July 18, 1933. R. N. ASKA 1,918,888

CURTAIN STRETCHER

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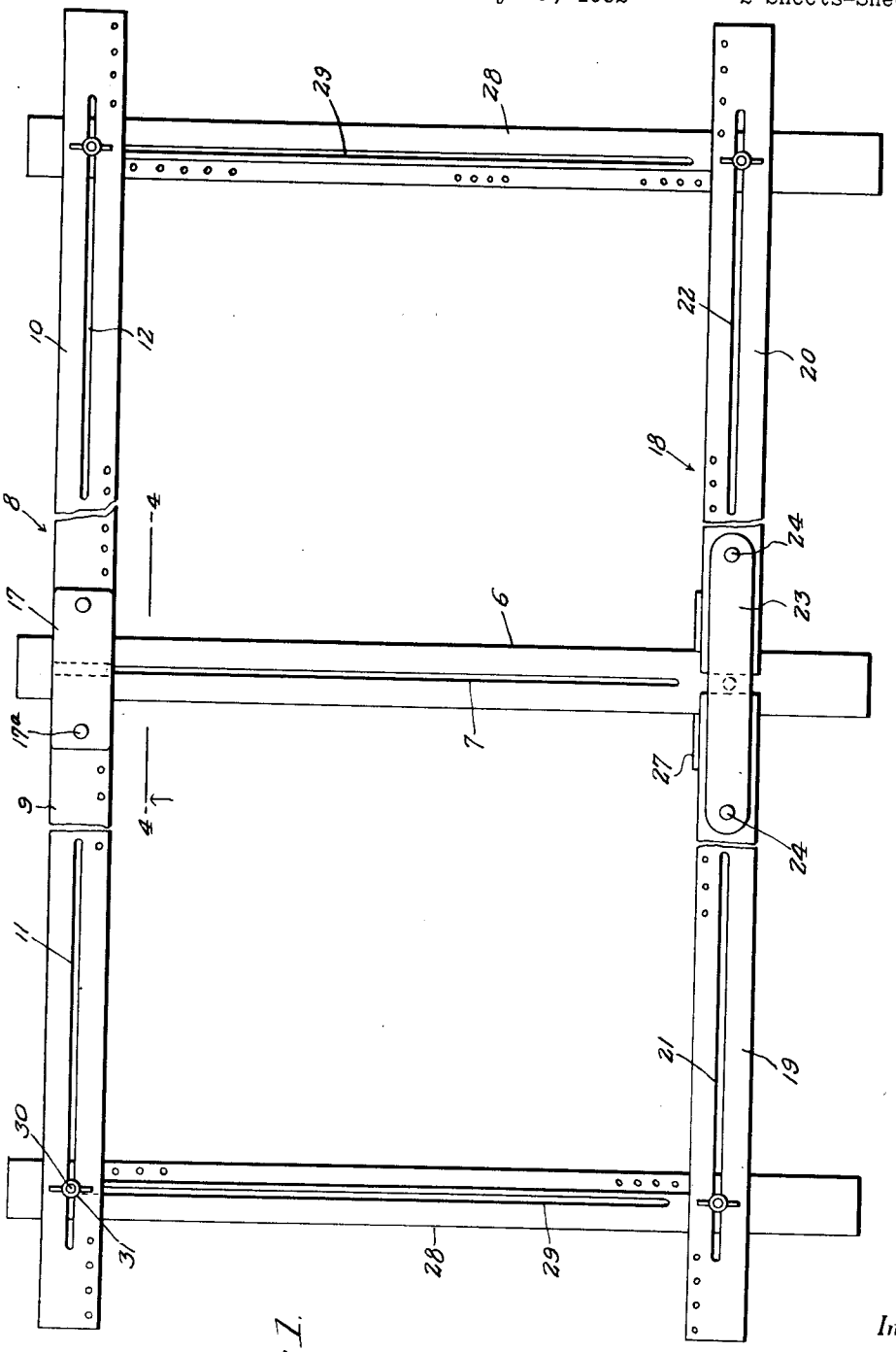


Fig. 1.

