J. O. HOLMQUIST.

CURTAIN STRETCHER.

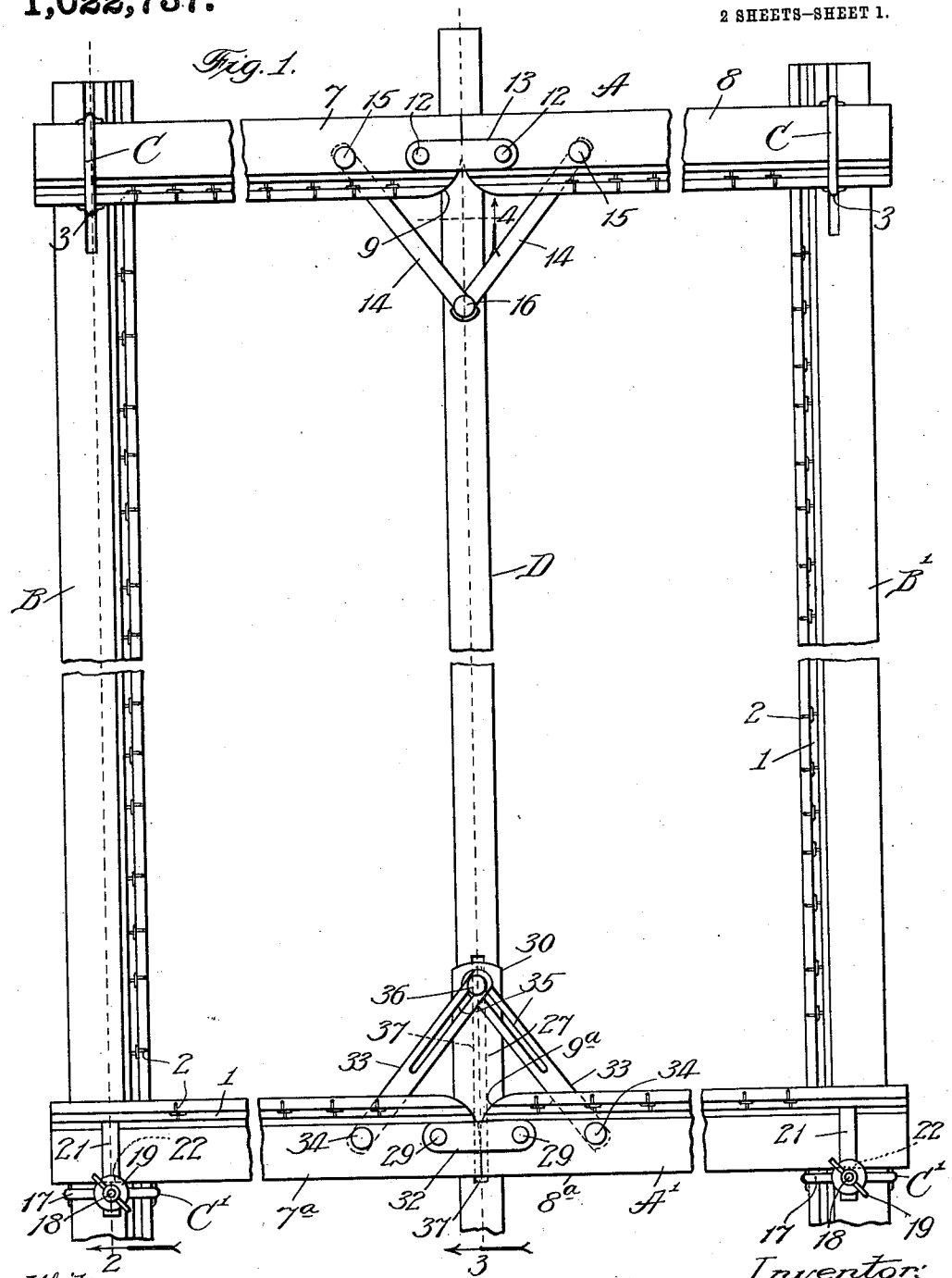
APPLICATION FILED NOV. 27, 1911.

