March 29, 1955 D. G. AMADO 2,704,906

CURTAIN STRETCHER

Filed Oct. 22, 1952

FIG. 3.

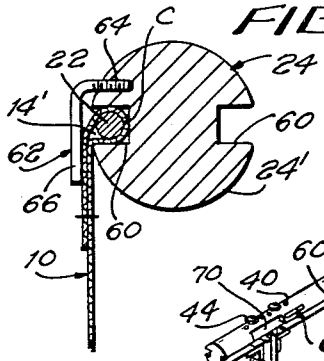
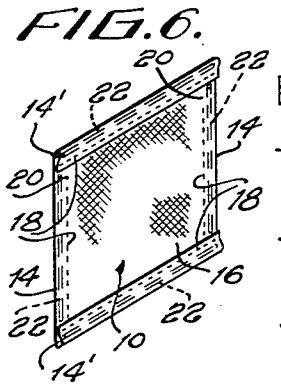


FIG. 1.

FIG. 4.

FIG. 6.



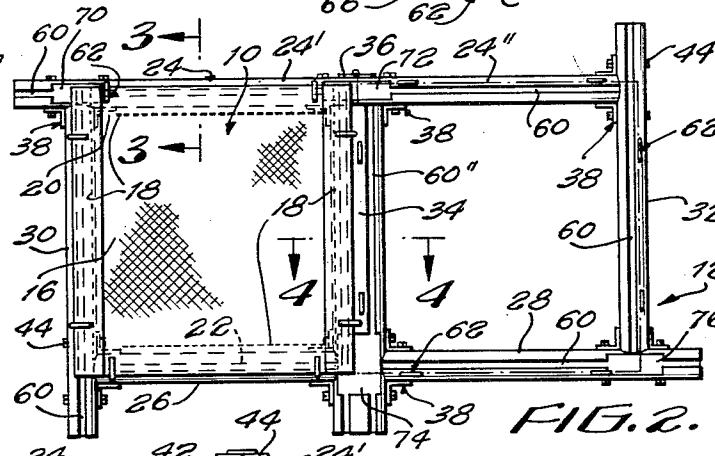
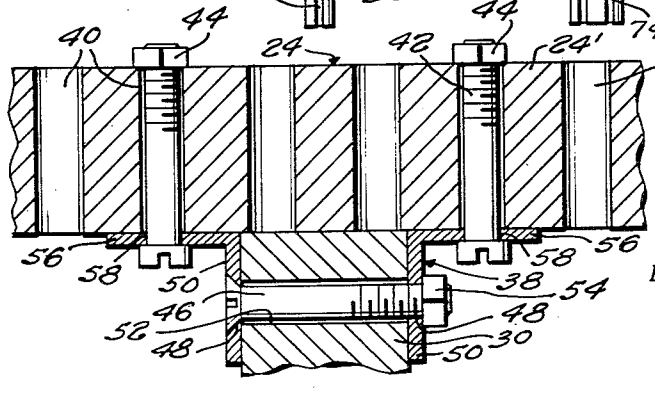


FIG. 2.

FIG. 5.



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2,704,906

CURTAIN STRETCHER

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5 Claims. (Cl. 45—24)

This invention relates to curtain stretchers generally, and, more particularly, to curtain stretchers of the pinless type.

It is the primary aim and object of the present invention to provide a curtain stretcher of the above character which is more quickly applied to a curtain, requires for its application to a curtain less skill, and stretches a curtain more uniformly, than the conventional pin type curtain stretchers.

It is another object of the present invention to provide a curtain stretcher of the above character which, in contrast to the pin type curtain stretchers, is not liable to tear a curtain being stretched.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description considered in connection with the accompanying illustrative drawings.

In the drawings:

Fig. 1 is a perspective view of a curtain stretcher formed according to the present invention;

Fig. 2 is a front elevational view of a curtain stretcher showing a curtain mounted in position for stretching;

Fig. 3 is a sectional view, on an enlarged scale, taken on the line 3—3 of Fig. 2;

Fig. 4 is a sectional view, on an enlarged scale, taken on the line 4—4 of Fig. 2;

Fig. 5 is a sectional view, on an enlarged scale, taken on the line 5—5 of Fig. 1; and

Fig. 6 is a perspective view of a curtain having associated therewith certain elements of the curtain stretcher of the present invention.

