F. W. LANE.

ATTACHMENT FOR DOOR CLAMPS.

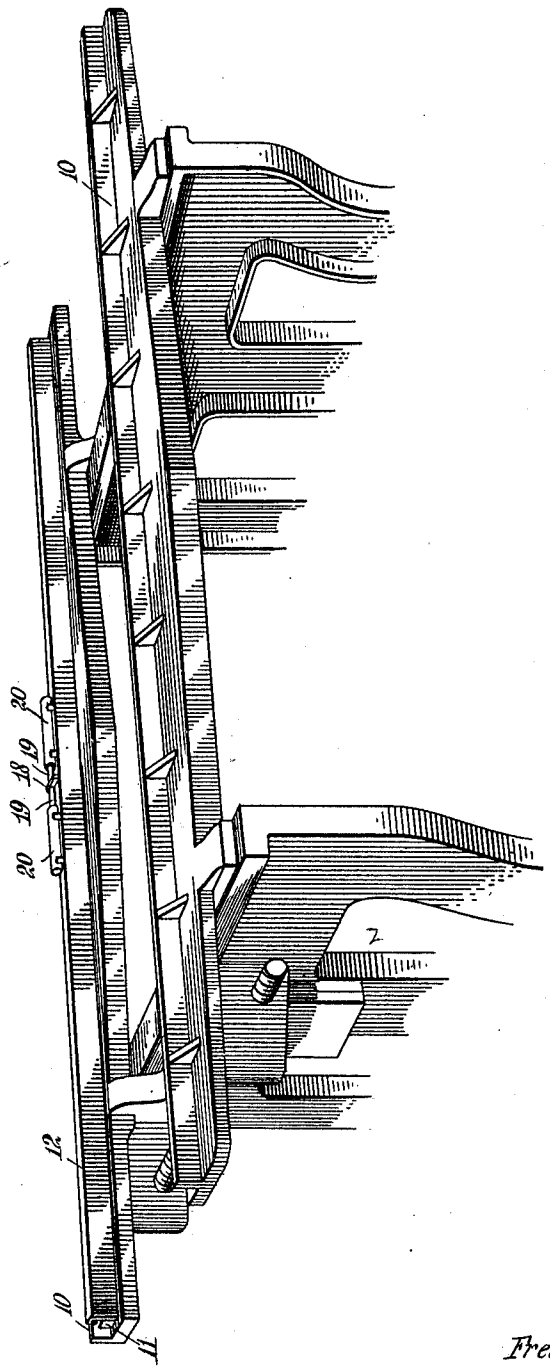
APPLICATION FILED AUG. 20, 1910.

