L. FRIDLUND.

CURTAIN STRETCHER.

APPLICATION FILED JAN. 9, 1913.

1,092,347.

Patented Apr. 7, 1914.

3 SHEETS—SHEET 1.

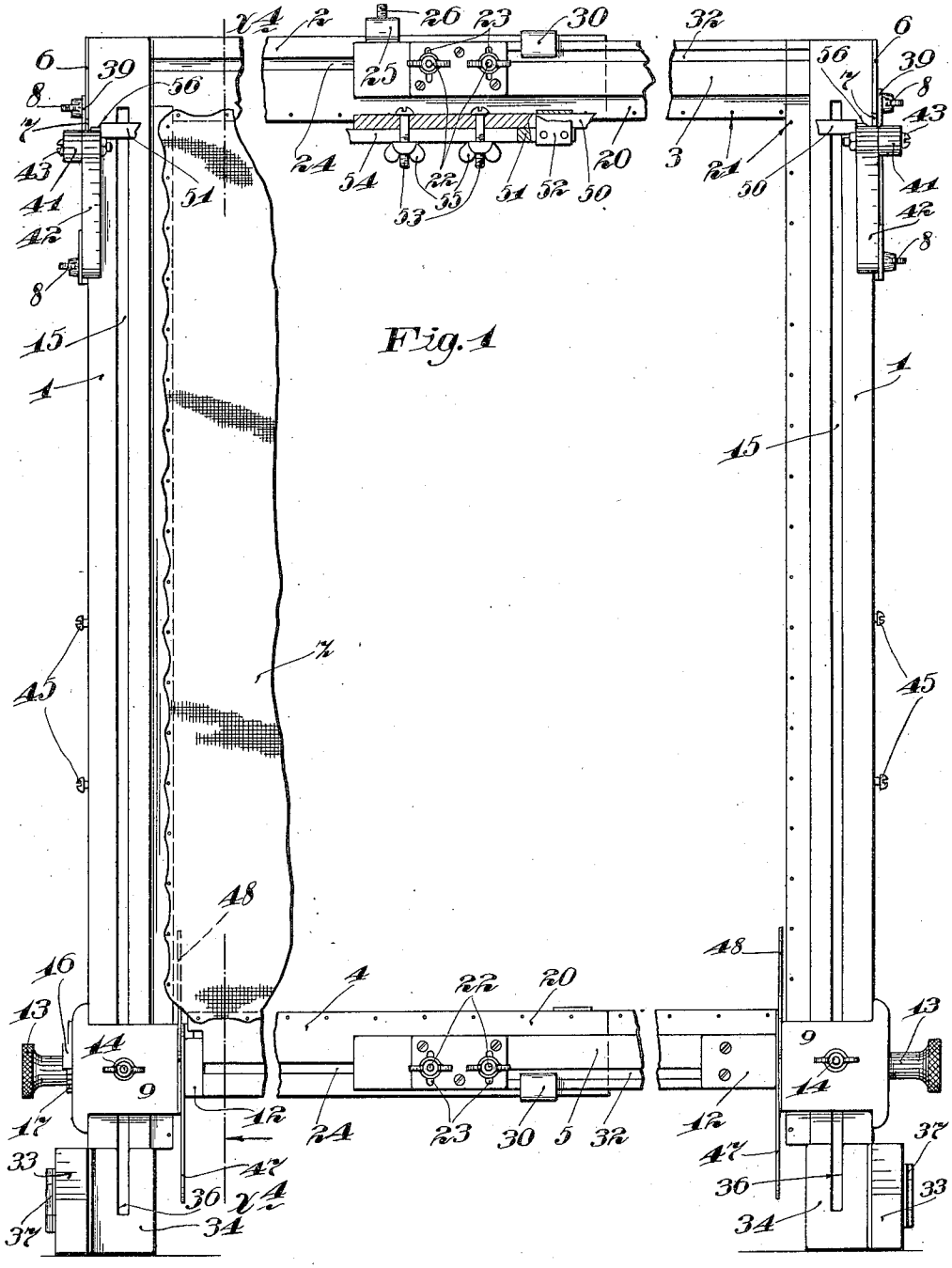


Fig. 1

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3 SHEETS—SHEET 2.