The present application is a continuation in part of my application Serial No. 74,777 for Curtain Stretcher, filed February 5, 1949, and now Patent No. 2,630,652.

Referring to the drawings, and more particularly to Fig. 6 thereof, there is shown a curtain **10** which is an example of a curtain suitable for mounting on the stretcher **12**. The curtain **10** may be of rectilinear configuration as shown and is provided with longitudinally extending pockets **14** along the margins thereof, said pockets being conventionally formed by folding back the outer margins of the body **16** of the curtain and sewing them to the latter as indicated at **18**. The horizontally disposed pockets **14'** may be of endless construction and the vertically disposed pockets **14** may be formed in any suitable manner so that access may be gained thereto, for example the stitching **18** may be interrupted at one or more of the curtain corner portions to provide passages **20** through which to introduce certain separate parts of the curtain stretcher **12** into the pockets **14**. Thus each of the marginal edges of the curtain **10** is provided with a longitudinally extending pocket **14** and such pockets are adapted to receive the longitudinally extending rods **22** which constitute elements of the curtain stretcher assembly **12**. The initial step in stretching the curtain **10** is to insert the rods **22** into the pockets **14** of said curtain in a manner which will be obvious from the above and thereafter this curtain assembly is associated with the stretcher **12** proper which will be described in detail hereinafter.

The stretcher **12** comprises an upper horizontal frame member **24**, a pair of lower horizontal frame members **26** and **28**, a pair of outer vertical frame members **30** and **32**, and an intermediate vertical frame member **34**, each of said frame members being adapted to be adjustably and detachably assembled to each other in a manner which will be described in detail below. Each of the frame

members **24, 26, 28, 30** and **32** are of the circular cross section as indicated in Fig. 3, whereas the frame member **34** is of elongated cross section, as clearly shown in Fig. 4. The frame members may be formed of any suitable rigid material, for example wood, metal, plastic and the like. The upper horizontal frame mmeber **24** is preferably formed of two parts **24'** and **24''** which are hingedly secured to each other by means of the hinge **36**. Thus the frame member **24** when detached from the remainder of the stretcher assembly **12** may be readily folded for convenience in transporting and storing said frame member. The means for adjustably and detachably assembling the stretcher frame parts to each other is constituted by the angle brackets **38** and associated structure.

With reference to Fig. 5, it will be noted that the part **24'** of the frame member **24** is apertured therethrough at uniformly spaced intervals as indicated at **40**, said apertures being adapted for the reception of the bolts **42** which are adapted to extend through said apertures **40** with said bolts being retained in secured position by means of the nuts **44**. More particularly, a pair of angle brackets **38** are secured to the frame member **30** by means of the bolt **46** which extends through the aligned apertures **48** of the legs **50** of brackets **38** and the aperture **52** of the frame member **30**. The bolt **46** is adapted to receive the nut **54** for maintaining the angle brackets **38** in secured position on the frame member **30**. The legs **56** of the angle brackets **38** are apertured therethrough as indicated at **58** and said apertures are adapted for the reception of the bolts **42** aforedescribed. From the above it will be apparent that the part **24'** of the frame member **24** may be axially adjusted relative to the frame member **30** within a predetermined range and may be maintained in adjusted position by means of the bolts **42** and nuts **44**, said bolts extending through the apertures **40** of the part **24'** in a position corresponding to the adjusted position of said part. The part **24'** of the frame member **24** may be readily dissembled from the frame member **30** by removing either the bolt and nut, **46** and **54**, respectively, or the bolts and nuts, **42** and **44**, respectively. Although the adjustability feature illustrated and described is constituted by the series of spaced apertures **40** and associated structure it will be understood that if desired the part **24'** may be provided with a conventional longitudinally extending slot which is adapted for the reception of the bolts **42** for maintaining the associated stretcher parts in adjustably secured position. The remaining frame members are adjustably and detachably assembled to each other in a similar manner wherefor no useful purpose will be served by describing all of the connections between the associated frame members in detail. The intermediate frame member **34** is secured to the frame member **24** through the intermediation of the brackets **38** which are adjustably mounted relative to said frame members in the manner aforedescribed whereby the frame member **34** may be adjusted axially of the frame member **24**. The remaining angle brackets **38** are adjustably mounted relative to their associated frame members, the frame member **26** being vertically adjustable relative to its associated frame members **30** and **34**. Similarly the frame member **28** is vertically adjustable relative to the frame member **34** and the frame member **32** is axially adjustable relative to the frame member **28**. The frame part **24''** of the frame member **24** is adjustable axially of the frame member **32** in the aforedescribed manner wherefor it will be seen that each of the frame members are adapted to be adjustably and detachably assembled to each other through the intermediation of their associated angle brackets **38** and companion structure. As previously noted each of the frame members provided with spaced apertures **40** for the adjustable provision aforedescribed may have substituted therefor an elongated slot wherefor a degree of adjustment may be obtained corresponding to the length of such slot. It will be apparent that the distance between the frame members **30** and **32** may be varied as the frame member **30** is adjustable axially of the part **24'** and the frame member **32** is adjustable axially of the frame member **28**, it being noted that the frame member **34** is adjustable axially of the frame member **24**.

