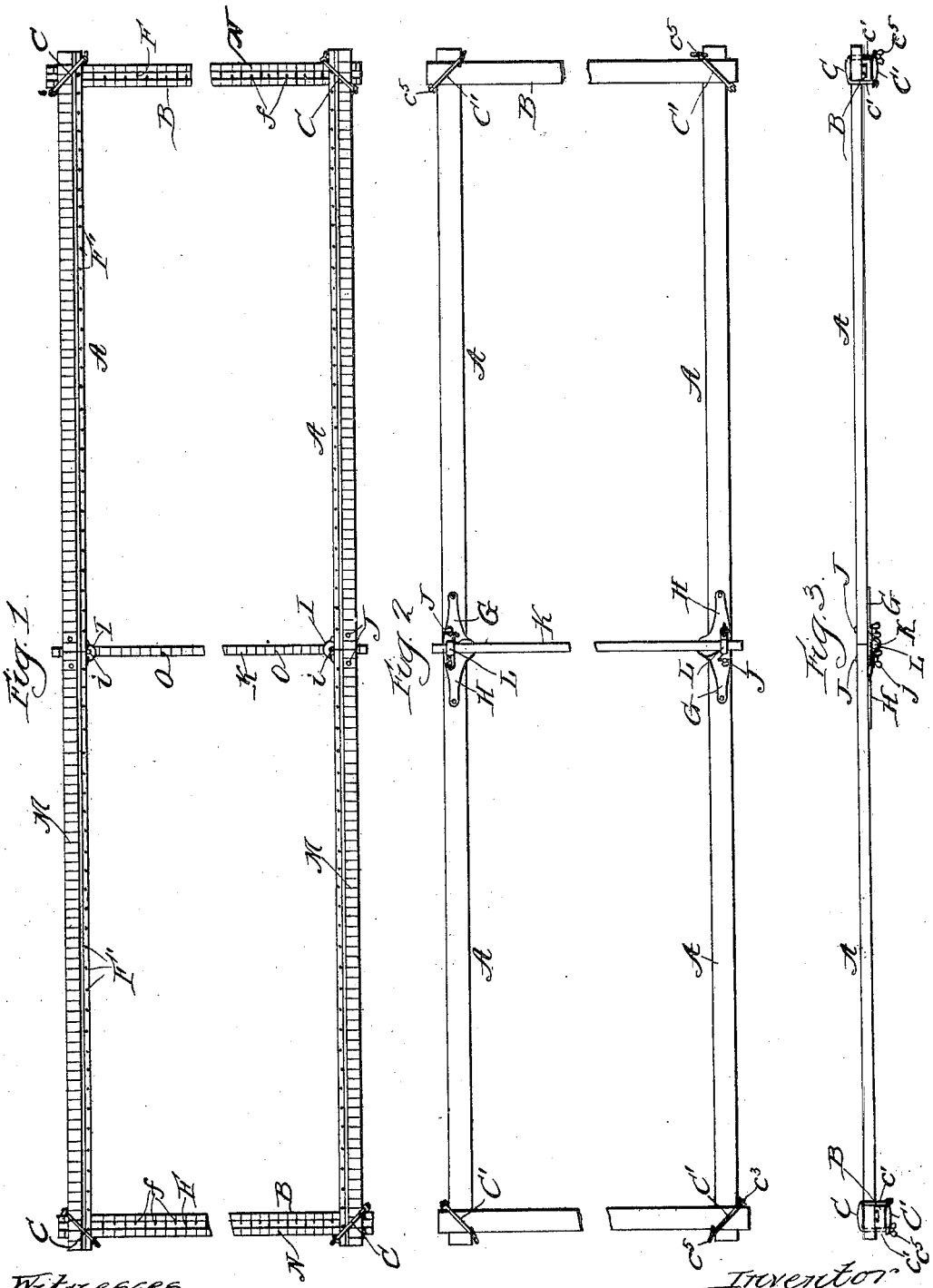
No. 676,895. Patented June 25, 1901.

R. HOFFHEINS.

CURTAIN STRETCHER.

(Application filed Apr. 25, 1898.)

(No Model.) 2 Sheets—Sheet 1.



Witnesses
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Fig. 4.