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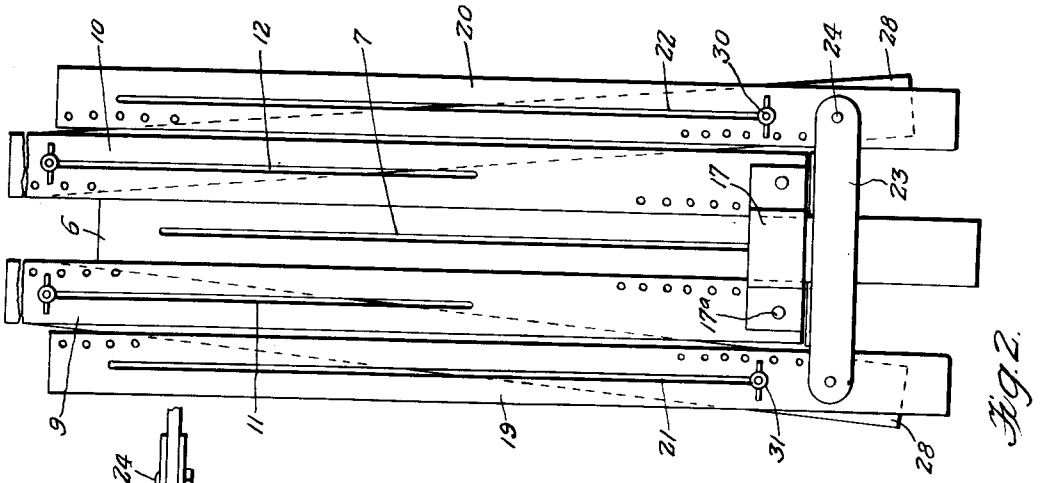


Fig. 2.

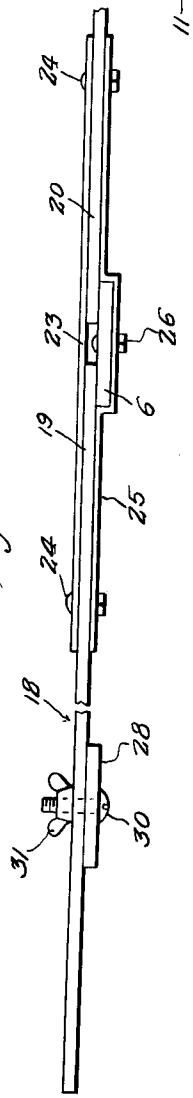


Fig. 3.

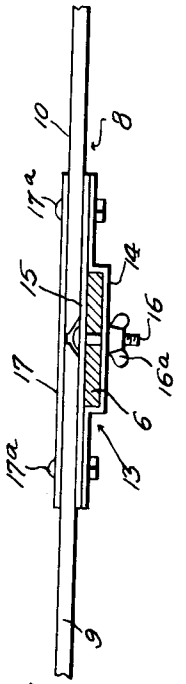


Fig. 4.

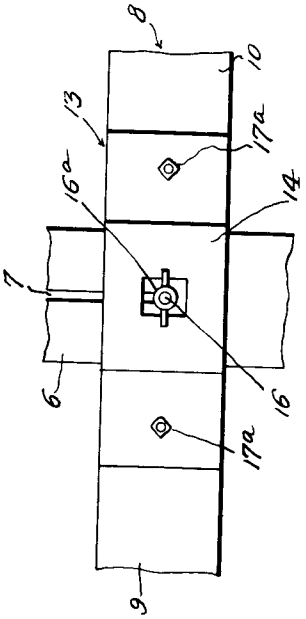


Fig. 5.