1,022,737.

Patented Apr. 9, 1912.

2 SHEETS—SHEET 1.

Fig. 1.



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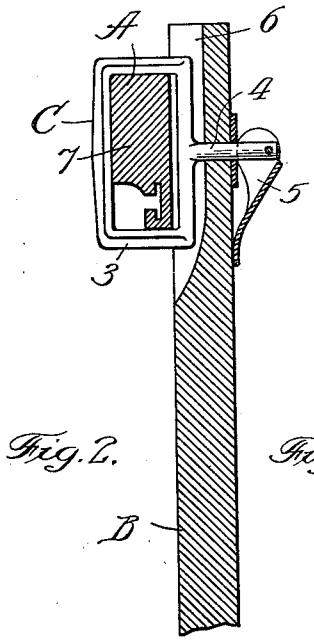


Fig. 2.

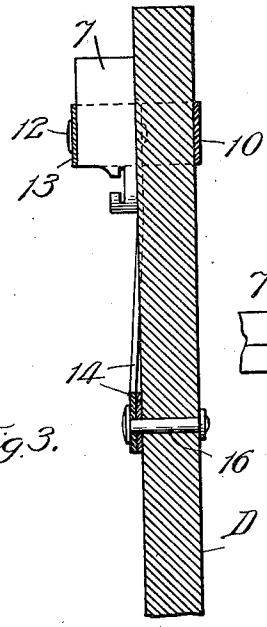


Fig. 3.

Fig. 4.

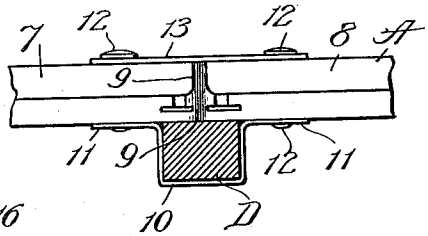
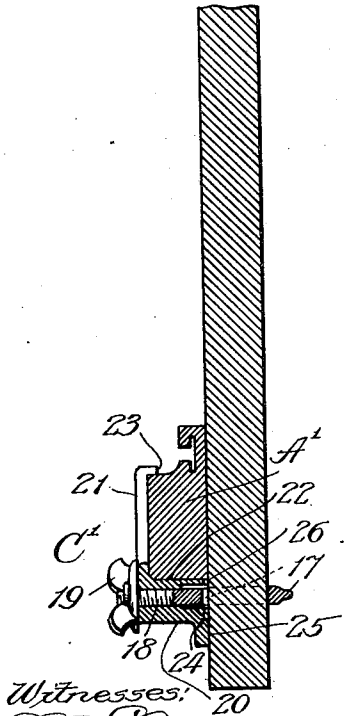
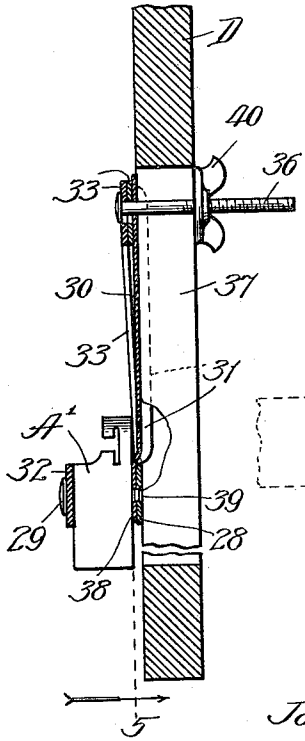
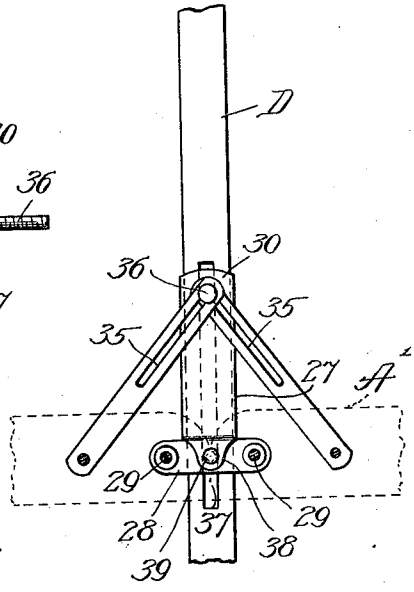


