Feb. 28, 1950 J. V. PIERCEY 2,498,963

CURTAIN STRETCHER ROLLER

Filed Feb. 15, 1946

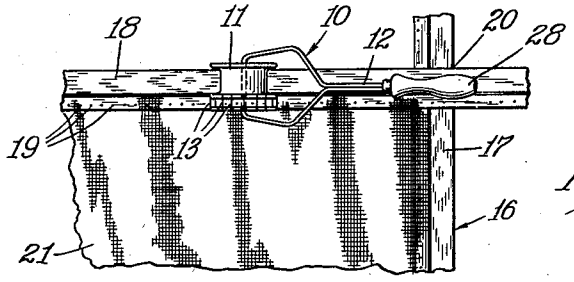


Fig. 1.

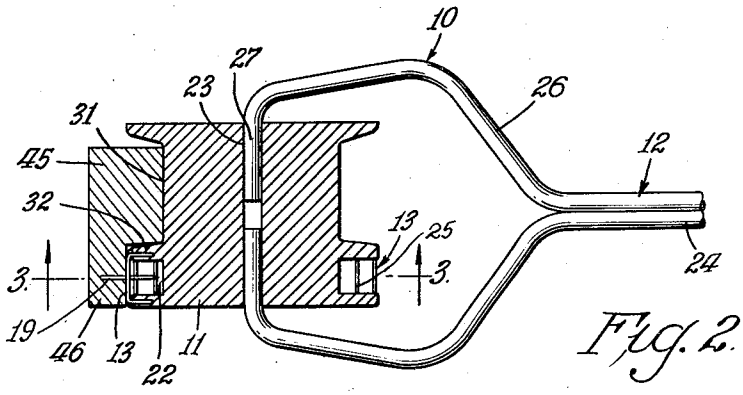
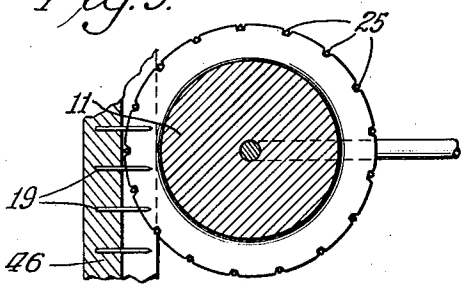


Fig. 2.

Fig. 3.



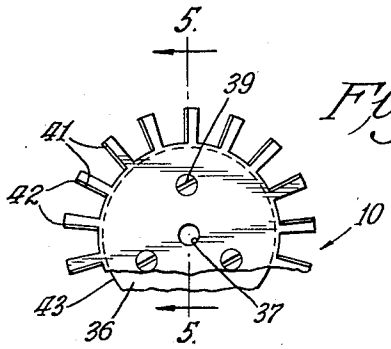
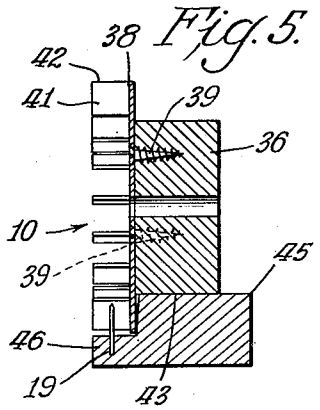


Fig. 4.

Fig. 5.



Inventor
James V. Piercey

By Stone, Artman + Bisson

Attys.

Patented Feb. 28, 1950 2,498,963

UNITED STATES PATENT OFFICE

2,498,963

CURTAIN STRETCHER ROLLER

James V. Piercey, Chicago, Ill.

Application February 15, 1946, Serial No. 647,914

7 Claims. (Cl. 81—3)

1

The invention relates to a roller device for conveniently and quickly attaching curtains and similar fabrics to a curtain stretcher.

A curtain stretcher of the type with which the roller device is used comprises four side frame members adjustably connected to each other at their ends to form a square or rectangular frame of sufficient dimensions to accommodate the curtains to be stretched or dried thereon. To maintain the curtain on the curtain stretcher frame, a row of small pins are secured to each side frame member so that they project therefrom. The pins may be immovably secured to the frame members or secured in such a manner that they may be slid along the frame member until spaced so as to hold the curtain without undue tension at any one portion.

