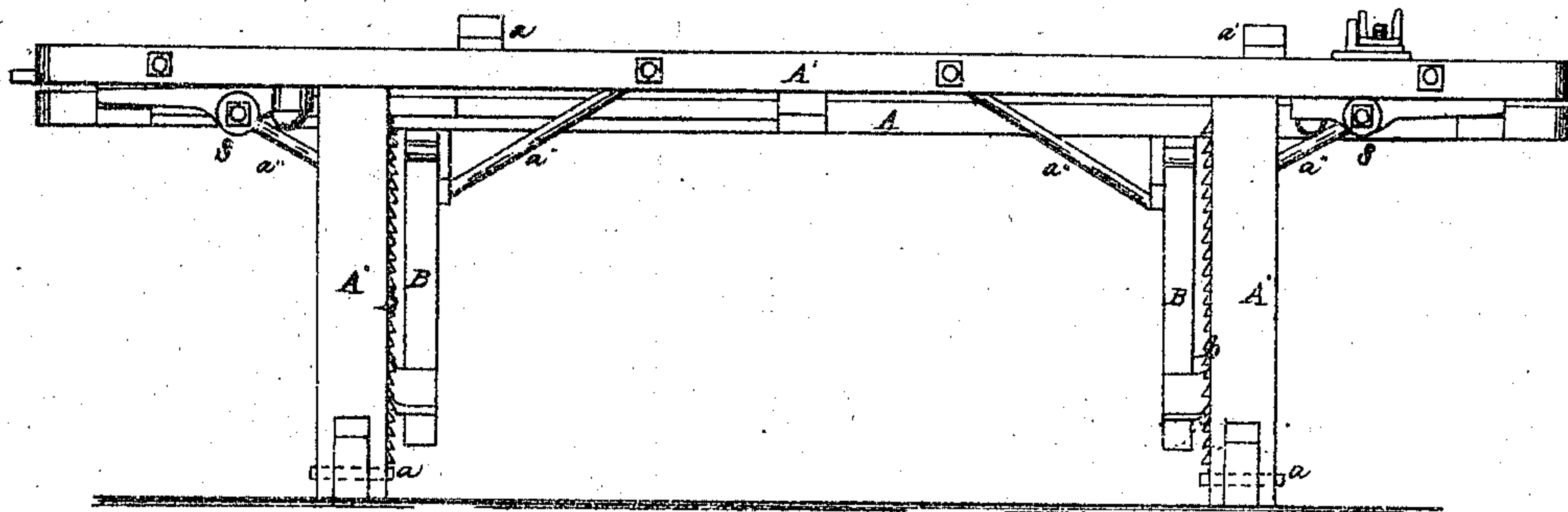


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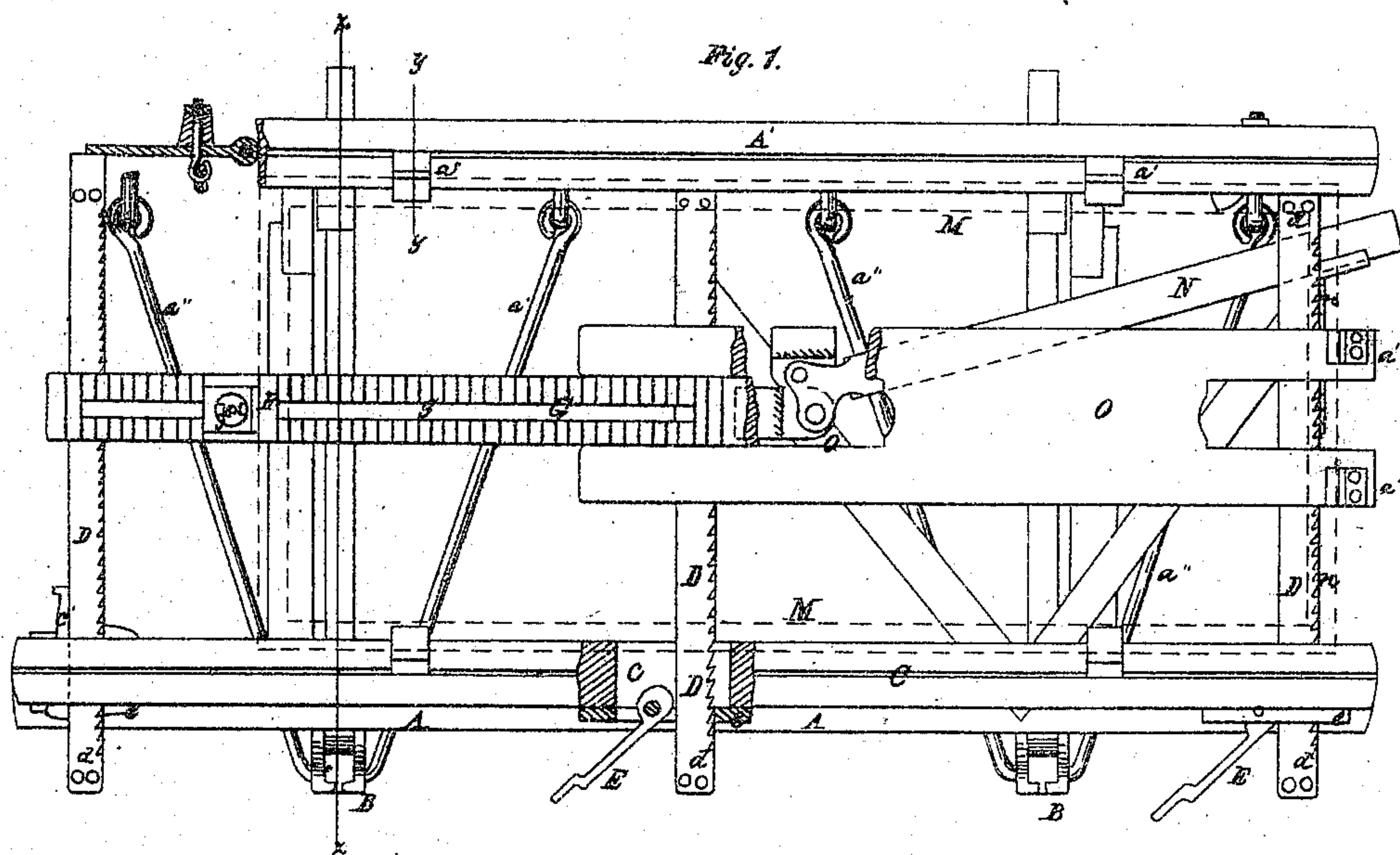
N<sup>o</sup> 75.880.

