March 24, 1925. 1,530,608

F. NEWCOMB

CURTAIN HOLDING DEVICE

Filed July 3, 1922 3 Sheets-Sheet 1

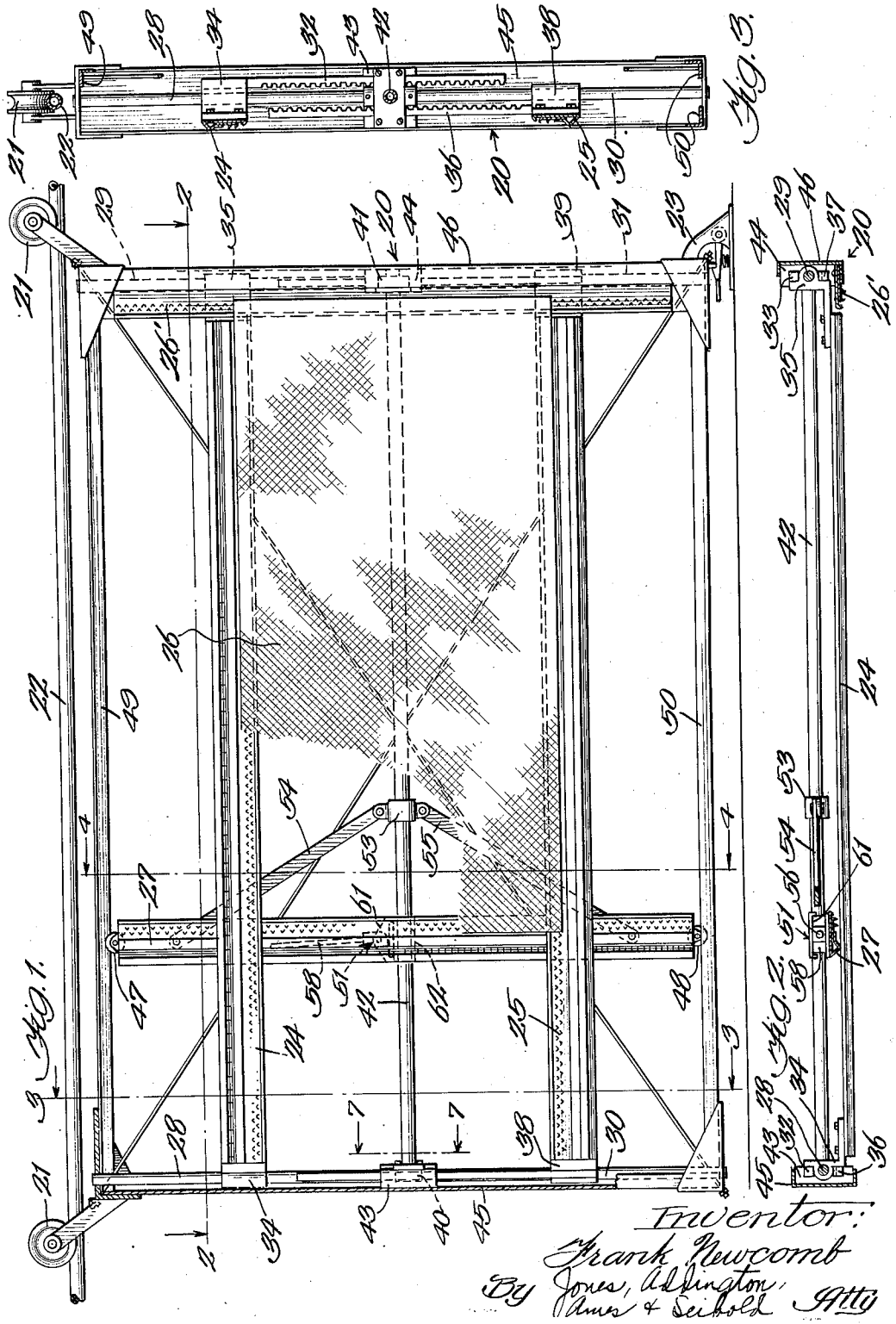


Fig. 1.

Fig. 2.

Fig. 3.