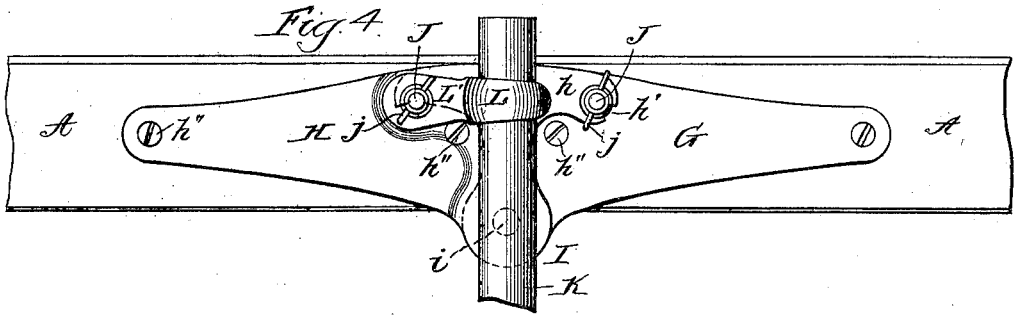


Fig. 5.

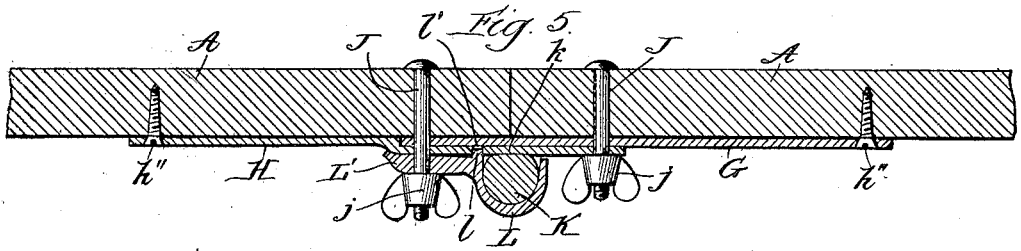


Fig. 6.

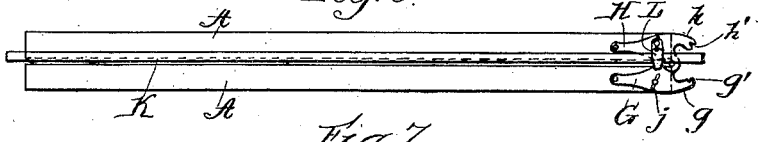


Fig. 7.

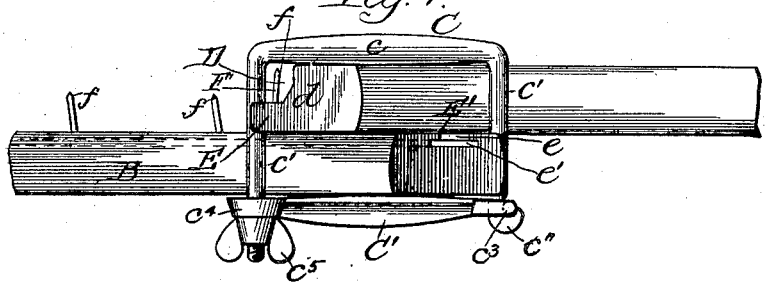


Fig. 8.

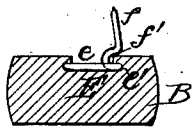


Fig. 9.

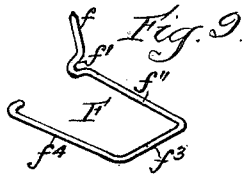
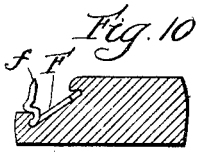


Fig. 10.



Witnesses.
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Inventor
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UNITED STATES PATENT OFFICE.

REUBEN HOFFHEINS, OF CHICAGO, ILLINOIS.

CURTAIN-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 676,895, dated June 25, 1901.

Application filed April 25, 1898. Serial No. 678,746. (No model.)

To all whom it may concern:

Be it known that I, REUBEN HOFFHEINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Curtain-Stretchers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a top or plan view showing the stretcher in position for use, with the end rails and brace or tie-rod broken out; Fig. 2, a bottom view showing the stretcher in position for use, with the end rails and brace or tie-rod broken out; Fig. 3, a side or edge view of the stretcher in position for use; Fig. 4, a detail showing a portion of the divided side rail, the hinge, one end of the cross-brace or tie-rod, and its clamp or clasp; Fig. 5, a detail in longitudinal section of the parts shown in Fig. 4; Fig. 6, a bottom view showing a side rail folded, with the cross-brace or tie-rod extended longitudinally on the rail; Fig. 7, a detail in perspective of a corner of the frame, showing the corner-clamp; Fig. 8, a detail in cross-section of an end rail, showing the groove for the pin, with the pin therein; Fig. 9, a perspective view of the attaching-pin, and Fig. 10 a detail in cross-section of a grooved side rail.

