivotally supported on the members 3 and 11, respectively by other staples 28. The above preferred construction facilitates clamping of the side of the curtain by permitting flexing of the clamps 23 and 24 as the edge is progressively tightened.

The inner faces of the clamps are provided with a resilient strip 29, which may be rubber or like material which has sufficient friction for the curtain and which is resilient enough to yield over the ends of the telescopic rods 22 and at the same time hold the curtain substantially throughout the full length of the edges. In order that the edge of the curtain may be progressively clamped and allow for further stretching suitable tightening means may be provided to hold the clamps tight against the bottom of the notch. To this end, a plurality of small wedges 31, having an outer face inclined to the clamping bar are provided, against which suitably pivoted elements 32 may be engaged to hold the clamping bars tight against the curtain.

In using the construction above described a curtain, or the like, indicated at 33, having a looped hem is placed on one of the upper telescopic rods 12 and likewise a hem in the lower end of the curtain is placed on one of the lower rods 22. The left hand side of the curtain will then be given a preliminary stretch by pulling the lower rod down, if desired, to a prearranged mark to stretch the curtain a definite amount. The clamping bars 23 are then clamped down to hold the left hand edge of the curtain. Next the right hand edge of the curtain is stretched preferably to a prearranged mark and then the curtain is stretched transversely by moving the clamping member 11 to the right by means of the handles 34. When the curtain is wet and is stretched laterally no means are needed to hold the clamping member 11 since the friction of the wet curtain will prevent it from sliding back on the rod 12.

From the foregoing it will be readily apparent that I have provided a simple, inexpensive, and durable curtain stretching device which is capable of simultaneously stretching curtains along all four margins thereof.

Whereas, I have described my invention by reference to specific forms thereof, it will be understood that many changes and modifications may be made without departing from the spirit of the invention defined in the following claims:

Having described my invention, I claim:

1. A curtain stretcher comprising an open frame adapted to be supported with its longitudinal axis in a vertical position and having side members and upper and lower cross members joining said side members, one of said side members serving also as a curtain clamping member, said latter member having a longitudinal recess in its back face, a guide member in the form of a U-shaped member having one leg adjacent and parallel to the front face of said side member, a second leg adjacent to the back face of said side member and a tongue integral with and perpendicular to said second leg engaging said recess, means carried by said leg adjacent the front face of said side member to support a telescopic rod transversely of said frame, and a clamping element pivotally carried by said side member and adapted to clamp a curtain between the latter and said clamp element above and below said guide member whereby the lateral margin of a curtain, or the like, may be held in a stretched condition longitudinally and transversely thereof simultaneously.

2. A curtain stretcher comprising an open rectangular frame adapted to be supported with its longer axis in a vertical position, said frame having side members and upper and lower cross members joining said side members, one of said side members also serving as a curtain clamping bar, a second clamping bar slidably mounted on said cross members, said clamping bars having a longitudinal recess in their back faces, a guide member carried by each of said clamping bars in the form of a U-shaped member having one leg adjacent and parallel to the front face of said clamping bars, a second leg adjacent to the back face of said clamping bars and a tongue integral with and perpendicular to said second leg and engaging the recesses in the respective bars, a telescopic rod having its opposite ends carried by said guide members, a clamp element pivotally carried by each of said clamping bars and adapted to clamp the respective lateral margins of a curtain between the latter and said clamp elements above and below said guide members and telescopic rod, said clamping elements having resilient faces to yield over said telescopic and to hold the lateral margins of a curtain throughout the full extent thereof to permit simultaneous stretching of a curtain laterally and transversely.

3. A curtain stretcher comprising a frame having side members and end members joining said side members, one of said side members having a clamp arranged along the length thereof for frictionally holding one lateral margin of a curtain, a second curtain clamping member slidably supported on said end pieces and having a clamp arranged along a substantial portion of the length thereof for holding the other margin of a curtain, telescopic means substantially parallel to said end members fixed against longitudinal movement with respect to said one curtain clamping side member and said second clamping member for holding one end of a curtain, and telescopic means extending between said latter members and slidably associated therewith over and throughout the longitudinal extent of said clamps, whereby a curtain may be simultaneously stretched longitudinally and transversely thereof while permitting any degree of adjustment of the amount of stretch in either direction.

4. A curtain stretcher as set forth in claim 3, in which the clamps are provided with resilient faces to yield over said telescopic means to hold the lateral margins of a curtain throughout the full extent thereof, thereby permitting any degree of the amount of adjustment in either direction.

WILLIAM JOY EVANS.