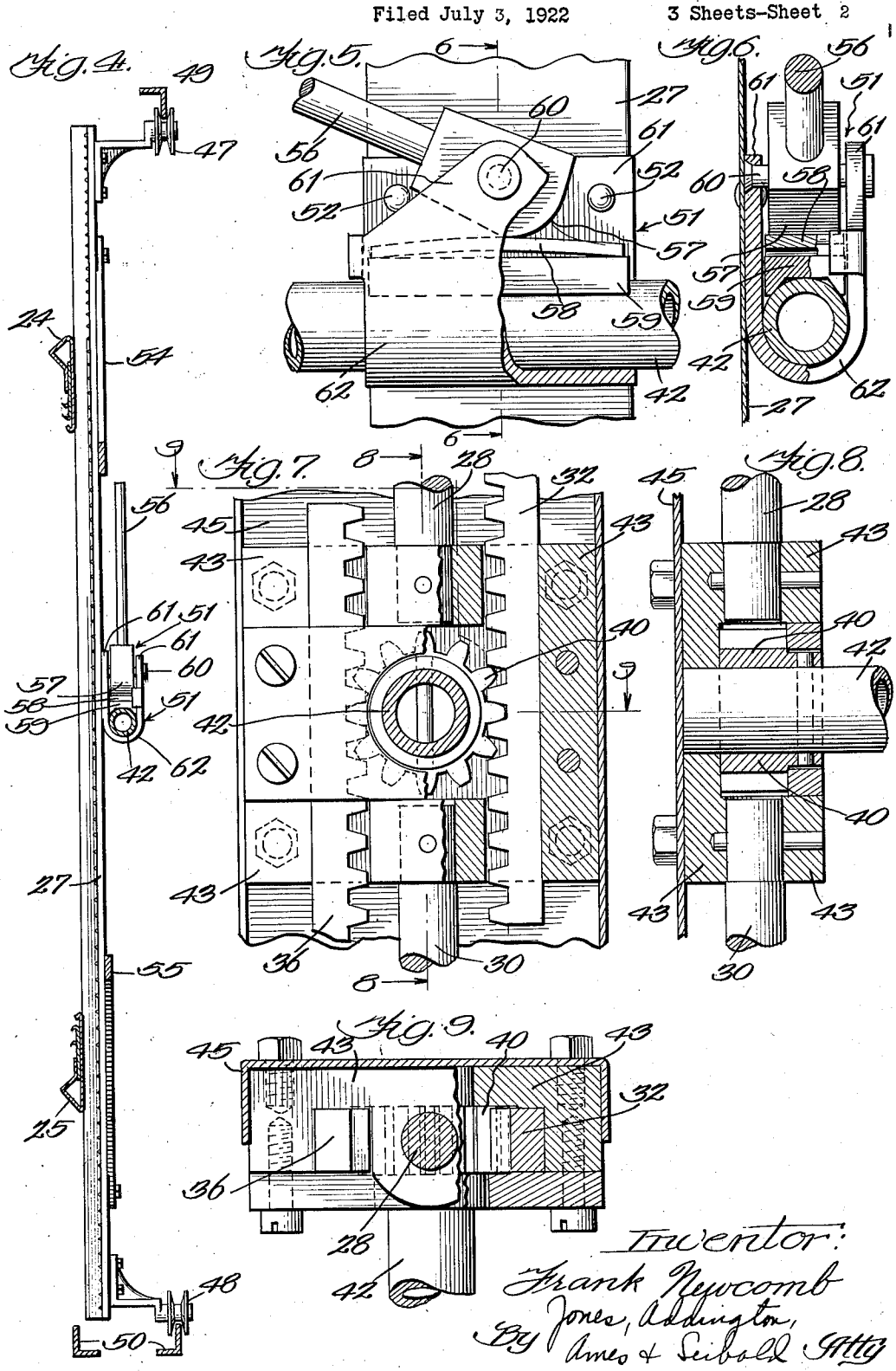
Inventor:
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Fig. 10.

