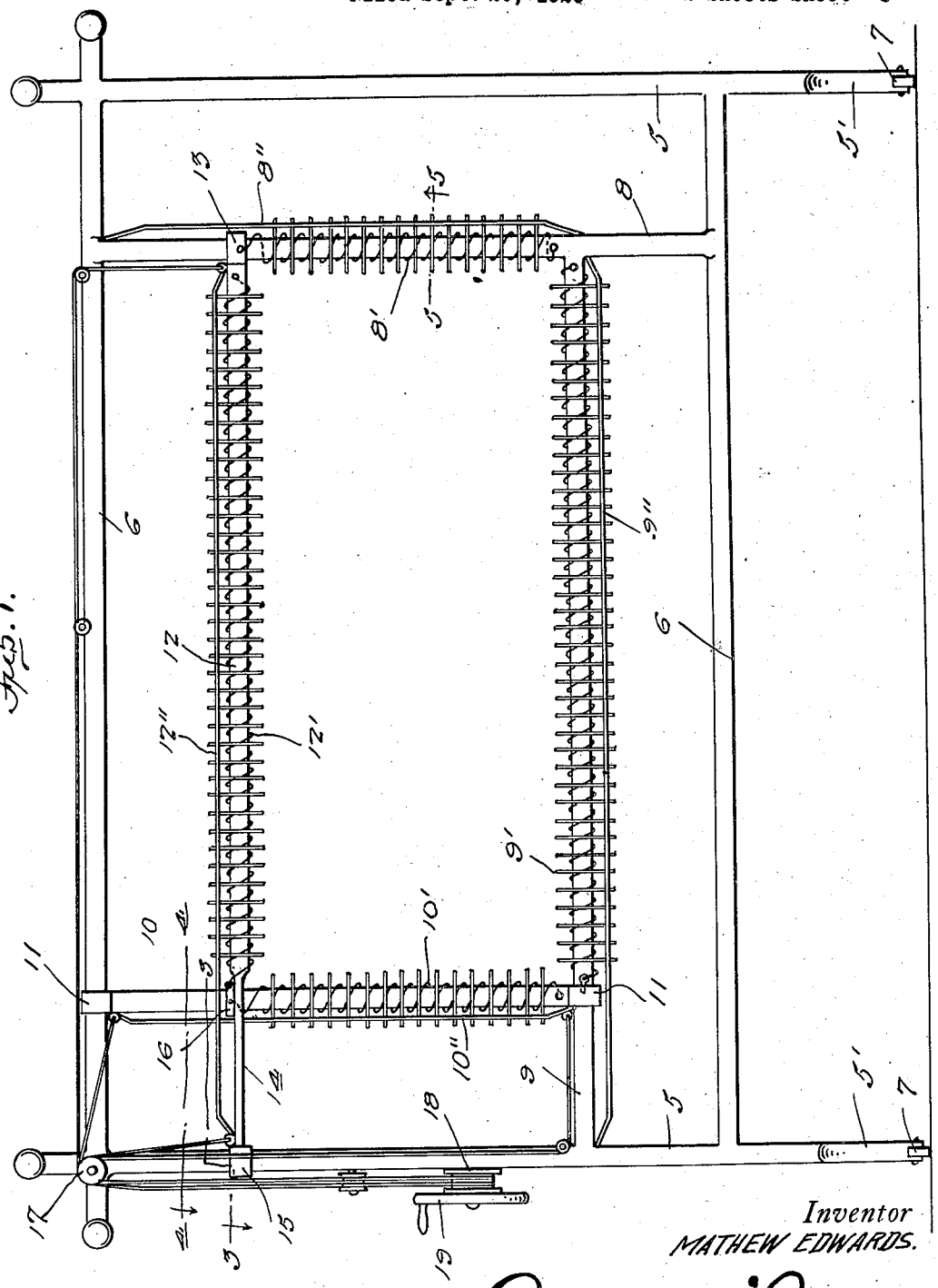
June 19, 1928. 1,674,198

M. EDWARDS

CURTAIN STRETCHING DEVICE

Filed Sept. 20, 1926 2 Sheets-Sheet 1



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Fig. 2.