A curtain is attached to a curtain stretcher of this type by manually engaging the edge of the curtain with the individual pins. This is accomplished by the operator holding the curtain near its edge and pushing the curtain edge successively over the pins against the curtain stretcher frame. While this manner of attachment provides a secure engagement of the curtain with the pins, such method is inconvenient and unpleasant in that the hands and fingers of the operator are being constantly pricked by contact with pin points. Moreover, such method of attaching the curtain to the stretcher is slow and laborious.

Despite these objections, the conventional curtain stretcher is widely used because of the efficiency with which the curtain is dried without wrinkling and because of the accuracy with which the curtain is stretched to the desired size. Such a curtain stretcher is inexpensive and is easily manipulated except for the necessary step of engaging the curtain with the pins.

The disadvantages hitherto attendant to the attaching of a curtain to the conventional curtain stretcher of this type have been eliminated by the curtain stretcher roller provided by this invention. Through the use of this roller, the curtain is secured to the pins of the stretcher frame without the hands or fingers of the operator coming into contact with the pin points, and much more rapidly than where the curtain is individually engaged with the pins.

The curtain stretcher roller device embodying the invention is in the form of a spool which is rotatably supported by a handle so that the spool may be rolled along the curtain stretcher frame. The spool includes a number of pusher members which operate to force the curtain over

2

the pins as the spool is moved along the frame. By the use of the curtain stretcher roller, the curtain is attached to the pins of each frame member by merely moving the roller over the edge of the curtain and along the frame with the pusher members of the spool in alignment with the pins. The curtain is automatically forced over the pins by the pusher members as the spool rolls along the frame. The roller provides rapid and convenient attachment of the curtain to the curtain stretcher, and one in which there is no necessity for contact of the operator's fingers with the pins.

In addition to the feature of utilizing pusher members to effect engagement of the curtain with the pins of the curtain stretcher, the invention provides means whereby the roller device is guided along each frame member in proper alignment with the pins. The guide feature increases the rapidity and convenience of the attachment of the curtain to the stretcher frame because it insures automatic alignment of the pusher members with the pins.

In view of the foregoing, it is an object of the invention to provide means whereby a curtain may be rapidly and conveniently attached to a curtain stretcher without contact of the operator's hands or fingers with the pins projecting from the curtain stretcher frame.

It is a more specific object of the invention to provide a curtain stretcher roller having a plurality of pusher members which are adapted to effect engagement of the curtain with the pins of the curtain stretcher frame.

It is also an object of the invention to provide a curtain stretcher roller having pusher members for attaching curtains to a curtain stretcher which includes means for guiding the roller along the curtain stretcher frame so that the pusher members are in correct alignment with the pins of the curtain stretcher frame.

In the drawing, in which like reference characters refer to like parts:

Fig. 1 is a view of one corner of a curtain stretcher frame showing the manner of use of the curtain stretcher roller embodying the invention;

Fig. 2 is an enlarged sectional view of the spool portion of the curtain stretcher roller;

Fig. 3 is a sectional view taken on lines 3—3 of Fig. 2;

Fig. 4 is an elevational view of the spool of a modified form of the invention; and

Fig. 5 is a fragmentary view taken on lines 5—5 of Fig. 4.

As illustrated in Figs. 1, 2 and 3, the curtain stretcher roller 10 comprises a spool 11 rotatably supported by a handle 12, the spool including pusher members 13 suitably secured to the spool. The curtain stretcher roller 10 is adapted to be used with a curtain stretcher of the type generally indicated at 16 which includes curtain stretcher side frame 17. The curtain stretcher frame 16 is of rectangular form as provided by a plurality of stretcher frame members 17 and 18 which engage each other at corners 20 in such a manner that the dimensions of the frame 17 may be varied as desired, within wide limits. At spaced points along each of the stretcher frame members 18 are secure pins 19 which generally comprise a pointed end to facilitate attachment of the curtain and a shank of suitable length to adequately support the curtain 21 attached thereto. Preferably, the pins 19 are secured to the stretcher members along a portion of decreased thickness extending the length of such members. A cross section of side frame members 18 is illustrated in Figs. 2 and 5, and shows the main body portion 45 and pin ledge 46. The pins 19 are sufficiently close together so that the curtain 21 is not subject to undesirable tension at any single point.