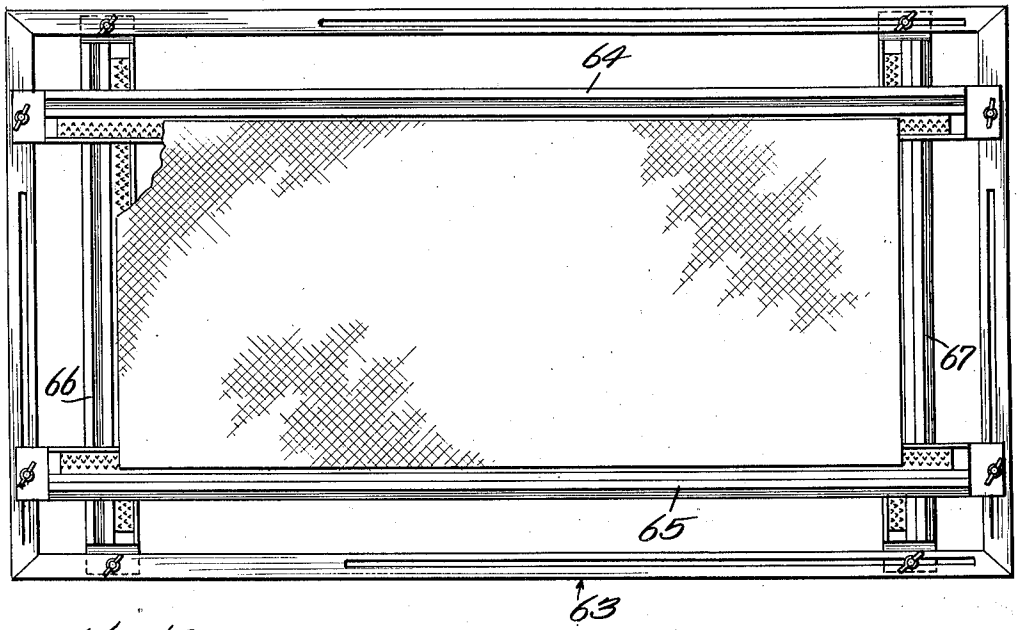


Fig. 12.

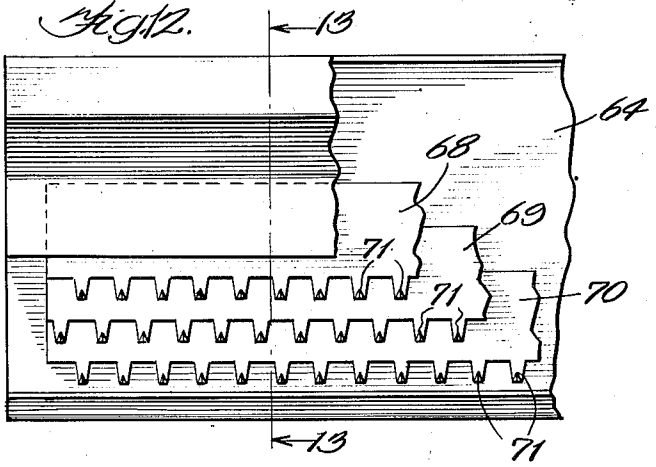


Fig. 13.

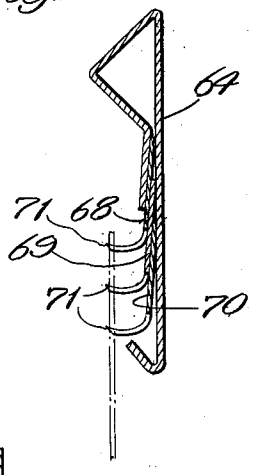
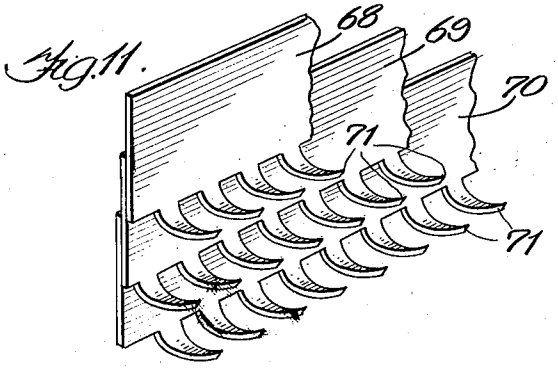


Fig. 11.



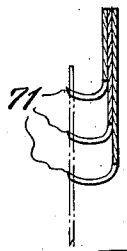


Fig. 14.

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Patented Mar. 24, 1925. 1,530,608

UNITED STATES PATENT OFFICE.

FRANK NEWCOMB, OF CHICAGO, ILLINOIS.

CURTAIN-HOLDING DEVICE.

Application filed July 3, 1922. Serial No. 572,440.

To all whom it may concern:

Be it known that I, FRANK NEWCOMB, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Curtain-Holding Devices, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to curtain-holding devices and more particularly to curtain stretchers and dryers of the type used in laundries where a large number of curtains are handled.

One of the objects of my invention is to provide improved means for quickly adjusting the frame for curtains of different sizes.

A further object of my invention is to provide improved means for adjusting the holding bars in which construction one bar will counterbalance the other to make the adjustment easy.

A further object of my invention is to provide improved means for securing the curtain on the bar, which will hold the curtain lightly and uniformly at a great number of points whereby no strain will be placed on any particular part of the curtain, and whereby the curtain will be securely held.

A further object of my invention is to provide improved means for holding the adjustable curtain holding bars in adjusted position, which can be easily and quickly operated.

Further objects, etc.