Fig. 2

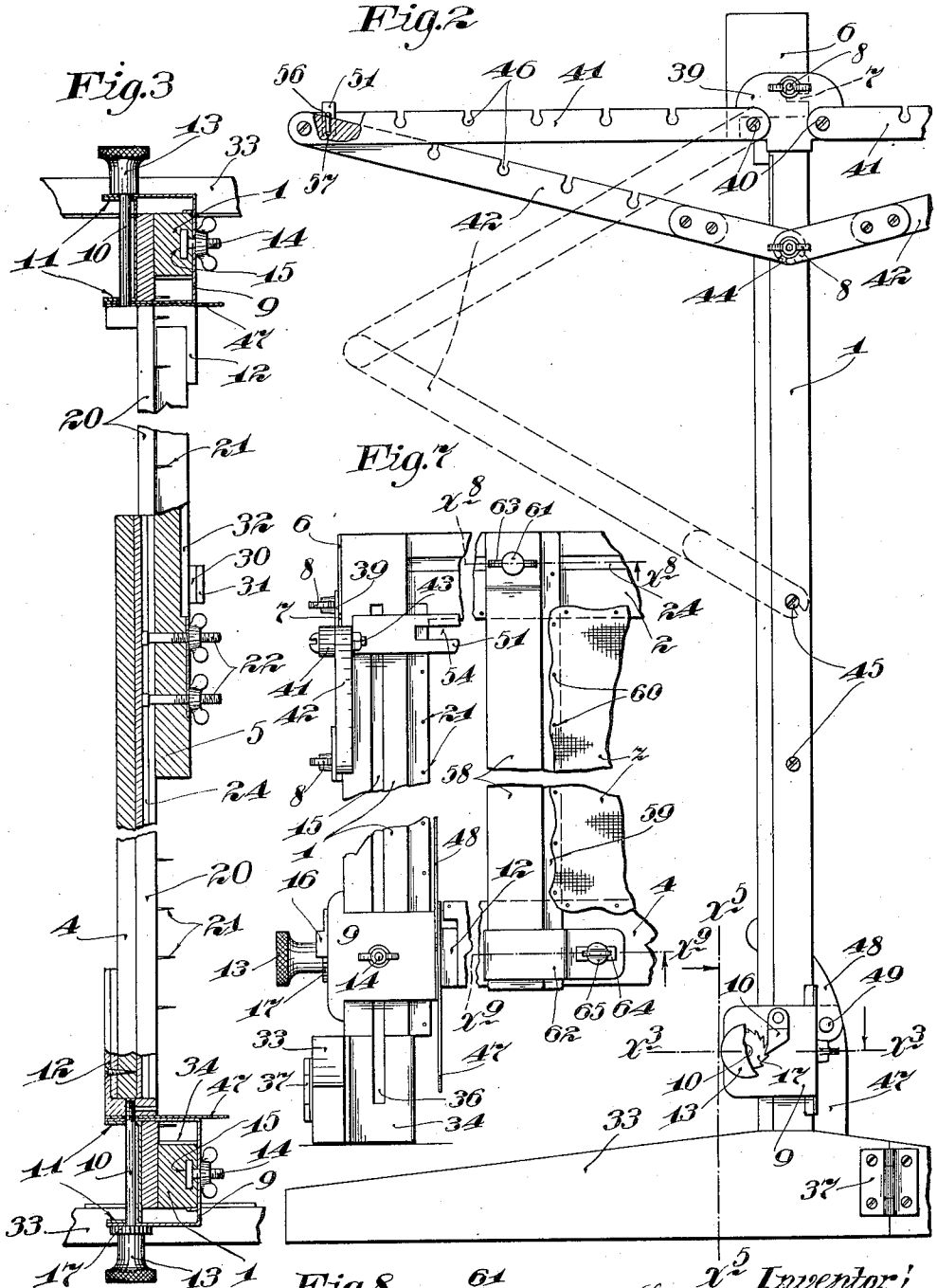
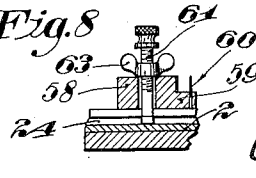