*Patented Mar. 24. 1868.*

*Fig. 2.*



*Fig. 7.*



*Fig. 3.*

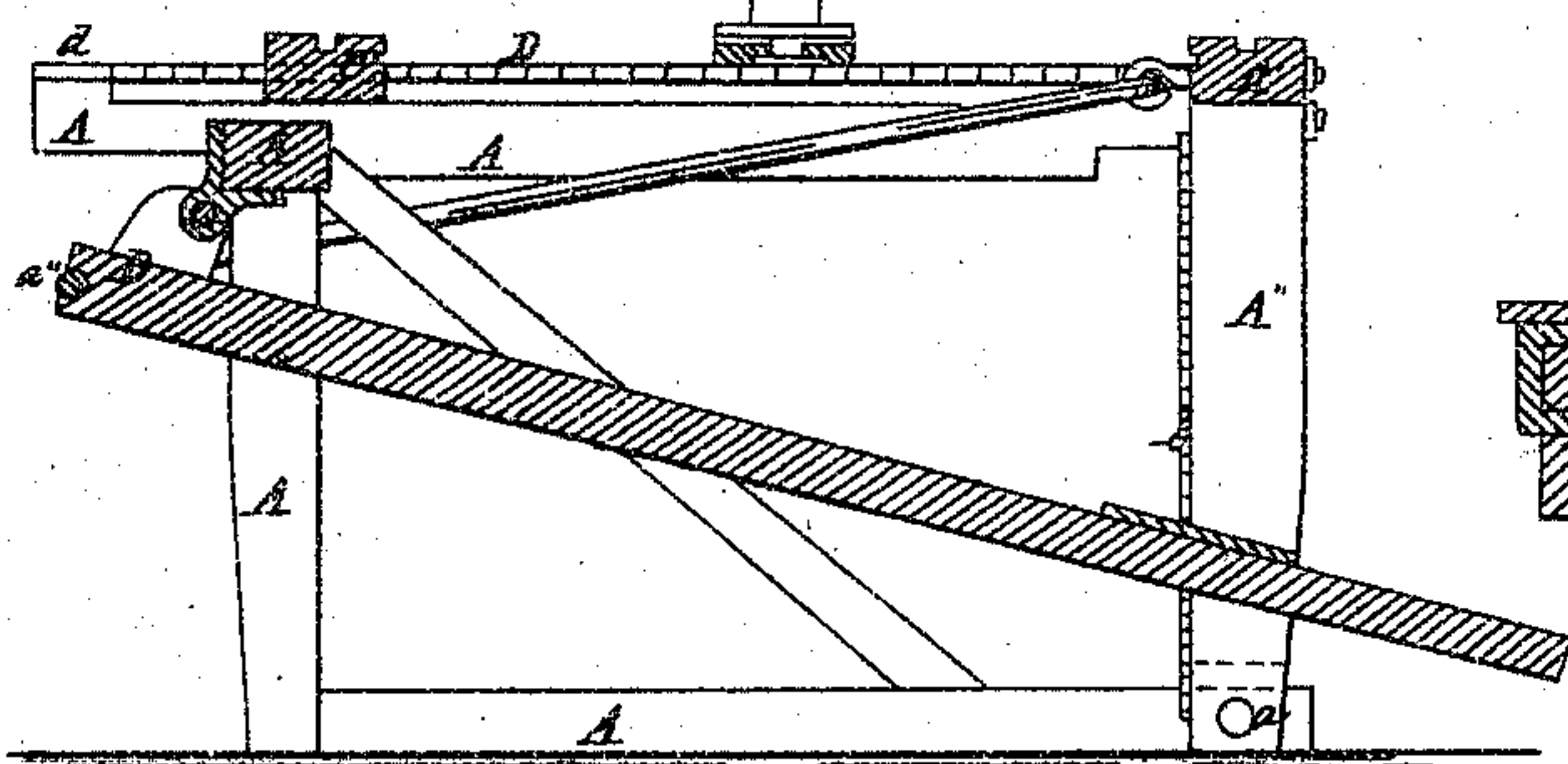
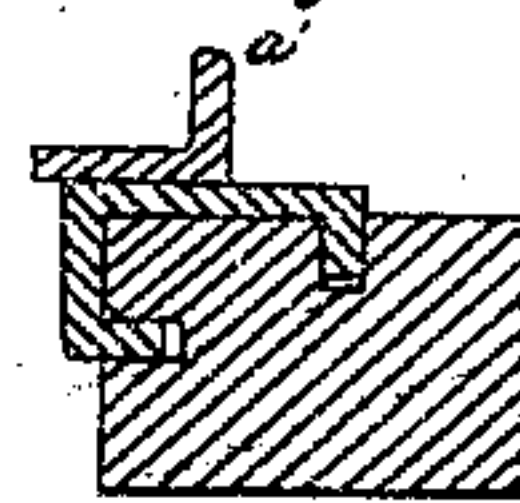