Each of the frame members **24, 26, 28, 30** and **32** are provided with a pair of diametrically opposed longi-

tudinally extending slots **60** which are formed complementary to the rods **22** and are adapted for the reception thereof, as best shown in Fig. 3. More particularly, each of the slots **60** are adapted to receive rods **22** and their adjacent curtain portions *c* which are adapted to be releasably retained in said slots by means of the L-shaped brackets **62**. The brackets **62** are provided with a threaded shaft portion **64**, which is threaded in the frame members, and a retainer portion **66**, which is adapted to be pivoted about the shaft portion **64** to a securing position for retaining the rods **22** and adjacent curtain portions *c* in the slots **60**. Selected brackets **62** may be readily removed from the frame members whereby the latter will have smooth unencumbered surfaces for a purpose which will become apparent from the description which follows. Each of the slots **60** has a plurality of such brackets **62** associated therewith to provide for the releasable securement of the rods **22** and associated curtain portions *c* in the slots **60** at spaced intervals. It will be evident that for releasing the rods **22** from the slots **60** it is merely necessary to pivot the brackets **62** about their shaft portions **64** to a position in which said rods will clear the retainer portion **66** of said brackets.

The frame member **34** is formed in a structurally similar manner and is provided with spaced pairs of diametrically opposed longitudinally extending slots **60'** and **60''** which are formed structurally similar to the slots **60** aforedescribed. The frame member **34** is symmetrical about both its longitudinal and lateral axes and the slots **60'** are adapted to be associated with the slots **60** of the frame part **24'** and frame members **26** and **30** in the normal application of the stretcher **12**. Similarly, the longitudinally extending slots **60''** of the frame member **34** are adapted to be operatively associated with the frame part **24''** and frame members **28** and **32** in the normal application of the curtain stretcher. However, as it will be seen from the description which follows, the various frame members may be operatively associated with each other in a variety of ways depending on the particular curtain stretcher application. Thus each of the frame members of the stretcher **12** is provided with a series of forwardly positioned slots and a series of rearwardly positioned slots in order to provide for the drying of a plurality of curtains simultaneously, as will be readily apparent.

With reference to Fig. 2, there is shown a curtain **10** associated with the stretcher **12** in position to stretch the curtain. As previously noted the curtain initially has the rods **22** positioned in the pockets **14** and such assembly is associated with the stretcher **12** in the manner aforedescribed. More particularly, the frame part **24'** and frame members **26**, **30**, and **34** are adjusted to correspond to the size of the curtain **10** and each of the rods **22** positioned in the pockets **14** are received in the forwardly positioned longitudinally extending slots **60** of the frame part **24'** and frame members **26** and **30** and in the forwardly positioned longitudinally extending slot **60'** of the frame member **34**. Each of the rods **22** and adjacent curtain portions *c* are maintained in said slots by means of the brackets **62** aforedescribed in detail which are pivoted to the rod retaining position, as shown in Fig. 3. Thus the frame members associated with the curtain **10** are maintained in spread-apart position to stretch the curtain. Another similar curtain may be stretched by the stretcher **12** by associating said another curtain with the rearwardly positioned slots of the same frame members utilized for stretching curtain **10**. Similarly the opposite portion of the stretcher **12** may be utilized in a similar fashion whereby it will be readily apparent that four curtains **10** may be simultaneously stretched by the use of the instant apparatus. Furthermore curtains of different sizes may be simultaneously stretched on the instant apparatus by the utilization of the adjustable provisions aforedescribed.