Fig. 3

Fig. 7

Fig. 8



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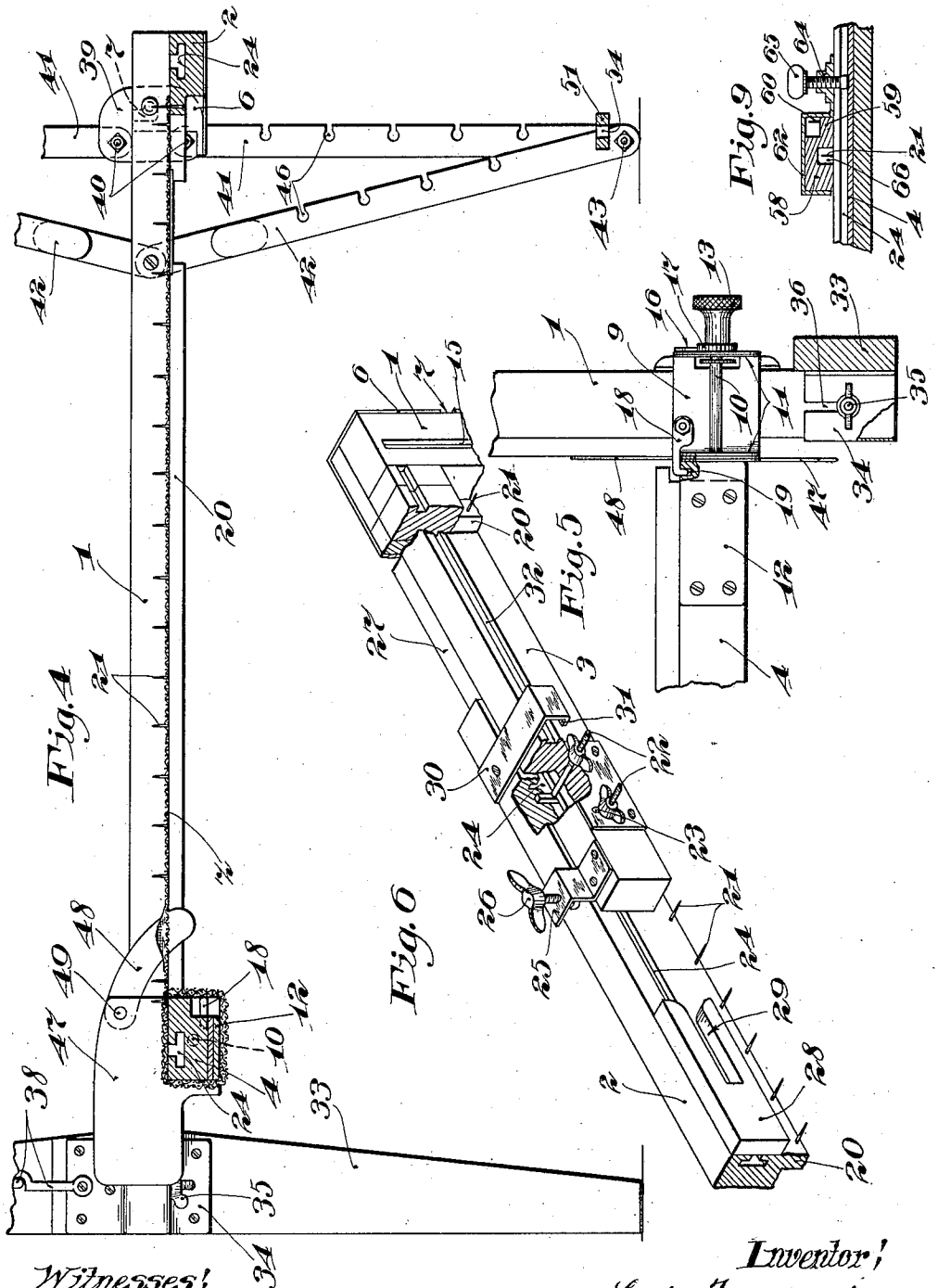


Fig. 4

Fig. 9

Fig. 5

Fig. 6

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UNITED STATES PATENT OFFICE.

LEWIS FRIDLUND, OF WILLMAR, MINNESOTA.

CURTAIN-STRETCHER.

1,092,347. Specification of Letters Patent. **Patented Apr. 7, 1914.**

Application filed January 9, 1913. Serial No. 741,107.