In the preferred form of the invention as shown in Fig. 2, spool 11 includes pin channel 22 formed around the circumference or periphery of the spool. Preferably, the pin channel 22 is at one end of the spool and is of sufficient width and depth to receive pins 19. Across the pin channel 22 are secured pusher members 13 adapted to force the curtain 21 over the pins 19. Each of the pusher members 13 extends into the body of the spool 11 a sufficient distance to effect a secure engagement thereto. In this embodiment of the invention, the pusher members 13 comprise sections of thin rod or wire which are spaced along the pin channel 22 a distance similar to that between pins 19 on the stretcher frame. The pusher members 13 are of sufficient rigidity to force the fabric over pins 19, as well as either to be deflected or to cause the pins to be deflected when the members occasionally contact the pins as the roller is moved along the frame. It is desirable that the axially extending pusher portions 25 of the pusher members (that is, the pusher members proper) be of minimum thickness as to facilitate such deflection of either the pin or pusher member. These pusher portions 25 are spaced radially from the spool so the pins 19 can enter therebetween without contacting the spool. Since the dimension of the pusher portions 25 of the pusher members 13 are thin in a direction circumferentially of the spool in comparison to the circumferential spacing of these members, said members can be regarded as defining spaces therebetween spaced circumferentially of the spool and of greater extent circumferentially of the spool than the individual extent of such members circumferentially of the spool.

The spool 11 is rotatably supported by handle 12 which engages the spool at center opening 23. The handle 12 comprises shank 24 which is divided near the spool into fork 26. Spindle portions 27 are provided at the ends of the fork for engaging the spool within opening 23. Hand grip 28 may be secured to shank 24 for convenient operation of the curtain stretcher roller.

A further feature of the invention is the provision of guide means on the spool 11 which enables the pusher members 13 to be aligned with the pins 19 as the roller is moved along the stretcher frame. In the preferred embodiment of the invention, the guide means comprises guide channel 31 which is provided on spool 11 as shown in Figs. 1 and 2. Guide channel 31, adjacent to channel 22, is of a width greater than that of the main body portion 45 of frame member 18. The channels 22 and 31 are separated by wall 32 and the bottom of the channel 31 constitutes one peripheral section of the spool while the bottom of channel 22 constitutes an adjacent peripheral section. The pusher members proper 13 register radially of the spool with said adjacent peripheral section.

In the operation of the curtain stretcher roller, the curtain is held by the operator with its edge or hem adjacent to pins 19. The roller 10 is then moved along the frame member 17 with pusher members 13 in alignment with the pins. As the roller is moved along the frame, the pusher members 13 pass between the pins and force the curtain over the pins, the shank of the pins entering and withdrawing from the pin channel 22 as the device is moved. Upon contact of an edge 25 with a pin, the pin or the pusher member is deflected so that the pin passes the edge 25 and enters the pin channel.

In a modified form of the invention as shown in Figs. 4 and 5, the curtain stretcher roller 10 includes spool 36 of cylindrical shape and having center opening 37 formed therein. To one end of the spool 36 is attached a rigid disc-like member or plate 38 of a diameter greater than that of the spool so as to provide a circumferential end wall thereof, the plate 38 being secured to the spool by suitable fastening means 39. Plate 38 includes blades (pusher elements or members) 41 which are bent from the plate so that they extend radially from the spool. Outer edges 42 (pusher portions) are provided by the blades 41, the edges 42 extending in a plane substantially parallel to the axis of the spool. These edges or pusher portions 42 are spaced both radially and axially from the spool. As in the case of pusher members 13, it is desirable that the edges 42 of the blades be of minimum thickness to facilitate passage of the edges between the pins 19. Edges 42 of the blades are similar to edges 25 of the pusher members 13 in that they form the outer limit of the space in which the pins 19 enter as the roller is moved along the frame.