This invention relates to stretcher-frames intended more especially for use in stretching and drying curtains, but which can be used for receiving and holding other articles or fabrics, and has for its objects to securely and firmly bind together at the corners the side and end rails or pieces composing the frame and dispensing with the use of slots in the rails or pieces for adjusting purposes, thereby leaving the frame with the full strength of the rails or pieces and enabling the rails or pieces to be made of less width of material; to locate and bring the curtain or fabric attaching pins in a plane approximately the same at the retaining-points, and thereby prevent liability of slipping off in passing from rail to rail at the juncture or corners of the frame; to insure a firm and strong support for the attaching-pins with the rails or pieces; to firmly support the middle or center of the frame against sagging or bending and assist the hinge in this respect, and to improve generally the construction and operation of the several parts entering into the construction of the frame as a whole; and its nature consists in providing a clamp consisting of a yoke portion encircling the frame rails or pieces at the corner and a swinging or movable cross bar or piece coacting with the yoke to draw the frame rails or pieces closely one to the other; in providing the end rails or pieces with a groove or recess in the upper face to receive movable attaching-pins having points projecting above the pin-face of the side rails; in providing a movable attaching-pin having a spring or yielding base and a bend or indentation in the pin portion proper, at or near the base of the pin, to receive or pass above the edge of the groove or rest and furnish a rest or support for the pin on the face of the rail or against the rail; in providing a side or edgewise opening hinge, a cross-bar or tie-rod, and a clamp or clasp operated by the bolt or means that clamps the hinge to tightly clamp or clasp the brace or tie-rod, and in the several parts and combinations of parts hereinafter described, and pointed out in the claims as new.

In the drawings, A represents the side rails or pieces, each divided or jointed at the center; B, the end rails or pieces; C, a yoke consisting of a cross piece or bar c and side arms or bars c', one of which has an eye or hook c'' and the other has its end screw-threaded to receive a thumb-nut c^5. A cross piece or bar C′ has at one end an eye or loop c^3 to receive the eye or hook c'' and attach the cross piece or bar C′ to the yoke C, and its opposite end has an eye or loop c^4 to receive the screw-threaded end of the yoke arm or bar c', so that by means of the nut c^5 the yoke can be drawn snugly and firmly against the pieces or rails A and B of the frame. The yoke and cross-bar C′ form a clip or stirrup, and, as shown, the bearing-face of the yoke C and cross-bar C′ at the top and bottom is slightly concave, so as to give a firm and strong pressure on the pieces or rails and insure a firm bite of the clip against the rails or pieces and the drawing of the parts closely and tightly together.

D is a space on the inner upper edge of each side rail or piece for the location of the attaching-pins.

E is a flange on the inner lower edge of each side rail or piece through which the attaching-pins are driven for their body and points to lie in the space D in line with or below the frame of the rail-face, and, as shown, the juncture of the flange E with the body of the rail or piece A is at an angle or incline *d*, which gives strength and support at that point for the flange.

The upper face of each end piece or rail B has a groove or recess E′, consisting of a lower cut or portion *e′* and a mouth or opening *e*, which groove or recess E′ receives movable attaching-pins *f*, while the flange E receives stationary attaching-pins F′, driven through the flange in the construction shown in Figs. 1 and 7; but, if desired, an inclined, groove could be provided in the side rails, as shown in Fig. 10.