To all whom it may concern:

Be it known that I, LEWIS FRIDLUND, a citizen of the United States, residing at Willmar, in the county of Kandiyohi and State of Minnesota, have invented certain new and useful Improvements in Curtain-Stretchers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an adjustable frame for stretching curtains, and various other analogous articles and, to this end, it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings: Figure 1 is a front elevation of the improved frame shown in a vertical position; Fig. 2 is an end elevation of the parts shown in Fig. 1, some parts being broken away and some parts shown in different positions by means of dotted lines; Fig. 3 is a view principally in transverse horizontal section taken on the line x^3 x^3 of Fig. 2, some parts being broken away and other parts being removed; Fig. 4 is a longitudinal section taken on the line x^4 x^4 of Fig. 1, showing the improved frame turned into a horizontal position; Fig. 5 is a detail view partly in elevation and partly in section, taken on the line x^5 x^5 of Fig. 2; Fig. 6 is a perspective view showing the top end bar as shown in Fig. 1; Fig. 7 is a view in side elevation showing the upper and lower left hand corners of the frame with respect to Fig. 1; Fig. 8 is a detail view in section, taken on the line x^8 x^8 of Fig. 7; and Fig. 9 is a detail view in section, taken on the line x^9 x^9 of Fig. 7.

The frame of the improved curtain stretcher, as shown, comprises a pair of parallel side bars 1 and a pair of longitudinally adjustable end bars in rectangular arrangement. One of the end bars comprises a pair of overlapped longitudinally adjustable sections 2 and 3, and the other of said bars comprises a pair of overlapped longitudinally adjustable sections 4 and 5. On the outer end of each of the end bar sections 2 and 3 is rigidly secured a projecting L-shaped bracket 6, arranged to embrace the side bars 1. For adjustably and detachably securing these brackets 6 to the side bar 1, said brackets, at their free end portions, are provided with L-shaped lock notches 7, adapted to embrace either set of two pairs of longitudinally spaced thumb-nut equipped clamping bolts 8, anchored to the side bars 1.

To the outer ends of the end bar sections 4 and 5 is pivotally secured a pair of rectangular metallic bearing boxes slidably mounted, one on each of the side bars 1. For pivotally securing the end bar sections 4 and 5 to the bearing boxes 9, long pivot pins 10 are journaled in laterally spaced projecting flanges 11 on the bearing boxes 9. The pivot pins 10, at their inner ends, are rigidly anchored to brackets 12, secured on the outer ends of the end bar sections 4 and 5, and their outer ends terminate in knurled heads or finger pieces 13, by which said pivot pins 10 may be turned, to rotate the connected end bar sections 4 and 5, the purpose of which will presently appear.

For clamping the bearing boxes 9 onto the side bars 1, in different longitudinal adjustments, thumb-nut equipped clamping T-bolts 14 are mounted in perforations formed in the bearing boxes 9, with their heads arranged, for sliding movement, in longitudinally extended channels 15, formed in the side bars 1.

A pawl 16 and coöperating ratchet wheel 17 are provided for locking the connected end bar sections 4 and 5 to one of the bearing boxes 9 in different rotary adjustments. As best shown in Figs. 2 and 3, the pawl 16 is pivotally secured to the outer face of one of the bearing boxes 9 and the coöperating ratchet wheel 17 is rigidly secured to the adjacent finger piece 13. This locking device is particularly adapted for use when the frame is used for quilting purposes. For positively locking the end bar sections 4 and 5 in a predetermined position, a lock dog 18 is pivotally secured to the bearing box 9, to which the pawl 16 is secured, and coöperates with an aperture 19, formed in the bracket 12 on the end bar member 4. This locking device is particularly adapted for use when the frame is used as a curtain stretcher. The

side and end bars are each provided with an inwardly projecting flange 20. By reference to Figs. 1 and 3, it will be noted that when the end bar sections 2—3 and 4—5 are in the positions as shown in said views, their flanges 20 are alined one with the other, and that the flanges 20 on each end bar are located on opposite sides of the members of said bar. It will also be noted that the flanges 20 of the end bar sections 3 and 5 terminate short of the ends of said sections, to permit the end bar sections 3 and 5 to overlap the adjacent ends of the end bar sections 2 and 4. To these flanges 20 are rigidly secured a plurality of laterally projecting and longitudinally spaced fabric securing barbs or pins 21.