992,008.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

INVENTOR

Frederick W. Lane

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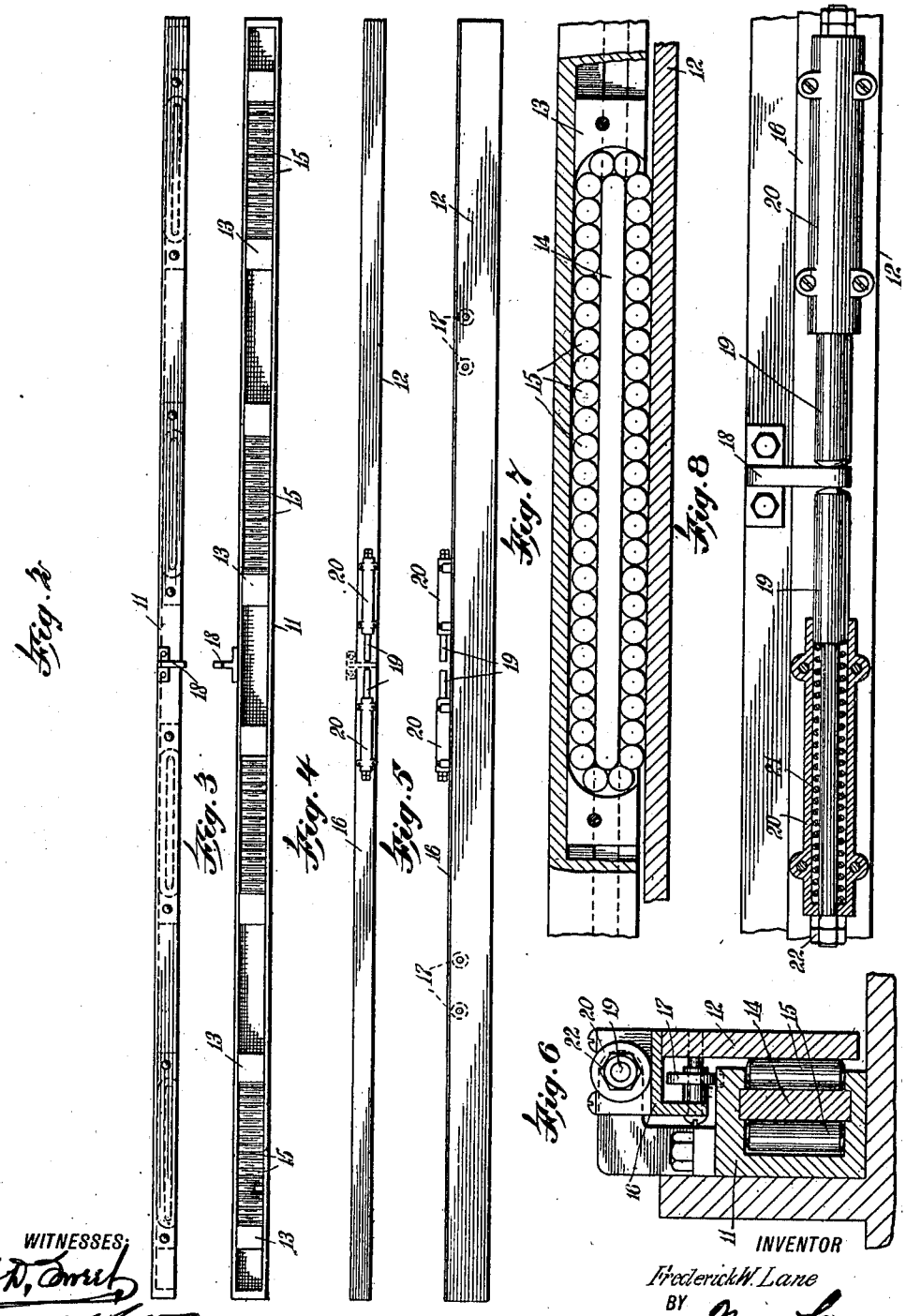

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FREDERICK WALTER LANE, OF CHICO, CALIFORNIA.

ATTACHMENT FOR DOOR-CLAMPS.

992,008. Specification of Letters Patent. Patented May 9, 1911.

Application filed August 20, 1910. Serial No. 578,107.

To all whom it may concern:

Be it known that I, FREDERICK W. LANE, a citizen of the United States, and a resident of Chico, in the county of Butte and State of California, have invented a new and Improved Attachment for Door-Clamps, of which the following is a full, clear, and exact description.

The invention is an attachment for clamps as used in the manufacture of doors, sash, blinds, etc., in clamping the various parts together, as the stiles and rails, and has for its purpose to prevent appreciable friction between one of the jaws of the clamp and the door or similar piece of mill work, so that the stiles and rails will be brought at exactly right-angles to each other when the door is fully pressed together. To this end the attachment comprises a bearing-bar constructed to bear flat against one of the jaws of the clamp, and having endless raceways containing rollers, and a presser-bar bearing on the rollers, with one of the bars having a projection and the other bar having spring-pressed members normally bearing against the opposite sides of the projection, and operating to return the presser-bar to central position when the latter is released by the door or other object clamped.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a door clamp having my improved attachment applied to one of the jaws; Fig. 2 is a plan of the bearing-bar; Fig. 3 is an inner face view of the same; Fig. 4 is a plan of the presser-bar; Fig. 5 is an inner face view of the same; Fig. 6 is a cross-section through the attachment as applied to one of the jaws of the clamp; Fig. 7 is a fragmentary horizontal section through the attachment; and Fig. 8 is a fragmentary plan of the same, partly in horizontal section.