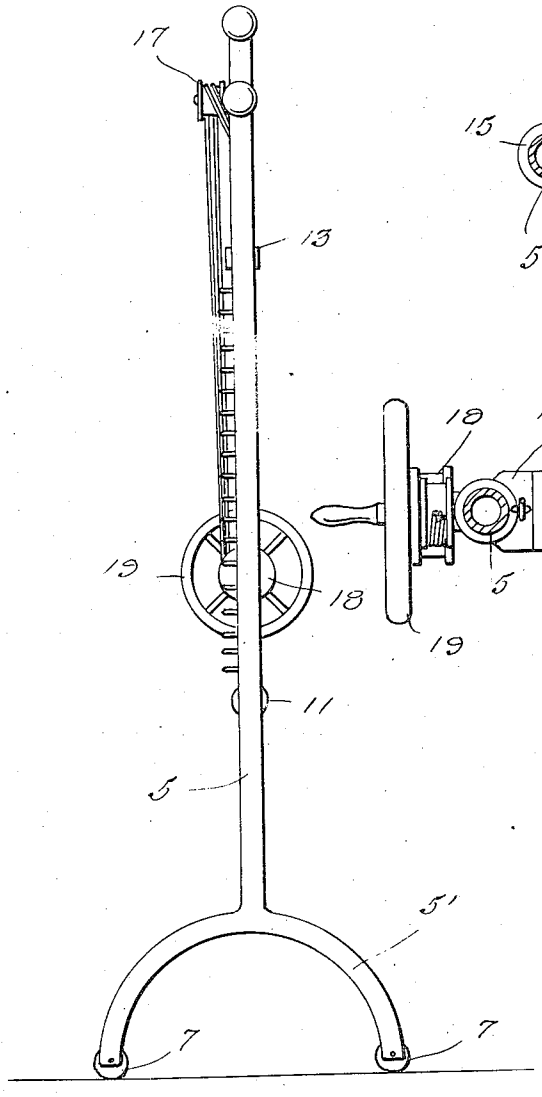


Fig. 3.

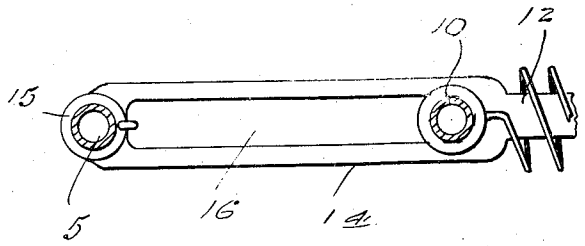


Fig. 4.

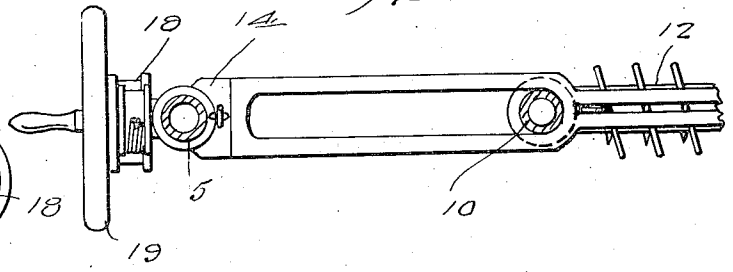
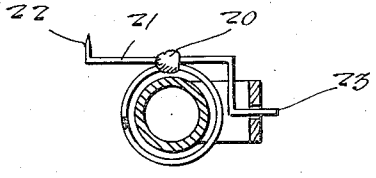


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CURTAIN-STRETCHING DEVICE.

Application filed September 20, 1926. Serial No. 136,557.

This invention relates to new and useful improvements in curtain stretching devices and has for its primary object to provide a curtain stretcher that is so constructed as to permit of the rapid attachment of the edges of the curtain to the stretching bars and also to facilitate the proper movement of the bars in reverse directions, whereby the curtains will be equally stretched in all directions.

A further and very important object of the invention is to provide means whereby the edges of the curtains themselves are properly stretched and whereby curtains of widely varying sizes may be stretched by reason of the present device.

Other objects and advantages of the invention will become apparent from the following description taken in connection with the accompanying drawing.