F is the support or base for the movable or adjustable pins, each base formed integral with its pins *f* by bending a piece of wire on itself to have two side arms or pieces *f‴* and f^4, connected at one end by a cross-bar f^3, as shown in Fig. 9, and having the pin *f* at the free end of the arm or side piece *f‴* with a bend or curve *f′* at or near the point of juncture, by which the pin is given a bearing or support at the edge of the mouth *e* on the face of the rail, as shown in Figs. 8 and 10. The arm or side piece *f‴* lies within the slot or cut *e′*, and the arm or side piece f^4 also lies in this slot or cut *e′* on the opposite side, as shown in Figs. 8 and 10, and these arms or side pieces *f‴* and f^4 at their free ends throw outward and, as shown, the free end of f^4 is turned inwardly to permit the ready entrance of the support F into the slot or groove E′. The side pieces or arms *f‴* and f^4 have a spring action by which the support is self-held in position by the bearing of the arms against the walls of the slot or cut *e′*, which spring action does not interfere with the ready and easy changing or moving of the pins in use. These movable or adjustable pins in the end rails or pieces permit their being brought together or spread apart at any desired point for setting the side rails or pieces at the required distance apart for the width of curtain or fabric, and by providing the bend or curve *f′* the pin is brought over the edge of the mouth or opening *e* and away from the inner edge of the rail, which with an inclined slot, as in Fig. 10, not only gives a firm bearing and support on the rail or piece for the pin, but also carries it farther away from the edge of the mouth or opening *e*, so that there will be less danger of breaking out or splitting the edge from strain in use.

G is one plate or section of the hinge, having on its inner end a projection or tongue *g*, with a notch or recess *g′* in its inner edge. H is the other plate or section of the hinge, having on its inner end a projection or tongue *h*, with a notch or recess *h′* in its inner edge. The projections or tongues *g* and *h* when the hinge is closed respectively underlap and overlap the body of the opposite plate or section, as shown in Figs. 4 and 5, making an overlap-joint for the hinge, and the plates or sections G and H are attached to the side rail by screws *h″*, as shown, or in any other suitable manner.

I represents the pivot-ears for the hinge, one on each plate or section G and H, each ear having a hole for the pivot *i* to bring the center line of the pivot in line with the rail-joint when the hinge is attached.

J represents clamping-bolts, one passing through each plate or section G and H and through the side rail or piece, each bolt having a thumb-nut *j* for clamping purposes. These bolts J are so located and arranged with reference to the tongues or projections *g* and *h* as to enter the notches *g′* and *h′* when the hinge is closed, so as to clamp and lock the hinge when closed.

K is the cross-brace or tie-rod, extending from side rail to side rail of the frame at the hinge, with the ends of the brace or tie extending across the face of the hinge, and, as shown, the brace or tie-rod has a flat face *k* adjacent to the hinge.

L is a clamp or clasp, one for each hinge, each having an arm or extension L′, with a hole for the passage of a clamp-bolt J, by which the clamp or clasp is attached in position for the nut *j* to draw it closely and tightly over the end of the brace or tie-rod, by which arrangement the hinge is clamped and locked and the brace or tie-rod is locked and held by one and the same means. As shown, the clamp or clasp L has a stud or projection *l*, which enters a hole *l′* in the hinge and serves to guide and hold the clamp or clasp against lateral swinging.

M is a scale or measure on the face of each side rail or piece, which scale or measure can be divided into feet and the feet subdivided into inches and divisions of inches.

N is a scale or measure on the end rails or pieces of the frame, which scale or measure can be divided into feet and the feet subdivided into inches and divisions of inches. These scales or measures M and N facilitate the setting and squaring of the frame and are fully shown, described, and claimed in my application, Serial No. 676,343, filed April 4, 1898.

O is a scale or measure on the cross-brace or tie-rod K, which scale or measure corresponds with the scales or measures on the end rails or pieces B, and by its use insures the setting of the side rails or pieces at the same distance apart throughout the entire length of the frame, as by bringing the center of the side rails on scale-marks of the cross-brace or tie-rod, and the ends of the side rails on the corresponding and coinciding marks on the scale of the end rails it will

be seen that the side rails must lie straight and at the same distance apart from end to end, insuring the straightening of the side rails by the hinge assisted by the cross-brace or tie-rod K, and preventing one end from being set out of line with the center and other end of the side rail or piece.

The sections or halves of the divided side rail, with the attaching-pins, are brought together to have their inner ends abut one against the other and to be in alinement. The hinge is then secured to the under face of the side rail by the screws h'' or otherwise to have the ears I on the inside of the rail and the center of the pivot i in line with the joint of the rail. The bolts J are inserted from the front face through the rail and the plates G and H, one bolt for each plate. The clasp or clamp L is slipped onto one of the bolts J for the stud or projection l to enter the hole l', and the thumb-nuts j are entered into the bolts J when the side rails are ready for application to a frame.

