

## Sash and Door Clamps.

No. 143,236.

Patented September 30, 1873.



Witnesses.

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## IMPROVEMENT IN SASH AND DOOR CLAMPS.

Specification forming part of Letters Patent No. **143,236**, dated September 30, 1873; application filed November 16, 1872.

*To all whom it may concern:*

Be it known that I, ROBERT L. GREENLEE, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sash and Door Clamps; and I do hereby declare that the following is a complete specification thereof.

The object of the present invention is to provide a simple, cheap, and substantial clamp, whereby doors, sash, and blinds may be conveniently clamped, both lengthwise and crosswise, on the same frame; and its nature consists in the use of a stationary bearing and movable bearings, which may be conveniently arranged with reference to each other to clamp a door, sash, or blind at the proper place, and which each supports a movable clamp that can readily be moved or set to suit the width of a door, sash, or blind, and a movable clamp, which is operated by a pivoted lever, draw-bar, curved rack, and rack-lever to clamp a door or other article, and hold the clamp in place until the wedging, gluing, or pinning shall have been completed. And it further consists in the use of a longitudinal clamp, which is placed between the side clamps, and is made of such a thickness, with reference to them, as not to come above the seats on which the doors, &c., rest, leaving the longitudinal clamp free to be moved lengthwise under the door or other article to be clamped. The long clamp is provided with clamping-blocks, one of which is readily movable a long distance, while the other is operated upon by a cam or screw to clamp the door.

In the drawing, Figure 1 is a perspective representation of my improvement in clamps; Fig. 2, an enlarged section thereof.

A B G G' represent a suitable substantial frame to support the mechanism of my clamp. C D E represent bearers, which are usually made of wood, and placed transversely on the longitudinal frame-pieces A B. The bearer C is rigidly fastened to the said pieces A B; but the bearers D E are, by means of guides *f*, Fig. 2, to slide longitudinally on them, that the clamps L *a* may occupy such positions as may be necessary to clamp doors, sash, and blinds of different sizes. The clamps *a* are provided with seats Z for doors to rest on,

and downwardly-projecting prongs *b* to clasp into rabbets *v* and hold the inner end of the seats to the bearer; and, also, with one or more downwardly-projecting teeth, *n*, Fig. 2, which lock into suitable-toothed racks *e*, made of metal, and countersunk into the bearers, the outer ends *c* of the clamps being susceptible of occupying an elevated position when an adjustment to or from the clamp L is to be made. The clamps L are provided with seats P, on which doors rest when being clamped, and with tongues, which run in grooves S in the bearers, and are thus kept in place in their longitudinal movement.

The means for drawing the clamps L consists of levers N T, curved racks M, draw-bars R, and pivot-plates U, the latter being bolted fast to the bearers C D E. The racks are pivoted to the ends of the bearers at *d*, and pass through slots in the levers N; and that part of the lever shown at T is pivoted to the plates U, and the draw-bars R are pivoted to lugs or eyes *h*, Fig. 2, on the under sides of the clamps L, and to the part T. This arrangement is such that when the lever T N is moved in the direction of the dart *m* the clamp L will move in the direction of dart *r*, and thus clamp a door resting on seats P Z.

To hold the lever N to firmly lock the clamp L, one hand must be placed on the short lever or arm *w*. This will force the lower end of the curved rack inwardly, so that the teeth will catch on a plate, *x*.

As will be seen in both figures, the seats Z P are sufficiently elevated above the bearers to allow a longitudinal clamp to rest on the latter and not interfere with the position of a door. This clamp-bar is shown at H, and it is provided with a clamp, I, which can be securely fastened by means of a short pin or spur put into holes in the bar, or it may be set to or from the clamp J, Fig. 1. This latter clamp is operated by a cam, K, so as to clamp a door longitudinally, or it may be operated by a screw. The weighted bar W will elevate the levers T N when the teeth on rack M are released from the plate or catch *x*.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a sash and door clamp-

ing machine, of two or more clamps, *a* L, constructed with clamping-lever N and rack M mounted upon a bar, E, adjustable along the bearers A B, and entirely detached from the said bearers or their supports.

2. The combination of the clamps *a* L, draw-rod R, lever N, pivoted rack M, and counter-

weight W with the bar E and an adjustable longitudinal clamp, I J K, as set forth.

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Witnesses:

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