Fig. 5.







Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

JOHN OTTO HOLMQUIST, OF CHICAGO, ILLINOIS.

CURTAIN-STRETCHER.

1,022,737. Specification of Letters Patent. Patented Apr. 9, 1912.

Application filed November 27, 1911. Serial No. 662,610.

To all whom it may concern:

Be it known that I, JOHN OTTO HOLMQUIST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Curtain-Stretchers, of which the following is a specification.

The present invention constitutes an improvement on the curtain-stretcher disclosed in my United States Patent No. 992,717, granted May 16, 1911.

The primary object of the invention is to simplify and cheapen the construction of a self-squaring curtain-stretcher and to facilitate the adjustment of the central brace or guide-rod which unites the joint portions of the sectionally-constructed end-bars (so called) employed.

A further object is to provide an improved corner member for adjustably uniting the end-bars and side-bars, whereby slotting of the bars is obviated, without sacrificing either freedom of adjustability or security of connection.

The invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Figure 1 represents a broken plan view of a curtain-stretcher constructed in accordance with my invention; Fig. 2, a broken section taken as illustrated at line 2 of Fig. 1 and showing the corner clamps employed for uniting the end-bars and side-bars; Fig. 3, a broken section taken as indicated at line 3 of Fig. 1 and showing the connection between the sectional end-bar and the brace or guide-rod between said joints; Fig. 4, a broken section taken as indicated at line 4 of Fig. 1; and Fig. 5, a broken plan section taken as indicated at line 5 of Fig. 3.

In the form illustrated, the structure comprises a pair of sectionally constructed end-bars A, A^1; a pair of side-bars B, B^1; corner-connecting members C, C and C, C^1, serving, respectively, to connect the sectional end-bar A and the sectional end-bar A^1 to the side-bars; and a brace-bar, or guide-bar D, uniting the sectional end-bars at the joints thereof.

It may be explained here that the sectional bars A and A^1, while herein termed end-bars, are usually of greater length than the bars B B^1, which are herein termed side-bars. This nomenclature is used for the reason that it is common practice to set the frame up easelwise with the bar A at the top. However, the curtains are usually stretched with their ends attached to the bars B and B^1 and their lateral edges attached to the bars A, A^1, and the frame is accommodated to the size of the curtain by adjusting the bars B B^1 toward each other to suit the length of the curtain, and by adjusting the bar A^1 toward the bar A to suit the width of the curtain. I have shown the inner edge portions of the bars provided with grooves 1 in which are slidably mounted the hooks or pins 2, for attachment of the curtain.

The connections between the sectional end-bar A and the side-bars and between said sectional bar and the brace-bar D are the same as disclosed in my above-mentioned patent. Each corner-connection C comprises a loop 3 which receives the corresponding end portion of the sectional bar A and is equipped with a stem or shank 4 which passes through a perforation in the end portion of the side-bar and is fitted with a cam-lever 5, the upper surface of the side-bar being provided with a groove 6 to accommodate the base portion of the loop. The bar A is composed of sections 7 and 8 which are disposed in the same plane and have abutting meeting ends rounded at the inner corners, as indicated at 9, to enable the joint to "break" outwardly. The adjacent end of the brace-bar D passes beneath the abutting end portions of the bar-sections 7 and 8 through a loop or guide member 10, as will be understood from Figs. 1 and 4. The guide member 10 is really a U-shaped member with out-turned extremities or flanges 11, through which pass pivots 12 which extend through the bar-sections 7 and 8 and through a top plate or link 13 disposed above the joint between the bar-sections 7 and 8. Inwardly converging links 14 have their outer ends united by pivots 15 to the bar-sections 7 and 8 a short distance from their abutting ends; and the inner ends of the links 14 are joined to a common pivot 16 which extends through a perforation in the bar D.