The frame is formed by placing the two side rails on top of the two end rails, the end rails having the movable and adjustable pins therein, by slipping the support or base of each pin into the groove or recess E'. The clamps or clips are applied by slipping the yoke C of each clamp or clip over the side and end rail at each corner for the cross-bar c to lie diagonally across the upper face of the side rail, and the side arms or pieces c' in the opposite corners, formed by the crossing of the side and end rail, then bringing the cross-bar C', attached at one end to the yoke by the eye or hook c'' and eye or loop c^3, diagonally across the face of the end rail and slipping the eye or loop c^4 thereof over the screw-threaded end of the side arm or piece c' and then entering the nut c^5 onto the screw-thread and screwing the nut down until the cross-bar c and the cross-bar C' draw tightly onto the frame rails or pieces, locking and holding the frame at each corner as the clips are applied to the corners, and when the rails or pieces are all bound together at the corners by the clamps or clips and the frame adjusted in length and width it is ready for use to receive a curtain or other fabric, which is attached by catching the scallops of the curtain or the edges of the fabric on the pins F' and f at the sides and ends.

The cross-brace or tie-rod K has its ends slipped into the clasps or clamps L when the frame is together ready for use and when in place is locked and held by turning down the nut j, which at the same time draws and clamps together the hinge and tightens and locks the joint of the side rail or piece.

The frame is adjusted to different sizes by loosening the corner-clips, by turning back the clamp-nuts c^5, and loosening the nuts j to release the clamps or clasps L and free the cross-brace or tie-rod K, and in this condition the end rails can be moved inward or outward on the side rails, as required for a short or long frame, and the side rails can be moved inward or outward on the end rails, as required for a wide or narrow frame, and in changing the side rails the movable or adjustable pins f permit the side rails to be moved, as these pins can be bunched together or separated, so as to leave a space for the location of the side rails, and when the frame is adjusted for length and width the corners are again locked by the clips or stirrups uniting the frame at the corners, and the cross-brace or tie-rod is adjusted to have its scale correspond with the scale of the end bars and then locked and held by setting down the clamps or clasps L around and over the brace or tie-rod.

The frame can be taken apart and folded up for setting away or shipment by removing the corner-clips, allowing the side and end rails to be taken apart, loosening the clamping-bolts J, turning the clasp or clamp L for the brace or tie-rod K to lie longitudinally on a side rail, and folding the side rail at the hinge, bringing one side rail and brace or tie-rod into the position shown in Fig. 6 and the other side rail into a similar folded position, but without the brace, and then the end rails and side rails can be made into a small and compact bundle.

The pins f of the end rails project above the line of the pin part of the side rail, so that when the frame is together the points of the pins f and the base of the pins F' will pass each other, by which arrangement there is no drop at the juncture or corners of the frame that amounts to a degree sufficient to be a disadvantage in attaching the curtain or fabric, as is the case where the pins of both sets of rails are in plane the thickness of the frame, one below the other, at each corner of the frame, and this result is had by locating movable pins in a groove or recess on the upper face of the end rails and extending or lengthening the body of each pin so that its point is above the top or upper face of the side rail flange for the pins, as shown in Fig. 7, which shows a stationary pin in the side-rail, and the same result is had by using movable or adjustable pins located in an inclined groove or recess in the side rail, as shown in Fig. 10.

The corner-clips furnish a quick and ready means for clamping or loosening the corners, as all that is required is to release or tighten the clip by turning the nut c^5 forward or back, and this can be done without any trouble or delay.

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

1. The combination, with the divided side rails of a stretcher-frame each having a sidewise-opening hinge at the rail-joint, of a cross-brace or tie-rod, and a clamp or clasp mounted on the hinge, substantially as and for the purposes specified.

2. The combination, with the divided side rails of a stretcher-frame each having a sidewise-opening hinge, each hinge having an ex-

tended tongue at the inner end, a cross-brace or tie-rod, a clamp or clasp on the hinge, and clamping-bolts, one of which is common to the hinge and the clamp or clasp, and tightens the hinge and locks and holds the brace or tie-rod, substantially as specified.

3. The combination with the divided side rail of a stretcher-frame having its sections united by a hinge, of a cross-brace or tie-rod extending across the face of the hinge and endwise movable, and means uniting the hinge and the cross-brace or tie-rod and locking the rail-sections when extended, substantially as and for the purposes specified.