The universal application of the instant stretcher may be further illustrated by the fact that unusually long or wide curtains may be stretched by positioning said curtain on the stretcher **12** in doubled-over fashion or partially doubled-over fashion. More particularly, a curtain to be stretched may have one end thereof secured in the forwardly positioned slot **60** of member **30** and may have its other end secured either in the forwardly positioned slot **60** of member **32**, rearwardly positioned slot **60** of the same member, rearwardly positioned slots, **60''** and **60'**, of the member **34**, or the rearwardly positioned slot **60** of the member **30** at which the first curtain end is secured. Similarly one end of a curtain to be stretched may be secured in the forwardly positioned slot **60** of the member **26** and the other end of said curtain may be secured to the rearwardly positioned slot **60** of the frame part **24'** or to the rearwardly positioned slot **60** of the member **26** in which the first end of the curtain is secured. The above applications of stretching a curtain by the instant apparatus are given by way of example only and are not to be construed in any limiting sense. It will be noted that all of the frame members are smoothly contoured and free from sharp corners at the points where portions of a curtain might contact as when such curtain is associated with the stretcher **12** in a doubled-over fashion. Thus when a curtain is so associated with a stretcher **12** there is no danger of tearing of the curtain in that all the surfaces of the frame parts that might be in contact therewith are smoothly contoured.

It will be noted that the pairs of slots **60** of the frame members **24**, **26**, and **28** lie substantially in the same horizontal plane when the stretcher **12** is vertically disposed and the pairs of slots **60** of the frame members **30** and **32** lie in a common plane which is substantially perpendicular to said horizontal plane. The slots **60'** and **60''** of the member **34** are similiarly arranged whereby it will be apparent that there is provided a series of slots forwardly disposed of the stretcher **12** with another similar series of slots being disposed rearwardly of said stretcher. The instant curtain stretcher **12** lends itself most readily to adjustment to different sizes by the means specifically described above whereby curtains of different sizes may be readily stretched by the instant apparatus. The instant apparatus is extremely compact when disassembled in that each of the frame members is of a relatively short length except for member **24** which is foldable so as to also be of a relatively short length whereby such apparatus may be stored and transported with ease.

An end portion of the frame member **24**, adjacent its securement to the frame member **30**, is cutaway as indicated at **70** whereby to provide clearance for a rod **22** of indeterminate length positioned in the forwardly positioned slot **60** of the frame member **30**. A similar cutaway portion **70** will be provided for the rearwardly positioned slot **60** of the frame member **30** whereby the frame member **24** will be provided with two such cutaway portions **70** so as to provide clearance for rods **22** which may extend transversely of the frame member **24**. The frame member **24** is also cutaway at an intermediate portion as indicated at **72** to provide clearance for portions of a rod **22** which may be positioned in the slots **60'** and **60''** of the frame member **34**. The cutaway portion **72** will be formed on both sides of the frame member **24** whereby to provide the clearance of the character aforedescribed on both sides of stretcher **12**. The lower end of the frame member **34**, adjacent its securement to members **26** and **28**, is provided with a cutaway portion as indicated at **74** whereby to provide clearance for a rod **22** positioned either in the slots **60'** and **60''** of the frame member **34** or in the slots **60** of the frame members **26** and **28**. The cutaway portion **74** is formed on both sides of the stretcher as will be readily apparent whereby to provide the requisite clearance aforedescribed on both sides of said stretcher. Similarly the end portion of the frame member **28**, adjacent the securement of the latter to member **32**, is cutaway as indicated at **76** whereby to provide clearance for a rod **22** extending in the slot **60** of the frame member **32**. The cutaway portion **76** which will be formed on both sides of the frame member **28** for the reasons noted above are structurally similar to the cutaway portions **70** of part **24'**. From the above it will be apparent that rods **22** positioned in the forwardly or rearwardly slots **60** of the frame members **30**, **32**, and **34** may be of any length in that the stretcher **12** is provided with cutaway portions to provide clearance for any overhang of said rods. It will be apparent, that any rods **22** positioned in the slots **60** of the members **24**, **26** and **28** will not be interfered with by the frame member **34** due to the cutaway portions **72** and **74**, aforedescribed. Furthermore it will be understood that the cutaway portions **70**, **72**, **74** and **76** will extend for a sufficient distance corresponding to the range of adjustability of the frame members whereby to provide

clearance for the rods **22** for the full range of adjustability of the frame members.