The bar A^1 comprises sections 7^a and 8^a which correspond in all respects with the bar-sections 7 and 8 and are rounded at the inner corners of their abutting ends, as indicated at 9^a, to permit the joint to "break" outwardly.

Each corner member C^1 comprises a loop

17 adapted to slide on the corresponding side-bar and having an upwardly extending threaded stem 18 equipped with a nut 19; and an angular clamping member having a hollow arm 20 through which the shank 18 extends, and having an arm 21 at right-angles and adapted to embrace the upper or front surface of the bar A^1. The inner side of the hollow arm or post 20 has a flat surface 22 which embraces the outer edge of the bar A^1. The inner end of the arm 21 has a down-turned extremity or lug 23 which embraces the inner edge of the bar A^1. The lower end of the hollow member 20 is slotted, as indicated at 24 (Fig. 2) to receive the upper or front member of the loop 17, so that the clamping member will be maintained at right-angles to the plane of the loop 17. The base portion of the arm or post 20 is provided outside of the loop 17 with a heel 25 which is adapted to rest on the upper or front surface of the side-bar, while a space 26 is left between the bar 20 and the adjacent surface of the side-bar at the inner side of the loop 17. Thus, the heel 25 will serve as a fulcrum, so that the arm 21 will be caused to clamp the bar A^1 securely when the nut 19 is turned down.

The connections between the bar-sections 7^a and 8^a and the brace-bar D comprise a T-form guide-member 27 whose head-portion 28 is disposed beneath said bar-sections and is connected, by pivots 29, with the bar-sections 7^a and 8^a, and whose inwardly extending shank-portion 30 is provided with downwardly or rearwardly turned lateral flanges 31 adapted to embrace the edges of the brace-bar; a link or top-plate 32 disposed above the joint between the bar-sections and connected with the ends of the pivots 29; and inwardly converging links 33 whose outer ends are connected, by pivots 34, with said bar-sections and whose inner end portions are provided with slots 35 which receive a clamping-bolt 36 which extends through a perforation in the inner end of the stem 30 and through a longitudinal slot 37 with which the brace-bar D is provided.

The preferred manner of constructing the guide-member 27 is to form the shank 30 and the head 28 independently out of sheet-metal, and provide the outer end of the shank with a slightly offset extension or ear 38 which is secured, by a rivet 39, to the plate 28 which the extension surmounts. The connection is stiffened by having the outer ends of the flanges 31 abut against the inner edge of the plate 28, as will be readily understood from Fig. 3; and if desired, the joint may be soldered, also. The bolt 36 is preferably a long-bolt equipped with a thumb-nut 40 adapted to bear against the lower or back surface of the bar D.

From the foregoing description, it will be understood that the bars B, B^1 may be adjusted readily toward each other, or may be removed from the sectional bars A, A^1 to permit folding of the latter. In the folding operation, the joints of the sectionally constructed bars "break" outwardly, and the folding action is permitted by simply loosening the nut 40, after which the links 33 will slide on the bolt 36. The bar A^1 may be adjusted toward the bar A by loosening the nuts 19 and the nut 40, so that the loops of the corner members C^1 will slide on the bars B B^1, while the bolt 36 will slide in the slot 37.

It will be observed that the improved construction permits facile adjustment of the bar A^1, permits, also, easy folding of the structure, and provides a cheapened construction for the connection between the brace-bar D and the sectional bar A^1.