4. In a stretcher-frame the combination of a divided side rail or bar, a hinge uniting the sections of the divided side rail and opening and closing edgewise, a cross-brace or tie-rod, and means clamping the hinge and locking and holding in place the cross-brace or tie-rod, substantially as and for the purposes specified.

5. The combination of an edgewise-folding side rail or bar in a stretcher-frame, with a hinge opening and closing edgewise, a cross-brace or tie-rod, extending across the hinge at the joint of the rail or bar, and means for connecting, clamping and locking the brace or tie-rod on the hinge, substantially as described.

6. The combination of a folding side rail or bar in a stretcher-frame, with a pivotal hinge opening and closing edgewise to unfold and fold the side rail or bar, and having an end extension which when the hinge is opened, overlaps the joint of the rail or bar, a cross-brace or tie-rod, mounted on the hinge, a clasp or clamp receiving the end of the brace or tie-rod, and means common to the hinge and clasp or clamp for locking the hinge and drawing the clasp or clamp around the brace or tie-rod, substantially as specified.

7. In a curtain-stretcher frame having divided side rails connected by edgewise opening and closing hinges, a cross-brace or tie-rod extending over the hinges and means for clamping each hinge, between the side rail and the cross-brace or tie-rod, substantially as described.

8. A sliding pin for a stretcher-frame, consisting of a base, an inward bend at the base furnishing a support for the pin when in place in a rail, an outward curve for the pin to rest on the rail when in place, and support the pin against strain, and an upwardly-projected pin end from the outward curve, substantially as described.

9. A sliding adjustable pin for a curtain-stretcher frame, having a base to enter a longitudinal slot or groove in the frame-rail, and having above the base an outward bend, or curve beyond the base of the pin to overlie the body of the rail, with an upwardly and inwardly inclined pin end, substantially as described.

10. A curtain-stretcher bar having a rabbeted upper edge, an open longitudinal slot in the rabbeted upper edge, wider at its base than on the face of the rail, in combination with an adjustable pin movable in said slot, and having an outward curve above the base extending over the body of the rail, thereby supporting the pin against outward strain and having above the curve an upwardly-projected pin-point, substantially as described.

11. A curtain-stretcher bar, having a depressed inner upper edge and a longitudinal dovetail slot, opening upon the depressed upper edge, in combination with a movable retaining-pin, having a base supported in said slot, with the body of the pin upwardly extended, and curved outward above the base to furnish a rest and support for the pin proper on the face of the depressed edge of the rail, against outward strain, substantially as described.

12. A curtain-stretcher bar having a rabbeted upper edge with a longitudinal slot or groove therein, widest at its base, and opening on the rabbeted upper edge, in combination with a sliding pin having a base supported in said seat, and a double bend above the base, constructed to have the lower bend encircle the lip or flange of the slot and rest upon the face of the bar, and to have the upper bend project the pin upwardly with an inward inclination, substantially as described.

13. In a curtain-stretcher, a side rail comprising bars joined together at adjacent ends by a hinge, such hinge consisting of plates pivoted together, a cross-bar on the under side of the side rail with the hinge interposed between it and the side rail, and means for simultaneously drawing together the side rails, the hinge and the cross-brace or tie-rod, substantially as described.

14. In a curtain-stretcher, a side rail comprising bars joined together at adjacent ends by a hinge, such hinge consisting of plates pivoted together, a cross-brace or tie-rod on the under side of the side rail with the hinge interposed between it and the side rail with the adjacent ends of the plates of the hinge and of the bars of the side rail overlapped by the cross-brace or tie-rod, and a clamp for the cross-brace or tie-rod, whereby the tightening of the clamp compresses the hinge between the cross-brace or tie-rod and the side bars of the rail, substantially as described.

15. In a curtain-stretcher, a side rail comprising two bars joined together at adjacent ends by a hinge, a hinge consisting of plates pivoted together, a portion of the adjacent ends of the plates overlapping for the pivoting thereof, a cross-brace or tie-rod on the under side of the side rail with the hinge interposed between it and the rail, a clamp for the cross-brace or tie-rod, and a bolt for the clamp for the tightening of the nut on the bolt to simultaneously draw together the side rail, the hinge, and the cross-brace or tie-rod, substantially as described.