The usual curtain is longer than its widthwise dimension and in such case the top edge of the curtain will be secured to one of the frame members **30** and **32** and the bottom edge of the curtain will be secured to the other of said frame members in the manner aforedescribed.

While I have shown and described the preferred embodiments of my invention, it will be understood that various changes may be made in the present invention without departing from the underlying idea or principles of the invention within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. A stretcher for a quadrilateral curtain having longitudinal pockets along the margins thereof, comprising separate longitudinal rigid rods insertable in the curtain pockets to extend along the margins, respectively, of the curtain, companion pairs of laterally spaced frame members with each of the latter having a pair of diametrically opposed longitudinally extending slots formed complementary to said rods and adapted for the reception thereof, means for releasably securing said rods in said slots, means for holding said companion pairs of frame members in spread apart position in a common plane with companion slots of said frame members being disposed in a common plane, said frame members having smooth unencumbered surfaces whereby to provide for the stretching of a curtain of greater dimension between opposite margins thereof than the spacing of a corresponding pair of frame members.

2. A stretcher for a curtain having endless pockets along at least two opposite margins thereof, respectively, comprising rods extensible through said curtain pockets, respectively, a pair of frame members each having a pair of diametrically opposed longitudinally extending slots formed complementary to said rods and adapted for the reception thereof, means for releasably securing said rods in said slots, means for holding said frame members in spread apart position to stretch the curtain with the slots of said frame members being in substantial alignment, and means for adjusting the spacing of said frame members for accommodating curtains of a range of sizes, said frame members having smooth unencumbered surfaces whereby to provide for the stretching of a curtain of greater dimension between opposite margins thereof than the spacing of said pair of frame members.

3. A stretcher for a curtain having endless pockets along at least two opposite margins thereof, respectively, comprising rods extensible through said curtain pockets, respectively, a pair of frame members each having a pair of diametrically opposed longitudinally extending slots formed complementary to said rods and adapted for the reception thereof, means for releasably securing said rods in said slots, and means for holding said frame members in spread apart position to stretch the curtain with the slots of said frame members being in substantial alignment, said pair of slots of each frame member lying in substantially the same horizontal plane when the curtain stretcher is vertically disposed, said frame members having smooth unencumbered surfaces whereby to provide for the stretching of curtains of greater dimension between said margins than the spacing of said frame members.

4. A stretcher for a rectangular curtain having pockets along the margins thereof, comprising separate rigid rods insertable in the curtain pockets to extend along the margins, respectively, of the curtain, an upper horizontal frame member, a pair of lower horizontal frame members, a pair of outer vertical frame members, and an intermediate vertical frame member, each of said frame members having a pair of diametrically opposed longitudinally extending slots formed complementary to said rods and adapted for the reception thereof with said intermediate frame member having an additional pair of diametrically opposed longitudinally extending slots symmetrically arranged relative to the other slots of said intermediate frame member, means for releasably securing said rods in said slots, and means for adjustably and detachably assembling said frame members to each other whereby a plurality of curtains of various sizes may be simultaneously stretched, said frame members having smooth unencumbered surfaces whereby to provide for the disposition thereover of portions of a curtain to be stretched.

5. A stretcher for a rectangular curtain having pockets along the margins thereof, comprising separate rigid rods insertable in the curtain pockets to extend along the margins, respectively, of the curtain, companion pairs of frame members with each of the latter having a longitudinally extending slot formed complementary to said rods and adapted for the reception thereof, means for releasably securing said rods in said slots, means for holding said companion pairs of frame members in spread apart position in a common plane to stretch the curtain simultaneously widthwise and lengthwise, means for adjusting the spacing of said companion pairs of frame members for accommodating curtains of various sizes, and a cutaway portion in communication with a companion slot and of at least corresponding depth on one of said frame members for providing clearance for any overhang of a companion rigid rod.

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