In the drawings in which an embodiment of my invention is shown—

Figure 1 is a side elevational view of an adjustable curtain holding frame mounted to travel on an overhead track into and out of the dryer;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 1;

Fig. 4 is a section on the line 4—4 of Fig. 1;

Fig. 5 is a detail view of a clamping device for holding the adjustable bars in adjusted position;

Fig. 6 is a section on the line 6—6 of Fig. 5;

Fig. 7 is a detail view of the racks and pinion for adjusting the horizontal bars;

Fig. 8 is a section on the line 8—8 of Fig. 7;

Fig. 9 is a section on the line 9—9 of Fig. 7;

Fig. 10 as a side elevational view showing my improved curtain attaching means applied to a curtain holding frame;

Fig. 11 is a perspective view showing my improved curtain holding means;

Fig. 12 is a detail view showing the relation of the holding teeth to the adjustable bar;

Fig. 13 is a section on the line 13—13 of Fig. 12;

Fig. 14 is a detail sectional view showing another arrangement of holding teeth.

The construction shown in the drawings comprises a rectangular vertical frame 20 which carries the curtain, provided with rollers 21 mounted to travel on a track 22, whereby it can be easily moved by hand into and out of the drying chamber (not shown). A suitable stop and holding device 23, (Fig. 1) is provided to hold the frame still while the operator is attaching or removing the curtain.

The frame 20 comprises two vertically adjustable parallel horizontal bars 24 and 25, to which the longer edges of the curtain 26 may be attached, a fixed bar 26′ to which one of the shorter edges of the curtain may be attached, and a laterally adjustable vertical bar 27 to which the other shorter edge of the curtain may be attached.

The upper horizontal bar 24 is mounted to slide on a pair of vertical guides 28 and 29 and the lower horizontal bar 25 is mounted to slide on a pair of vertical guides 30 and 31. Means are provided for simultaneously adjusting the bars 24 and 25 so that when the upper bar 24 is moved downwardly the lower bar 25 will be moved upwardly and vice versa. These means are constructed so that the weight of one bar will counterbalance the weight of the other bar, whereby in making the adjustment it will not be necessary to lift the weight of the bars, and so that the bars will remain parallel to each other in their movement. These means comprise a pair of vertical rack bars, 32 and 33 secured to and extending downwardly from the slides 34 and 35 on which the horizontal bar 24 is mounted, a pair of rack bars 36 and 37 secured to the slides 38 and 39 on which the lower frame bar 25 is mounted, a pair of pinions 40 and

41 (the pinion 40 meshing on one side with the rack 32 and the other side with the rack 36, and the pinion 41 meshing on one side with the rack 33 and on the other side with the rack 37) and a rotatably mounted tubular shaft 42 on which both of the pinions 40 and 41 are mounted. The slides 34, 35, 38 and 39 are slidably mounted on the vertical guides 28, 29, 30 and 31. The tubular shaft 42 is rotatably mounted in a pair of similar supporting blocks 43 and 44 which in turn are mounted in fixed position on the vertical channel members 45 and 46, which form the vertical end members of the rectangular supporting frame 20. The blocks 43 and 44 not only serve as bearings for the shaft 42, but also serve as guides for the racks 32, 33, 36 and 37, to hold them in mesh with the pinions 40 and 41 respectively. These supporting blocks also serve as a mounting for the vertical guides 28 and 29, 30 and 31 as indicated in Figs. 7 and 8.

The movable vertical bar 27 is provided with upper and lower rollers 47 and 48 respectively, which engage the upper and lower frame bars 49 and 50 respectively. The bar 27 is guided and held in vertical position by engagement with the tubular shaft 42 hereinbefore referred to, which carries the pinions 40 and 41. This slidable mounting is accomplished by means of a slidable clamp 51 (Figs. 5 and 6) secured to the vertical bars 27, by means of rivets 52, and a slidable sleeve 53 slidable on the shaft 42 and connected with the bar 27 by means of the diagonally extending braces or arms 54 and 55.

The clamping member 51 is slidable on the tubular shaft 42, and may be clamped in adjusted position thereon, by means of the hand-lever 56, which has a cam portion 57 engaging a leaf-spring 58 which bears on the channeled clamping block 59, which engages the rotatable tubular shaft 42. The lever 56 is pivotally mounted on a pin 60, mounted in ears 61, on the slide member 62 of the slidable clamp. It will be seen that this slidable clamp 51 not only serves to hold the bar 27 in adjusted position on the shaft 42, but also serves to lock the shaft 42 against rotation and thus holds the horizontal bars 24 and 25 in adjusted position. This makes it a simple matter for the operator to adjust the movable bars and secure them in adjusted position. This can be done simply by taking hold of one of the horizontal bars 24 or 25 and shifting it until the horizontal bars are the right distance apart, (the counterbalancing of these bars making this operation easy) moving the vertical bar 27 to the desired position, and then throwing the locking member 56 to locking position to hold the vertical bar 27 against longitudinal movement on the shaft 42, and to hold the shaft 42 against movement of rotation to lock the horizontal bars in adjusted position. The bars are then in proper position to receive the curtain.