16. In a curtain-stretcher, a side rail comprising bars, joined together at adjacent ends by a hinge, a hinge consisting of plates pivoted together, a portion of the adjacent ends of the plates overlapping for the pivoting thereof, a cross-brace or tie-rod on the under side of the side rail with the hinge interposed between it and the rail and arranged so that the adjacent ends of the plates of the hinge and the bars of the side rail are overlapped by the cross-brace or tie-rod, a clamp for the cross-brace or tie-rod and a bolt for the clamp, whereby the tightening of the nut of the bolt draws the cross-brace or tie-rod to place, and compresses the adjacent ends of the hinge between the cross-brace or tie-rod and the rail, substantially as described.

17. In a curtain-stretcher frame having a divided side rail connected by an edgewise opening and closing hinge, a cross-brace or tie-rod extending across the frame from such side rail to the opposite side rail and over the hinge, in combination with clamping means for the cross-brace or tie-rod, whereby the cross-brace or tie-rod, the hinge, and the side rail, can be simultaneously clamped and locked together, substantially as described.

18. In a curtain-stretcher frame, a divided side rail connected by an edgewise inwardly opening and closing hinge on one side of the rail, with the hinge-pivot in line with the rail-joint, and a cross-brace or tie-rod crossing such hinge in line with the rail-joint, in combination with clamping means, whereby the hinge will be clamped between the cross-brace or tie-rod and the face of the rail at the joint when the frame is opened out for use, substantially as described.

19. In a curtain-stretcher frame, a divided side rail connected by an edgewise opening and closing hinge, and a cross-brace or tie-rod extending over the hinge in line with the rail-joint; in combination with means for clamping together the ends of the rails, the hinge, and the cross-brace or tie-rod with the hinge interposed between the rail and the cross-brace or tie-rod, substantially as described.

20. A hinge for a divided side rail of a stretcher-frame, consisting of two companion plates pivoted together at one side to open edgewise and having on each plate a tongue or overlap, in combination with a divided side rail, a cross-brace or tie-rod crossing the hinge at the rail-joint and engaging the face of the hinge, and a clamping device for drawing the cross-brace or tie-rod against the face of the hinge, and compressing the hinge between the cross-brace or tie-rod and the rail ends, substantially as described.

21. In a folding curtain-stretcher frame, a pivotal connecting-hinge consisting of two companion plates connected to the side face of the abutting ends of the side rails on one side of the rail, with the pivot of the hinge in line with the rail-joint, for the hinge to open and close edgewise, and a cross-brace or tie-rod extended from side rail to side rail across the hinge in line with the rail-joint, in combination with means for clamping and locking together, the ends of the rails, the hinge and the cross-brace or tie-rod, substantially as described.

22. The combination with the rail of a stretcher-frame having in its receiving-face a dovetail groove or recess, of an attaching-pin having a base longitudinally movable in the dovetail groove or recess and having its body extending upward from the base to lie in a plane adjacent to and resting against the inner-edge face of the groove or recess for the body of the pin to project vertically upward at the front or inner edge of the rail and have a longitudinal, lateral, and vertical support from the groove or recess in use, substantially as described.

23. The combination in a stretcher-frame having in its receiving-face a dovetail groove or recess, of an attaching-pin having a base movable in the dovetail groove or recess and having its body extending upward from the base against the inner-edge face of the groove or recess and formed for the body to overlie the face of the rail adjacent to the inner edge and have an upward projection from, and a support on the face of the rail at the inner edge against inward inclination or tip in use, substantially as described.

24. The combination in a stretcher-frame of side rails each having an inclined depressed inner-edge face, a dovetail groove or recess in each inclined face, a series of pins each having a base movable in the groove or recess with a body extending up from the base against the inner-edge face of the groove or recess, and formed for the body to overlie the face adjacent to the inner edge of the rail and have an upward projection from and a support on the depressed face of the rail at the front or inner edge against inward inclination or tip in use, and end rails each having a level upper face, a straight-line dovetail groove or recess in each upper face, and a series of pins each having a base movable in the groove or recess with a body extending up from the base against the inner-edge face of the groove or recess, and formed for the body to overlie the face adjacent to the inner edge of the rail and have an upward projection from and a support on the face of the rail at the front or inner edge against inward inclination or tip in use for bringing the pins of the side and end walls in close relation for attaching purposes, substantially as described.