In the accompanying drawing formig part of this application:

Figure 1 is a front elevation of a curtain stretching device constructed in accordance with the present invention,

Fig. 2 is an end elevation thereof,

Figs. 3 and 4 are enlarged detail longitudinal sections taken substantially upon the lines 3—3 and 4—4 respectively of Fig. 1, and

Fig. 5 is an enlarged longitudinal section taken substantially upon the line 5—5 of Fig. 1, for more clearly disclosing the curtain securing means.

Now having particular reference to the drawings, my novel stretching device constitutes the provision of a frame including vertical end bars 5—5 interconnected at their upper and lower ends by longitudinal cross bars 6—6, the lower ends of said end bars 5—5 being constructed so as to provide supporting seats 5′—5′ that are equipped with anti-friction rollers 7—7. The frame further includes a vertical bar 8 in spaced relation with one of the end bars 5 and being formed integrally with or connected to the longitudinal bars 6—6 at its opposite ends.

Interconnecting the said bar 8 and the opposite end bar 5 is a longitudinal bar 9 in spaced parallel relation with the lower longitudinal bar 6 of the main frame construction.

In spaced parallel relation with the bar 8, and normally adjacent the opposite end bar 5 is a vertical bar 10, the opposite ends of which are equipped with collars 11—11, so as to facilitate the sliding attachment of said vertical bar 10 with the bars 6 and 9. Furthermore the device consists of a relatively elongated bar 12 mounted in spaced parallel relation with the bars 6 and 9, one end thereof being equipped with a collar 13 that slides upon the vertical bar 8, while the other end thereof is flattened as at 14 and is provided at its flattened end with a collar 15 for sliding arrangement over the end frame bar 5.

The flattened portion 14 of the said bar 12 is formed with a longitudinal slot 16 through which the vertical bar 10 may move longitudinally. Arranged over the bars 8, 9, 10 and 12 repsectively, are normally retractile elongated coiled springs designated respectively by the reference characters 8′, 9′, 10′ and 12′, the coiled spring 8′ being arranged upon the bar 8 intermediate the bars 9 and 12 while the coiled spring 9′ upon the bar 9 is arranged intermediate the bars 8 and 10 while the coiled spring 10′ is arranged upon its bar intermediate the bars 9 and 12. Similarly the coiled springs 12′ upon the bar 12 is arranged thereon intermediate the bars 8 and 10.

Certain ends of all of the coiled springs are anchored to the bar upon which they are disposed as indicated clearly in Fig. 1. However, the upper end of the coiled spring 8′ is anchored to the collar 13 of the bar 12, while the opposite end of the coiled spring 9′ is anchored to the collar 11 of the bar 10. Arranged for sliding movement upon the bar 10 directly above the flattened portion 14 thereof is a collar 16′ and to this collar are attached the adjacent ends of the coiled springs 10′ and 12′ respectively.

Obviously as the bar 10 is moved in a direction towards the left, tension will be applied to the coiled springs 9′ and 12′ to normally maintain the bar 10 in the inward position as disclosed in said Fig. 1. Similarly, when the bar 12 is raised, the coiled springs 8′ and 10′ will serve to return said bar 12 to its normal position.

Arranged from the frame of the stretcher preferably at the upper end of one of the end frame bars 5 is a pulley 17 over which are trained four cords or flexible cables, one of which extends to the remote end of the upper bar 12, another of which is attached to the upper end of the bar 10, another of which is attached to the adjacent end of the bar 12, the other of which is extended downwardly and properly attached to the lower end of

the bar 10 so that when the cables are pulled the bar 10 will be slid in a longltudinal direction and the bar 12 slid in a vertical direction.

In order that the cables may be properly pulled to actuate said bars, there is applied to the bar 5 to which is attached the pulley 17, a drum 18 equipped with an operati g handle, and to which drum are attached the opposite ends of the various cables.