The overlapped ends of the end bar sections 2 and 3 and the end bar sections 4 and 5 are held for longitudinal adjustments and also for limited transverse adjustments by means of pairs of longitudinally spaced T-shaped thumb-nut equipped clamping bolts 22. The body portions of these bolts 22 are mounted in transversely extended elongated slots 23 formed in the inner ends of the end bar sections 3 and 5, and their heads are slidably mounted in longitudinally extended T-shaped channels 24 formed in the end bar sections 2 and 4. To hold the end bar sections 2 and 3 properly alined, a Z-shaped bracket 25 is secured to the inner end of the end bar section 3 and overlies the upper edge surface of the end bar section 2. An adjusting thumb screw 26 is mounted with screw threaded engagement in the overlying portion of the bracket 25 and bears against the upper edge portion of the end bar section 2.

On the back of each of the end bar sections 3 and 5 is rigidly secured a reinforcing bar 27. These reinforcing bars 27 terminate short of the inner ends of the end bar sections 3 and 5 and, as best shown in Fig. 6, are alined with the end bar sections 2 and 4, when the end bars of the frame are in the positions as shown in the drawings. To reduce the longitudinal length of the end bars from that shown in the drawings, it is necessary to laterally separate the coöperating members a distance equal to the thickness of the reinforcing bars 27, in order to permit said bars 27 to slide upon the end bar sections 2 and 4. In this position of the end bar sections a spacing block 28 is inserted between the spaced coöperating members and is provided with a notch 29 that embraces the clamping bolts 22. The end bar sections 2 and 4 are also provided each with an L-shaped supporting bracket 30, having an inturned flange 31 that slidably works in longitudinally extended channels 32, formed in the end bar sections 3 and 5, when said sections are in the positions just noted.

To the end of each side bar 1 on which the bearing boxes 9 are slidably mounted, is detachably secured a transversely extended ground engaging foot bar 33, having, at its intermediate portions, a transversely extended socket 34. These sockets 34 are adapted to telescopically receive the ends of the side bars 1 and are detachably secured thereon by thumb-nut equipped clamping bolts 35, anchored in the side bars 1 and arranged to be extended into entrance notches 36, cut in the sockets 34. Each foot bar 33 is transversely divided, adjacent to one side of its socket 34, and a hinge 37 connects the two sections of the foot bar 33 in a manner to permit the short section thereof to be folded flat against the long section thereof, the purpose of which will presently appear. Hooks and eyes 38 are provided for holding the two sections of each foot bar 33 alined.

Rack bar supporting head plates 39 are detachably secured to either of the two sets of clamping bolts 8 by means of perforations formed in said plates, through which the said bolts are projected. To each head plate 39 is pivotally secured, by screw bolts 40, a pair of oppositely projecting rack bars 41. An additional set of rack bars 42, which also act as braces, are pivotally secured, at one of their ends, to the outer ends of the rack bars 41 by screw bolts 43 and, in their other or free ends, lock notches 44 are formed. These lock notches 44 are arranged for interlocking engagement with either the lower set of clamping bolts 8 or with vertically spaced pairs of headed studs 45, secured to and projecting laterally from the side bars 1. Lock notches 46 are formed in the upper longitudinal edges of both sets of rack bars 41 and 42 and serve to receive and hold clothes lines that are laced back and forth between opposite pairs of the said rack bars. When the frame is in upright position, the head plates 39 may be secured to either of the sets of clamping bolts 8, for the purpose of changing the distance of the rack bars 41 above the ground. When the head plates 39 are secured to the upper set of clamping bolts 8, the notched ends 44 of the rack bars 42 may be interlocked with either the lower set of clamping bolts 8 or with either set of the headed studs 45.

When the improved frame is set up in a room and used either as a clothes line support, a curtain stretcher, or both, the short sections of the foot bars 33 may be folded into engagement with the long sections of said foot bars, and the overlying rack bars may be turned downward into inoperative positions, in order to permit the improved frame to be placed close to the wall. When the improved frame is used as a quilting frame, the same would be turned into a horizontal position, as shown in Fig. 4 of the drawings. In this use of the frame, the

short section of the foot bar 33 and the rack bars on the same side of the frame may be left in the positions just described, so that they will be out of the way of the person working over the frame. On the inner face of each bearing box 9 is rigidly secured a guard plate 47, which prevents the quilt from catching on the pins 21 of the side bars 1, as the quilt is being wound onto the end bar sections 4 and 5. Fabric releasing fingers 48 are pivotally secured at 49 to the guard flanges 47, as best shown in Figs. 1 and 4, and when turned into operative positions, work between the flanges 20 of the side bars 1 and the connected fabric. The purpose of these releasing fingers 48 is to automatically lift the fabric Z from the securing pins 21 during the sliding movement of the boxes 9 as the said fabric is wound onto the end bar sections 4 and 5.

