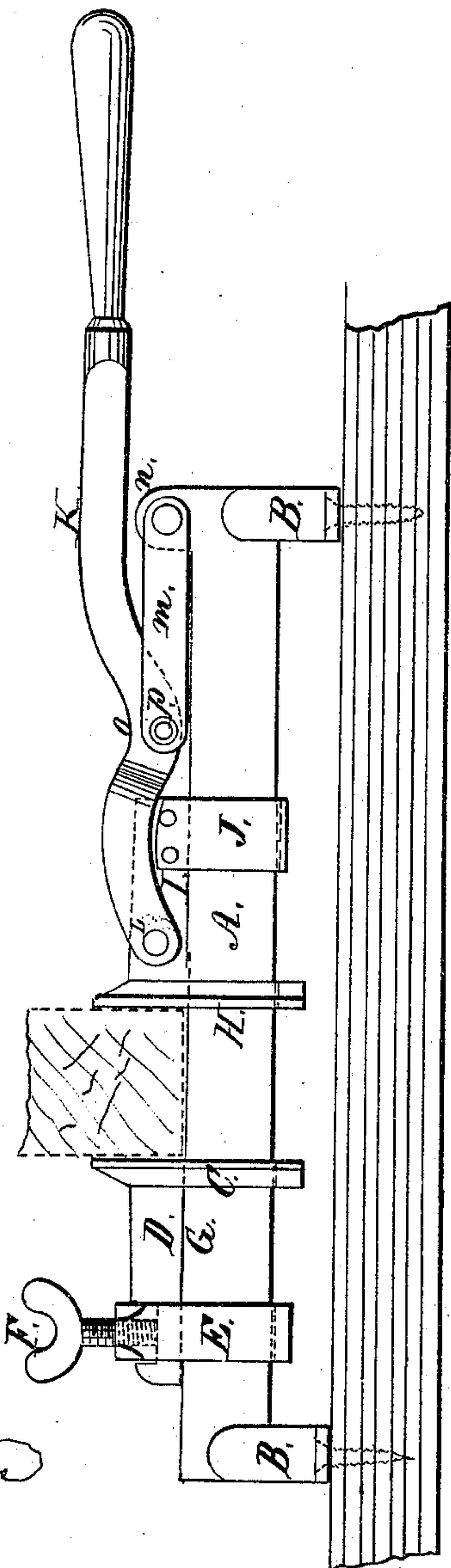


Halle Farra.

Sash and Door Clamp.

N^o 98,765.

Patented Jan. 11, 1870.



Witnesses:

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United States Patent Office.

GEORGE H. HALL AND LORENZO D. FARRA, OF GERMANTOWN, PENNSYLVANIA.

Letters Patent No. 98,765, dated January 11, 1870; antedated January 7, 1870.

IMPROVEMENT IN SASH AND DOOR-CLAMP.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, GEORGE H. HALL and LORENZO D. FARRA, of Germantown, in the county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Sash and Door-Clamp; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to a new and useful improvement in clamps for putting together sashes and doors, and for other purposes, whereby the operation is greatly facilitated; and consists in arranging sliding jaws on a main bar, one of which jaws is adjustable and fastened by a screw. The other jaw is moved by means of a lever, with toggle-joints, the sash or door or other work being squeezed between the two jaws, as will be hereinafter more fully described.

The accompanying drawing represents a longitudinal view of the clamp complete, showing the construction and method of operation.

A is the bar, to which is attached the transverse stands or lugs B, for keeping the clamp in a proper position, or fastening it to the bench.

C is the adjustable jaw, to which is attached the shank D.

E is a band, fastening around the shank and bar A, which fits into a recess in the shank, as seen in the drawing, and is fastened by a set-screw, F, when the jaw is placed in the desired position.

It will be seen that the under side of this shank is cut away, so that when it is fastened by the screw it acts as a lever, whose fulcrum is at G.

H is the fastening-jaw, the shank I of which is confined to the bar by the sliding band J.

K is the lever, which is forked at the end, and jointed to the shank I, at L.

M represents a toggle-bar, on each side of the lever, which bars are jointed to a projecting lug, n, on the end of the bar A, at one end, and to the curved portion o of the lever, at p, at the other end.

By this arrangement an equal pressure is exerted on both ends of the joint-pins, at p and n, when the lever is operated, and the same thereby rendered capable of sustaining a much greater strain than would be the case were a single bar employed.

The lever K is pivoted to the forward end of the bar I, near the jaw H, in order to prevent the binding or friction of the band J on bar A, that would result if the connection or joint were made at the rear end of said bar I.

To accommodate this arrangement, the lever K is bent laterally around the bar I, and thus brought into line with it and the lug n.

A downward curve of the lever, at o, is rendered necessary, in order to make the same self-fastening when the bars m are parallel to the bar A, the variations necessary for accommodating different kinds of work being made, by means of the adjustable jaw C.

The advantages of this arrangement over the ordinary screw-clamp are many, and must be obvious to all.

Having thus described our invention,

We claim as new, and desire to secure by Letters Patent—

1. The adjustable jaw C, with its lever-shank D, fastening-band E, and screw F, in combination with the bar A, substantially as and for the purposes described.

2. The combination of the jaw H, lever K, and toggle-bar m, with the bar A, arranged substantially as described, for the purposes set forth.

3. The particular construction and arrangement, herein shown and described, of the lever K, with reference to the bar I, the jaw H, band J, bar A, toggle-bars m, and the lug n, whereby it is adapted to operate as and for the purpose set forth.

GEORGE H. HALL.
LORENZO D. FARRA.

Witnesses:

JOSEPH KING,
WM. O. HALL.