In order to properly secure the curtains to the bars, it is desirable that they be secured at a multiplicity of points along the edges, in order that they may be lightly held and without undue stress on the delicate fabric, and in order that they may not be stretched out of shape as would be the case if they were held at only a few points.

It has heretofore been customary to use carding cloth for this purpose. This, however, is quite expensive and I have devised improved means for attaching the curtain as shown in detail in Figs. 10, 11, 12, 13 and 14. In these figures is shown a rectangular frame 63 carrying the parallel horizontal adjustable bars 64 and 65 and vertical parallel adjustable bars 66 and 67. Secured to each of these bars are a plurality, (three as shown) of metal bars or strips 68, 69 and 70, these strips being placed parallel to each other, each strip being provided with a multiplicity of upwardly bent curved sharply pointed teeth 71, on which the edge of the curtain rests, the points of these teeth engaging the curtain lightly, so that the curtain is held at a multiplicity of points without unduly stretching or stressing any part of the curtain.

While I have shown but one embodiment of my invention it is obvious that it may be embodied in other forms as covered and defined by the appended claims.

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

1. A curtain holding device comprising a pair of horizontal parallel bars lying substantially in a vertical plane and provided with curtain attaching means, means whereby said bars may be adjusted toward and from each other, and be made to counterbalance each other and remain parallel to each other, comprising two pairs of racks, one pair secured to each bar, and two pinions meshing with one rack of each bar, a shaft on which said pinions are mounted, a vertical bar, provided with curtain attaching means, slidable on said shaft.

2. A curtain holding device comprising a pair of horizontal parallel bars lying substantially in a vertical plane and provided with curtain attaching means, means whereby said bars may be adjusted toward and from each other, and be made to counterbalance each other and remain parallel to each other, comprising two pairs of racks, one pair secured to each bar, and two pinions meshing with one rack of each bar, a shaft on which said pinions are mounted, a vertical bar, provided with curtain attaching means, slidable on said shaft, said shaft be-

ing rotatably mounted, and means for locking said vertical bar against movement longitudinally of said shaft, and for preventing rotation of said shaft, to hold both the horizontal bars and the vertical bar in adjusted position.

3. A curtain holding device comprising a pair of horizontal parallel bars lying substantially in a vertical plane and provided with curtain attaching means, means whereby said bars may be adjusted toward and from each other, and be made to counterbalance each other and remain parallel to each other, comprising two pairs of racks, one pair secured to each bar, and two pinions meshing with one rack of each bar, a shaft on which said pinions are mounted, a vertical bar, provided with curtain attaching means, slidable on said shaft, said shaft being rotatably mounted, and means for locking said shaft against rotation to hold said horizontal bars in adjusted position.

4. A curtain holding device comprising a pair of horizontal parallel bars lying substantially in a vertical plane and provided with curtain attaching means, means whereby said bars may be adjusted toward and from each other, and be made to counterbalance each other and remain parallel to each other, comprising two pairs of racks, one pair secured to each bar, and two pinions meshing with one rack of each bar, a shaft on which said pinions are mounted, a vertical bar, provided with curtain attaching means, slidable on said shaft, said shaft being rotatably mounted, means for holding said shaft against rotation to hold the horizontal bars in adjusted position, and for locking said vertical bar against longitudinal movement on said shaft to hold the vertical bar in adjusted position.

5. A curtain holding device comprising a pair of horizontal parallel bars lying substantially in a vertical plane and provided with curtain attaching means, means whereby said bars may be adjusted toward and from each other, and may be made to counterbalance each other and remain parallel to each other, comprising two pairs of racks, one pair secured to each bar, and two pinions, each pinion meshing with one rack of each pair, a rotatable shaft on which said pinions are mounted, a vertical bar slidable on said shaft, and provided with curtain attaching means, and means for locking said vertical bar against movement longitudinally of said shaft, and for preventing rotation of said shaft to hold both the horizontal bars in adjusted position and to hold the vertical bar in adjusted position, said means comprising a clamp carried by said vertical member for clampingly engaging said shaft to hold the shaft against rotation, and to hold the vertical member against longitudinal movement on the shaft.

In witness whereof, I have hereunto subscribed my name.

FRANK NEWCOMB.