Anchored to the inner sides of all of the convolutes of the various coiled springs preferably by soldering as indicated by the reference character 20 in Fig. 5 are transversely extending wire pins 21, the inner ends of which are bent outwardly to provide pin points 22. The outer ends of these pins 21 are bent downwardly and then laterally as at 23 which laterally extending ends engage within longitudinal slots formed in flat metal bars 8″, 9″, 10″, and 12″ at the outer sides of the respective bars 8, 9, 10 and 12, said flat-like bars being arranged in spaced relation with said bars as clearly indicated in Figs. 1 and 5.

The provision of these bars formed with the longitudinal slots as indicated in Figs. 4 and 5 through which the laterally bent ends 23 of the pins 21 pass, will prevent the turning of the coiled springs upon their respective bars and the displacement of the pins with respect to said bars.

Obviously in use, the bars 10 and 12 are permitted to assume their normal position under action of the various coiled springs, after which the curtain may be attached thereto by engaging the edges over the pin point 22. A rotation of the drum 18 will wind the cords or cables thereon for sliding the bar 10 outwardly and the bar 12 upwardly.

By reason of the fact that such an actuation of the bars will cause the springs to expand, the convolutes will obviously spread apart for moving the pins in separate relation, resulting in the proper stretching of the curtain at their edges, as well as throughout the area thereof within said edges.

It will be obvious that I have provided a highly novel, simple and efficient form of curtain stretching device that is well adapted for all of the purposes heretofore designated, and even though I have herein shown and described the invention as consisting of certain detail structural elements, it is nevertheless to be understood that some changes may be made therein without affecting the spirit and scope of the appended claims.

Having thus described my invention, what I claim as new is:—

1. In a curtain stretcher of the character described, a curtain supporting frame consisting of a pair of stationary bars disposed at right angles to each other, a pair of movable bars arranged at right angles to each other, one of the movable bars being disposed at right angles to one of the stationary bars, and the other movable bar being disposed at right angles to the other stationary bar, retractile coil springs arranged around all of said bars, means connecting the springs to the bars, so as to normally maintain the movable bars inwardly with respect to said stationary bars, means for forcibly moving the movable bars outwardly with respect to said stationary bars, and curtain securing means arranged upon predetermined convolutes of all of said coil springs so as to stretch the edges of the curtain during the stretching operation by reason of the fact that said means will separate when said coil springs are expanded.

2. In a curtain stretcher of the character described, a curtain supporting frame consisting of a pair of stationary bars disposed at right angles to each other, a pair of movable bars disposed at right angles to each other, one of the movable bars being arranged at right angles to one of the stationary bars and the other movable bar being arranged at right angles to the other stationary bar, retractile coiled springs arranged around all of said bars, means connecting the springs to the bars, so as to normally maintain the movable bars inwardly with respect to said stationary bars, means for forcibly moving the movable bars outwardly with respect to the stationary bars, curtain securing means arranged between predetermined convolutes of all of said coiled springs so as to stretch the edges of the curtain during the stretching operation by reason of the fact that said means will separate when said coiled springs are expanded, and means associated with all of said bars for preventing the turning of the coil springs thereon, so as to maintain the curtain pins in proper position.

3. In a curtain stretcher of the character described, a plurality of bars forming a frame, some of said bars being stationary and the other bars being movable, coiled springs arranged around all of said bars, means connecting the springs to the bars, so as to normally maintain the movable bars inwardly with respect to the stationary bars, means for forcibly moving the movable bars outwardly with respect to the stationary bars, curtain securing pins arranged upon predetermined convolutes of all of said coiled springs so as to stretch the edges of the curtain during the stretching operation by reason of the fact that said pins will separate when said coil springs are expanded.

4. In a curtain stretcher of the character described, a plurality of bars forming a frame, some of said bars being stationary and the other bars being movable, coiled springs

arranged around all of said bars means connecting the springs to the bars, so as to normally maintain the movable bars inwardly with respect to the stationary bars, means for forcibly moving the movable bars outwardly with respect to the stationary bars, curtain securing pins arranged upon predetermined convolutes of all of said coiled springs so as to stretch the edges of the curtain during the stretching operation by reason of the fact that said pins will separate when said coil springs are expanded, and means associated with all of said bars for preventing the turning of the coil springs thereon so as to maintain said curtain pins in proper position.

In testimony whereof I affix my signature.

MATHEW EDWARDS.