By throwing a canvas over the improved frame, when it is set up as shown in Fig. 2, the same may be converted into a tent, and, if desired, a hammock may be swung between the side bars 1. In this use of the frame, the end bar sections 4 and 5 may be entirely removed.

In respect to the reinforcing bars 27, it is, of course, evident that the same may be formed integral with the end bar sections 3 and 5.

Longitudinally adjustable brace rods are provided to prevent the outer ends of opposite pairs of rack bars 41 and 42 from drawing toward each other, under the strain of the clothes line attached thereto. Each of these brace rods comprises a pair of members 50 and 51, slidably mounted one upon the other at their inner ends and held in this position by a loop band 52 and a pair of clamping bolts 53. The loop band 52 is rigidly secured to the inner end of the member 51, and the member 50 is slidably mounted therein for endwise movement. The clamping bolts 53 are passed through perforations in the inner end of the member 50 and work slidably in a longitudinally extended slot 54 formed in the member 51. The bolts 53 are equipped with thumb nuts 55 for clamping the two members of the brace bars together in different set adjustments. A hook 56 is anchored to the outer end of each member 50 and 51. These hooks are detachably mounted in seats 57 formed in the rack bars 42.

To permit two curtains of different lengths to be attached to the improved frame at the same time, a supplemental bar 58 is provided, having a longitudinally extended flange 59, to which is secured a plurality of spaced laterally projecting barbs or pins 60. The ends of this supplemental bar 58 are adjustably secured to the end bars 2 and 4 for movements toward and from the side bars 1 by a clamping T-bolt 61 and a clip 62. The clamping bolt 61 is loosely mounted in a perforation in the supplemental bar 58, and its T-head is slidably mounted in the channel 24 of the end bar 2, for movements toward and from the side bars 1. A thumb nut 63 having screw threaded engagement with the bolt 61 is provided for frictionally clamping the supplemental bar 58 onto the end bar 2. The clip 62 transversely embraces the supplemental bar 58, as best shown in Fig. 9, and is provided with a nut-equipped extension 64, arranged to be frictionally clamped onto the upper face of the end bar 4, by a thumb-nut equipped bolt 65, having screw threaded engagement with said nut-equipped extension 64. The head of the bolt 65 is slidably mounted in the channel 24 of the end bar 4. The clip 62 holds the supplemental bar 58 against lateral movement on the end bar 4, but with freedom for endwise movement therethrough, to permit adjustment of the end bars 4 and 5 toward and from the end bars 2 and 3. In the bottom of the supplemental bar 58 is formed a channel 66 that embraces the adjacent pin 21. Obviously, the supplemental bar 58 may be turned end for end, to permit the same to be used in connection with either of the side bars 1. It is also evident that a supplemental bar may be attached to the end bars 3 and 5.

What I claim is:

1. In a device of the kind described, the combination with connected side and end bars in rectangular arrangement, of means connecting one of said end bars to said side bars with freedom for rotary and sliding movements, means for locking said rotary and sliding end bar in either of its two adjustments, means for detachably securing a fabric to said side and end bars, and means carried by said rotary and sliding end bar, for releasing the fabric from said securing means on the side bars during the sliding movement of said rotary and sliding end bars, substantially as described.

2. In a device of the kind described, the combination with connected side and end bars in rectangular arrangement, of means connecting one of said end bars to said side bars with freedom for rotary and sliding movements, means for locking said rotary and sliding end bar in either of its two adjustments, means for detachably securing a fabric to said side and end bars, and fabric releasing fingers carried by said rotary and sliding side bars and arranged to be moved into either operative or inoperative position, substantially as described.

3. In a device of the kind described, the combination with connected side and end bars in rectangular arrangement, one of said end bars having pivotally secured to its ends bearing boxes slidably mounted on said side bars, of means for adjustably se-

curing said bearing boxes to said side bars and the connected end bar, fabric securing devices on said side and end bars, and fabric releasing fingers pivotally secured to said bearing boxes, for releasing the fabric from said side bars, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS FRIDLUND.

Witnesses:
V. E. FRIDLUND,
C. C. HASKELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."