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UNITED STATES PATENT OFFICE

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CURTAIN STRETCHER

Application filed July 13, 1932. Serial No. 622,299.

This invention relates to an improved curtain stretcher wherein the principal novelty is predicated upon the specific construction and assembly of parts constituting the frame structure, said structure being of a foldable type whereby to permit the entire frame to be collapsed into a comparatively small and compact and convenient size for efficient transportation and storage purposes.

Otherwise stated, I have evolved and produced a simple and economical foldable frame structure and carefully selected and mechanically co-ordinated appurtenances successfully co-related to provide a self-shaping adjustable frame whose parts are properly sustained in appropriate angular relationship whether folded or extended.

I am aware of the fact that it is not broadly new in this particular line of endeavor to provide a collapsible or foldable frame structure whose longitudinal and transverse dimensions are capable of adjustment. As a matter of fact, a curtain structure of the aforesaid general type is admittedly old. Therefore, the principal novelty is predicated upon the specific formation of the frame bars or rails and the particular members and elements used in pivotally and adjustably connecting said bars together.

The explicit features just alluded to will become more readily apparent from the following description and the accompanying pictorially illustrative drawings.

In the accompanying drawings in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a top plan view of a curtain stretcher constructed in accordance with the principles of this invention showing the frame opened up for use.

Figure 2 is a top plan view showing the frame collapsed or folded.

Figure 3 is an edge elevational view of the left hand end and central portion of the structure seen in Figure 1.

Figure 4 is a detail section taken approximately on the plane of the line 4—4 of Figure 1.

Figure 5 is a bottom plan view of the structure seen in Figure 4.

Referring now to the illustrative drawings by distinguishing reference characters it will be observed that the numeral 6 designates the centrally disposed transversely extending bar which for sake of differentiation, is referred to as the foundation bar.

This is formed with a centrally disposed longitudinal slot 7 of the extent represented in Figures 1 and 2. In Figure 1, the upper longitudinal rail 8 is made up of a pair of companion bars 9 and 10 having longitudinal slots 11 and 12 respectively. The inner adjacent ends of these bars are pivotally joined to a sliding clamp 13 of the type detailed in Figures 4 and 5.

The lower section of the clamp is formed with a saddle 14 which fits snugly around and is slidably longitudinally along the bar 6. The upper section 15 is attached to the saddle through the medium of a bolt 16 carrying a wing nut 16*a*. The bolt 16 passes through the slot 7 in the bar 6. The section 15 is interposed between the foundation bar 6 and the inner adjacent ends of the top rail bars 9 and 10. These inner ends are joined together through the medium of a connecting link 17 by pivot and connecting bolts 17*a* which extend through the ends of the link, through the ends of the bars 9 and 10 and through the corresponding ends of the clamp sections 15 and 14 respectively. This provides the requisite sliding and pivotal connection between the bars 6, 9 and 10.

The lower longitudinal rail in Figure 1 is distinguished by the numeral 18 and is made up of a pair of similar bars 19 and 20 formed with central longitudinal slots 21 and 22. The inner ends of these bars 19 and 20 also overly the adjacent end portion of the foundation or master bar 6 where they are joined together by a connecting strap 23 whose end portions are fastened by pivot bolts 24 to the corresponding end portion of the underlying connecting strap 25. The central portion of the strap 25 is offset to fit around the end portion of the bar 6 as seen in Figure 3 and is permanently bolted to said bar as indicated at 26.

It will be noted that the inner longitudinal edge of the connecting strap 25 is provided with upstanding stop flanges 27 as seen in

Figure 1 which serve as abutments to maintain the two bars 19 and 20 in perfect alinement when the frame is expanded for use.

The transverse end bars of the frame are denoted by the numerals 28 and have suitable slots 29. The end portions thereof are joined to the slotted bars 9, 10, 19 and 20 through the medium of connecting bolts 30 having thumb nuts 31.

