

JAMES H. PHILLIPS.
Improvement in Clamps.

No. 128,064.

Patented June 18, 1872.

Fig. 1.

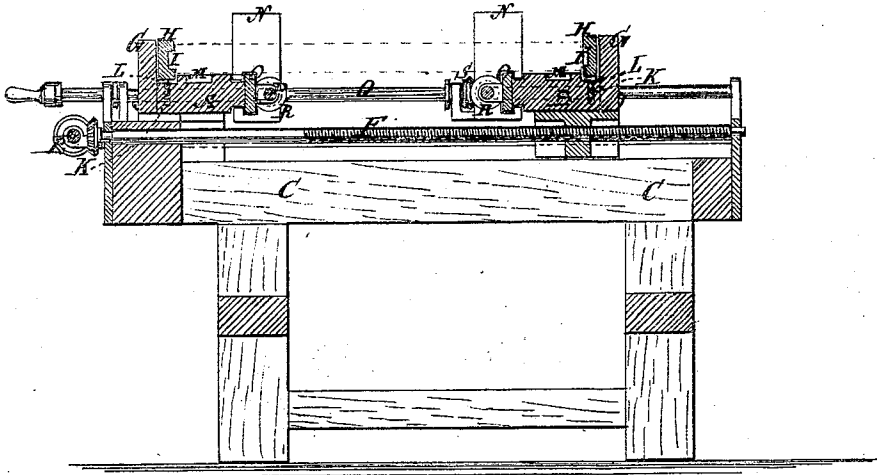
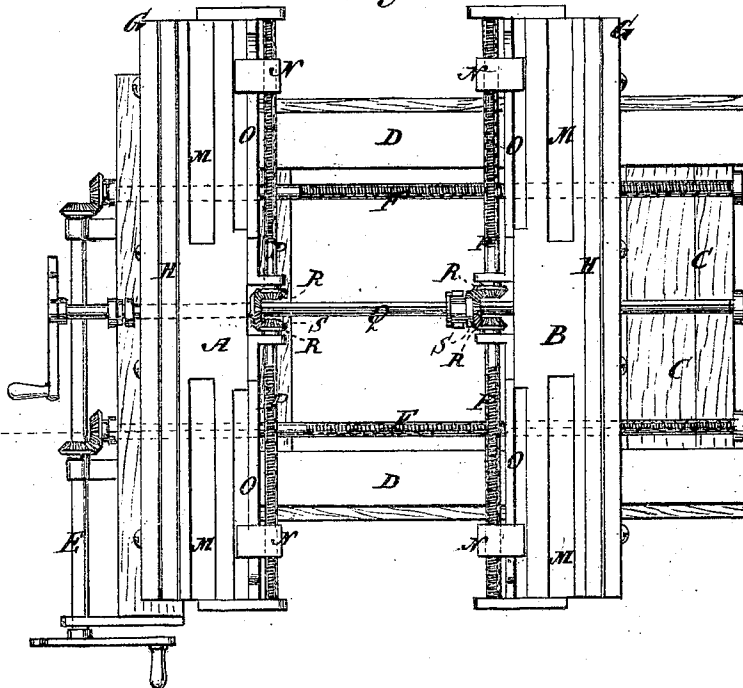


Fig. 2.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CLAMPS.

Specification forming part of Letters Patent No. 128,064, dated June 18, 1872.

Specification describing a new and Improved Door, Blind, and Sash Clamp, invented by JAMES HENRY PHILLIPS, of Troy, in the county of Rensselaer and State of New York.

My invention consists of clamps for the sides and ends of the sash or other frame to be squared and pressed together, and twin screws, which are geared in such manner that the clamps for the sides will be actuated by one hand-crank and those for the ends by another, the said clamps being all mounted on two head-blocks, one of which is movable toward or from the other by the screws which operate the end clamps, the screws for the side clamps being right and left handed.

Figure 1 is a longitudinal sectional elevation of my improved machine, and Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

A and B represent the two head-blocks mounted on a frame, C, of any suitable kind, the one, A, being stationary and the other, B, movable toward or from it on the ways D, being actuated by the screws F, which are geared with the hand-crank shaft E, arranged along the outside of frame C at the end next the head-block A. These head-blocks receive the frames to be clamped on the upper side between the end pieces or clamps G, which rise up above the level of the blocks at the outer edges, to be forced against the ends of the sash, blind, or other frame when the block B is moved toward A by the screws for squaring it and pressing it snugly together; but inside of these pieces G is a vertically-adjustable piece, H, with a groove, I, on the side coming against the frame, so that the tenons of the side pieces of the frame, which are caused to extend through the mortises of the end pieces by the pressing or clamping of the frame together in this way, will have room to project as far as they may, and not be obstructed as they would without these grooves, and these pieces are made vertically adjustable by screws K, or other means, to bring the grooves to coincide with the tenons of thick or thin sash or other frames. A groove, L, is provided in the head-blocks to allow

these pieces to drop low enough for their grooves to come right for the tenons of their frames. M represents the grooves in the upper sides of the head-blocks to allow of boring and pinning the frames while confined between the clamps. The said grooves afford space below for the boring-tool to work clear through, and for the chips that may be discharged by the tool and the pin; also, for the latter to project somewhat. In practice these grooves may be extended through the blocks in the form of slots, to allow the chips to escape. The clamps for the sides of the frames consist of the blocks N, mounted on the ways O of the blocks A B, and having the twin right and left hand screws P fitted in them, as shown, and gearing with the hand-crank shafts Q by the wheel R and S, one of said wheels, S, being arranged to slide along said crank-shaft with the head-block B, which also carries two of the blocks N.

In operation the frame to be squared and clamped will preferably be clamped at the ends first, because two of the side-clamping blocks N move with the block B; but this is not absolutely essential, for the said blocks N, which move with the blocks B, may be moved along the frame after being clamped by them.

For clamping and squaring doors, which are commonly secured by splitting the tenons and driving in wedges, I propose to detach the pieces G, and use blocks like the ones N, to afford access to the tenons for so wedging them, in which case the grooved pieces H will not be needed.

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

The combination of the fixed head-block A, movable one B, clamping pieces G, blocks N and their operating screws and crank-shafts, the said clamping-blocks N being mounted on the head-blocks A B, all substantially as specified.

JAMES HENRY PHILLIPS.

Witnesses:

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