For the purpose of illustrating the application and nature of my improved attachment, I have shown a conventional form of door clamp embodying relatively long and parallel clamping jaws 10, 10, adjustable to and from each other. The attachment comprises a bearing bar 11, ordinarily of the length of one of the jaws of the clamp, and a presser-bar 12, the clamping-bar, as shown in Figs. 3, 6 and 7, being in the nature of a channel bar, with the open side arranged adjacent to the presser-bar and divided into a number of roller compartments by spacing blocks 13, which are arranged to approximately distribute the compartments uniformly throughout the length of the bar, each roller compartment having a vertical partition or bearing plate 14, terminating at each end short of the blocks 13, and forming in connection therewith an endless roller raceway, in which are arranged vertical rollers 15, the inner length of rollers protruding from the inner face of the bearing-bar 11 and presenting a bearing surface for the presser-bar. The presser-bar 12 has a longitudinally-extending angle-iron 16, attached to its upper edge, with the outer flange of the angle-iron depending over the top of the bearing-bar 11 and forming in connection with the presser-bar an inverted channel, in which are journaled a number of rollers 17, bearing on the top of the bearing-bar 11 and supporting the lower edge of the presser-bar above the bottom of the bearing-bar, the roller bearings 15 and 17 operating to permit of the presser-bar moving freely longitudinally of the bearing-bar, even when the presser-bar is subjected to lateral pressure. To the upper face of the bearing-bar 11, and preferably at the center, is attached a projection or ear 18, arranged to overhang the top or angle-iron of the presser-bar 12 and be engaged at opposite sides by plungers 19, slidable in barrels or sockets 20, attached to the top of the presser-bar, the outer portion of each plunger within its socket being of reduced diameter to receive a helical spring 21, normally forcing the plunger inwardly against the ear 18, the inward movement of the plunger being limited by lock nuts or other enlargements 22, secured to the outer end thereof at the outside of the barrel.

The attachment is applied to the clamp as shown in Fig. 6, wherein it will be seen that the outer closed face of the bearing-bar bears flat against the inner face of one of the clamping-jaws, the presser-bar being retained centrally of the bearing-bar by the engagement of the spring plungers 19 with the ear 18. With the attachment in this position, the door, sash or similar piece of mill work is laid flat in the clamp, with the stiles extending lengthwise of the clamping-jaws. When the jaws are forced together,

if the shoulders presented by the mortise and tenons of the rails and stiles do not strike exactly flat, the presser-bar moves in a direction along the length of the bearing-bar to bring the joints of the door, etc., flat together, thus securing the stiles and rails at exactly right-angles to each other. When the clamping-jaws are released, the plungers again return the presser-bar to central position in readiness to receive the next piece of work. When it is desired to use the clamp in the ordinary manner, the attachment is removed by simply lifting it from the clamping jaw.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In an attachment for doors and like clamps, a bearing-bar constructed to be sustained by one of the jaws of the clamp, a presser-bar freely movable on the bearing-bar, a projection carried by one of said bars, and spring-pressed members carried by the other of said bars and bearing against the opposite sides of the said projection.

2. In an attachment for doors and like clamps, a bearing-bar constructed to be sustained by one of the jaws of the clamps, a presser-bar, roller bearings arranged between the two bars, adapting the presser-bar to move freely longitudinally of the bearing-bar, and means to automatically return the presser bar to initial position when it is displaced.

3. In an attachment for door and like clamps, a bearing bar, a member projecting from said bar, a presser bar movable relatively to said bearing bar, and means acting on said member whereby the presser bar is maintained centrally of the bearing bar.

4. In an attachment for door and like clamps, a bearing bar, an ear projecting from said bar, a presser bar movable relatively to said bearing bar, and spring-controlled plungers pressing on opposite sides of said ear, whereby the presser bar is maintained centrally of the bearing bar.

5. In an attachment for door and like clamps, a bearing bar, a presser bar movable relatively to said bearing bar, an angle-iron projecting from said presser bar and overlying said bearing bar, and roller bearings journaled in the said angle-iron and presser bar, whereby the presser bar is movable relatively to said bearing bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK WALTER LANE.

Witnesses:

J. J. BAKER,

H. B. BOUNDS.