With this arrangement it is evident that the inner ends of the bars 19 and 20 are fixedly pivoted to one end of the master bar 6 while the corresponding ends of the bars 9 and 10 are slidably connected to said bar 6 through the medium of the sliding clamp 13. Thus, by adjusting the respective bars to the position seen in Figure 1, the complete frame may be set up for curtain stretching use. When the frame is not in use the thumb nuts 31 are simply loosened and the parts folded to the collapsed state seen in Figure 2.

In this position the sliding clamp 13 is slid from the upper end of the master bar 6 to the lower end thereof into abutting relation with the stop flanges 27. In this position the bars 9 and 10 are alongside of and slightly overlapped in relation to the bars 6 and automatically brings the bars 19 and 20 up alongside of the bars 9 and 10 to reside in a plane substantially even with the latter two bars.

The end bars 28 underly the bars 9, and 10, 19 and 20 in a somewhat diagonal position as represented in dotted lines in Figure 2. Thus the structure is self-shaping in both collapsed and expanded position, and in either position the bars are properly sustained in appropriate angular relationship. When in the arrangement shown in Figure 1, the end bars are adjustable toward and from each other to regulate the longitudinal and transverse dimension for effective curtain stretching operation.

It is thought that the description taken in connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claim may be resorted to if desired.

I claim:

1. A curtain stretching device comprising a central bar having a longitudinally extending slot therein, a clamp embracing said bar and composed of an upper link and a lower link, said lower link having a channel therein through which the bar passes, a bolt passing through the two links and through the slot in the bar for fastening the clamp in adjusted position on the bar, a pair of longitudinally slotted bars having their inner ends resting on the upper link of the clamp, a third link overlapping said inner ends of the pair of bars, bolts passing through the end portions of the last-mentioned link, through the inner end portions of the pair of bars, and through the two links of the clamp for pivotally connecting the pair of bars to the clamp, a second pair of slotted bars, upper and lower links receiving the inner ends of the last-mentioned pair of bars between them, bolts pivoted to the said last-mentioned bars and said last-mentioned links, the lower link of said last-mentioned pair of links having a channel therein for receiving a part of the first-mentioned bar, a bolt for fastening said last-mentioned bar to said channel portion of the link, said second pair of bars having longitudinally extending slots therein, a pair of longitudinally slotted end bars and bolts for connecting the end bars to the outer ends of the two pairs of slotted bars, one set of bolts passing through the slots of the second pair of bars and the other set passing through the slots of the first pair of slotted bars and through the slots in the end bars.

2. A curtain stretching device comprising a central bar having a longitudinally extending slot therein, a clamp embracing said bar and composed of an upper link and a lower link, said lower link having a channel therein through which the bar passes, a bolt passing through the two links and through the slot in the bar for fastening the clamp in adjusted positions on the bar, a pair of longitudinally slotted bars having their inner ends resting on the upper link of the clamp, a third link overlapping said inner ends of the pair of bars, bolts passing through the end portions of the last-mentioned link, through the inner end portions of the pair of bars, and through the two links of the clamp for pivotally connecting the pair of bars to the clamp, a second pair of slotted bars, upper and lower links receiving the inner ends of the last-mentioned pair of bars between them, bolts pivoted to the said last-mentioned bars and said last-mentioned links, the lower link of said last-mentioned pair of links having a channel therein for receiving a part of the first-mentioned bar, a bolt for fastening said last-mentioned bar to said channel portion of the link, said second pair of bars having longitudinally extending slots therein, a pair of longitudinally slotted end bars and bolts for connecting the end bars to the outer ends of the two pairs of slotted bars, one set of bolts passing through the slots of the second pair of bars and the other set passing through the slots of the first pair of slotted bars and through the slots in the end bars, the lower and channel link of the second pair of links having upstanding flanges on its inner edge for engaging end portions of the second pair of bars for limiting outward swinging movement of said second pair of bars.

ROBERT N. ASKA.