In this modified form of the invention, the guide means is provided by the cylindrical surface 43 of the spool 36 adjacent to the plate 38. By holding the plate in the channel between the main body portion 45 and the pin ledge 46, the surface 43 maintains the blades 41 in alignment with the pins 19.

Having thus described my invention, what I claim as new and wish to secure by United States Letters Patent is:

1. A roller for use with a curtain stretcher having a frame with pins projecting therefrom at spaced points which comprises a cylindrical spool having a channel around its periphery, a handle rotatably engaging the spool at the center of at least one end thereof, and a plurality of pusher members secured to the spool at spaced points and each having a thin outside edge extending across the channel, said channel being of sufficient depth and width to receive the pins when the roller is moved along the frame.

2. A roller for use with a curtain stretcher having a frame with pins projecting therefrom at spaced points which comprises a cylindrical spool having a pin channel and an adjacent guide chan-

nel around its periphery, a handle rotatably engaging the spool at the center of at least one end thereof, and a plurality of pusher members secured to the spool at spaced points and each having a thin outside edge extending across said pin channel, the guide channel being of greater width than that of the frame and the pin channel being of sufficient width and depth to receive the pins as the roller is moved along the frame.

3. A roller for use with a curtain stretcher having a frame with pins projecting therefrom at spaced points which comprises a cylindrical spool, a handle rotatably engaging the spool at the center of at least one end thereof, and a rigid disc-like member of a diameter greater than that of the spool centered on one end of the spool, said member having a plurality of blades which extend radially from the spool and each of which provides a thin edge extending in a plane substantially parallel to the axis of the spool.

4. For use with a curtain stretcher frame member of the type having a pin ledge carrying a row of pins spaced laterally from and extending lengthwise of a main body portion, a circumferentially flanged spool rotatably mounted on a handle, the flange having a width axially of the spool less than the distance between the main body portion of the frame member and the row of pins on the pin ledge, and a plurality of like spaced rigid pusher members projecting outwardly from the flange axially of the spool and spaced circumferentially thereof, said pusher members defining spaces therebetween, and the extent of said spaces circumferentially of the spool exceeding the extent of the pusher members circumferentially of the spool.

5. In a roller for use with a curtain stretcher having a frame with a row of pins projecting therefrom at spaced points, a cylindrical spool, a handle rotatably engaging the spool at the center of at least one end thereof, and a plurality of pusher members mounted on the spool in spaced relation circumferentially thereof, said pusher members having pusher portions projecting axially of the spool in spaced relation circumferentially thereof, and said pusher portions being also spaced from the spool and defining circumferentially spaced spaces therebetween for receiving

the pins incident to rolling of the roller on the frame beside said row of pins.

6. In a roller for use with a curtain stretcher having a frame with a row of pins projecting therefrom at spaced points, a spool having a cylindrical periphery and a circumferential end wall, a handle rotatably engaging the spool at the center of at least one end thereof, and a plurality of pusher members mounted on said end wall in circumferentially spaced relation with respect to the spool and projecting from such wall axially of the spool, and said members defining spaces therebetween spaced circumferentially of the spool and of greater individual extent circumferentially of the spool than the individual extent of such members circumferentially of the spool, to facilitate such spaces receiving the pins when the roller is rolled upon the frame along said row of pins.

7. A roller for use with a curtain stretcher having a frame with a row of pins projecting therefrom at points spaced along such row, a spool having a cylindrical periphery, flange means extending circumferentially of the spool intermediate the length thereof for maintaining one circumferential section thereof in rolling relation upon said frame pursuant to the spool being rolled upon the frame in parallelism with said row of pins, an adjacent circumferential section of the spool being adapted to register with said row of pins during rolling of the one section along the frame, and curtain pusher elements mounted upon said spool at a position spaced radially from and in registration with said adjacent circumferential section, and said pusher elements being spaced apart to receive the pins therebetween incident to pressing the curtain onto the pins.

JAMES V. PIERCEY.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,007,067	Yarger	July 2, 1935
2,369,452	Gamache	Feb. 13, 1945