25. In a curtain-stretcher frame, the combination of a divided side rail or bar, a hinge uniting the side rail or bar at its abutting ends, a cross-brace or tie-rod extending from side rail to side rail of the frame and over the body of the hinge, and means for drawing the cross-brace or tie-rod against the face of the hinge and tightening the hinge between the side rail or bar and the cross-brace or tie-rod, substantially as described.

26. In a curtain-stretcher, the combination of a divided side rail or bar, a hinge for the rail or bar at the joint thereof, and a cross-brace or tie-rod, between which and the rail or bar the hinge is clamped and tightened, substantially as described.

27. In a curtain-stretcher, the combination of a divided side rail or bar, a hinge for the side rail or bar uniting the rail or bar at its abutting ends, a cross-brace or tie-rod extending over the body of the hinge and side bars, and a clamping-bolt passing through the side rail or bar, and the hinge, and operative to draw together the side rail or bar, the hinge and the cross-brace or tie-rod, and tighten the hinge between the cross-brace or tie-rod, and the side rail or bar, substantially as described.

28. In a curtain-stretcher, the combination of a hinge uniting the sections of a divided side rail or bar, and a cross-brace or tie-rod extending over the body of the hinge and connected therewith, for clamping both leaves of the hinge together, and to the cross-brace or tie-rod, substantially as described.

29. In a curtain-stretcher, the combination of a hinge uniting the sections of a divided side rail or bar, and a cross-brace or tie-rod extending over the body of the hinge and clamped thereto for the clamp to act and bind together the hinge and the cross-brace or tie-rod, substantially as described.

30. In a curtain-stretcher having a divided side rail connected by an edgewise inwardly opening and closing hinge on one side of the rail, with the hinge-pivot in line with the rail-joint, a cross-brace or tie-rod crossing such hinge in line with the rail-joint, in combination with clamping means, whereby such hinge will be clamped between the cross-brace or tie-rod and the face of the abutting ends of the side rail, when the frame is opened out for use, substantially as described.

31. In a curtain-stretcher frame having a divided side rail, connected by an edgewise opening and closing hinge, a cross-brace or tie-rod extending over the hinge in line with the rail-joint, in combination with means for clamping together the abutting ends of the rail, the hinge and the cross-brace or tie-rod, substantially as described.

32. A hinged connection for a divided side rail of a stretcher-frame permitting the rail to fold edgewise, in combination with a cross-brace or tie-rod extending across the stretcher-frame and the hinged connection, and means for clamping the hinged connection between the cross-brace or tie-rod and the rail, substantially as described.

33. In a curtain-stretcher frame having divided side rails connected by edgewise opening and closing hinges, a cross-brace or tie-rod extending over the hinges in line with the rail-joints, in combination with means for simultaneously clamping together the abutting ends of the rails, the hinges and the cross-brace or tie-rod, substantially as described.

34. In a curtain-stretcher frame having divided side rails connected by an edgewise opening and closing hinge, a cross-brace or tie-rod extending across the frame from side rail to side rail and over the hinge, in combination with a clamping-bolt for the hinge and side rail, whereby the abutting ends of the side rails, the hinge and the cross-brace or tie-rod can be simultaneously clamped and locked together, substantially as described.

35. In a curtain-stretcher frame having divided side rails, the bars forming one of said rails connected by a hinge consisting of two companion plates pivoted together at one side for opening and closing edgewise, a cross-brace or tie-rod extending from side rail to side rail across the connecting-hinge, in combination with a clamping-bolt, whereby the abutting ends of the rail, the hinge and the cross-brace or tie-rod are simultaneously clamped together, substantially as described.

36. A hinge for a divided side rail of a stretcher-frame, consisting of two companion plates pivoted together at one side to open edgewise and having on each plate a tongue or overlap, in combination with a divided side rail, a cross-brace or tie-rod crossing the hinge at the rail-joint and engaging the face of the hinge, and a single clamping device for drawing the cross-brace or tie-rod against the face of the hinge and locking and stiffening the hinge at the rail-joint, substantially as set forth.

37. In a curtain-stretcher frame having divided side rails connected by edgewise opening and closing hinges, a cross-brace or tie-rod extending across the frame from side rail to side rail and over the hinges, in combination with a clamping-bolt for each hinge and side rail, whereby the abutting ends of the side rails, the hinges and the cross-brace or tie-rod can be simultaneously clamped and locked together, substantially as described.

REUBEN HOFFHEINS.

Witnesses:
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