The foregoing detailed description has been given for clearness of understanding only, and no undue limitation should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

What I regard as new and desire to secure by Letters Patent is—

1. A curtain-stretcher comprising a pair of oppositely disposed sectional bars, each composed of two alined sections, guide-members crossing the joint where the sections of each bar meet and pivotally joined to said sections, a brace-bar having its opposite ends received slidably by said guide-members, one of said guide-members having an inwardly extending stem, a pair of links pivotally joined at their outer ends to the sections of one bar, said links having slots therein and said brace-bar having a slot therein, a clamping-bolt extending through said slots, and a pair of links having pivotal connection with said brace-bar near its other end and having their outer ends pivotally connected with the sections of the other sectional bar.

2. A curtain-stretcher comprising a pair of oppositely disposed sectional bars, each composed of two alined sections, a brace-bar, a guide-member pivotally connected with the two sections of one bar and slidably receiving one end of the brace-bar, links uniting said sections to the brace-bar, a guide-member pivotally connected at its outer end with the sections of the other bar and having an inwardly extending stem, inwardly converging slotted links having their outer ends connected with said last-named sections, and a clamping-bolt extending through the slots in said links, through a perforation in the inner end of said stem, and through a longitudinal slot in said brace-bar.

3. A curtain-stretcher comprising a pair of sectional end-bars, a pair of side-bars beneath the plane of said end-bars and adjust-

ably connected with said end-bars, a brace-bar beneath the plane of said end-bars and extending across the joints between the sections of said end-bars, a guide-member pivotally connected with the sections of one end-bar and slidably receiving one end of the brace-bar, links connecting said sections to the brace-bar, a T-form guide-member having its head portion disposed beneath the abutting ends of the sections of the other end-bar and pivotally connected with said sections, links pivotally connected with said last-named sections and having their inner end portions provided with slots, the adjacent end portion of said brace-bar having a slot therein, and a clamping-bolt extending through the slots of said links, through a perforation in the shank of said last-named guide-member and through the slot in said brace-bar, said clamping-bolt having its lower end equipped with a winged nut.

4. In a curtain-stretcher, a guide-member adapted for connection with a brace-bar and with the sections of an end-bar, said guide-member comprising a head-plate and a shank-plate provided with down-turned flanges and equipped at its outer end with an extension overlapping the head-plate, said flanges abutting against the inner edge of the head-plate, and means uniting said head-plate and extension, said head-plate and shank having perforations therethrough.

5. A curtain-stretcher comprising end-bars and side-bars, in combination with a corner-connection, comprising a loop adapted to slide on one bar and having a threaded shank extending from one of its sides and equipped with a nut, and an angular clamping member having a hollow arm through which said shank extends, and an arm at right-angles thereto having an inturned extremity.

6. A curtain-stretcher comprising a side-bar and an end-bar having their ends crossing each other, in combination with a corner-connection comprising a loop slidable on the side-bar and equipped with a downwardly extending shank, and a clamping member having an arm substantially at right-angles to the side-bar and adapted to engage one edge of the end-bar and having an arm substantially at right-angles to said first-named arm adapted to engage the front surface of the end-bar, said first-named arm having a perforation therethrough receiving said shank, and means for drawing said bars together through the medium of said shank.

7. A corner-connection for a curtain-stretcher comprising a loop having a shank extending from one side member thereof, a clamping member having a hollow arm with its lower end portion cut away to accommodate the adjacent side member of said loop and having another arm at right-angles to said first-named arm equipped with an inturned end, and a nut on said shank.

8. A corner-connection for a curtain-stretcher, comprising a loop having a threaded shank extending from one of its side-members and equipped with a nut, and a clamp having a hollow arm receiving said shank and provided at its base on the outer side of the loop with a heel adapted to bear on the front surface of the bar, said clamp having an arm at right-angles to said first-named arm and provided with an inturned extremity.

JOHN OTTO HOLMQUIST.

In presence of—
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O. C. AVISUS.