Fig. 4.



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# United States Patent Office.

ELIJAH F. DUNAWAY, OF CINCINNATI, OHIO.

Letters Patent No. 75,880, dated March 24, 1868.

## IMPROVEMENT IN CLAMPS FOR DOORS AND SASH.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, ELIJAH F. DUNAWAY, of Cincinnati, in the county of Hamilton, and State of Ohio, have invented a new and improved Door and Sash-Clamp; and I 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 drawings, forming part of this specification.

This invention relates to an improved clamp for clamping doors, blinds, and sashes. In the accompanying drawings—

Figure 1 is a top view of my improved clamp.

Figure 2 is a side view thereof.

Figure 3 is a transverse section at line *x x*, and

Figure 4 is a transverse section at line *y y* of one of the stops used on my clamp.

Similar letters of reference indicate corresponding parts.

A A A' is the frame, A', figs. 1 and 2, being supported on the uprights A'', figs. 2 and 3, which are pivoted at *a*, to enable the frame-bar A', carrying the stops *a' a'*, to be separated by the cam-levers B. The bar C, shown in fig. 1, with its upper portion broken away at *c*, slides on the ratcheted metal bars *d*, which pass through mortises in the bar C, to enable the clamp-table to be adjusted to the required width. The bars D, figs. 1 and 3, are secured at each end to the frame at *d*. The adjustable bar C and the bar A' of the frame A, which is opposite and parallel thereto, are more conveniently made in two parallel portions, as shown in the drawings, fig. 1, to enable them to be clasped by the stops *a' a'*, as seen in fig. 4. When the bar C is adjusted it is clamped by means of the cam-levers E E, which press back the bar until the slotted plate *e* fits into the teeth of the rack of the ratcheted bar D, and the wedge *e'* is then driven down, holding the bar C firmly in place. To adjust the clamp lengthwise, the stop F, fig. 1, is set as desired in the slot *g*, and secured by the set-screw *f*. The frame being adjusted in length and breadth, as above described, to the size required, the door or sash, shown in red ink at M, fig. 1, is placed between the clamps *a' a'* and F, and is then operated in the following manner:

To operate the side clamps the cam-levers B are depressed and secured in the racks *b*. The cam-levers B operate the rods *a''* attached to the frame-end A', which rests on the hinged upright A'', and is thereby drawn in, the stops thereon, and on C, clamping the sides of the sash or door. The free ends of the rack-bars D sliding in mortises in A', serve as guides to this latter. As the lever B is operated, a spring, S, is compressed, which, when the lever is released, throws back the bar C. To clamp the ends, the cam-lever N, fig. 1, is moved and secured in the rack *n*, thereby drawing the grooved arm G into the slot *o* in the carriage O, which receives the middle rack-bar D in a mortise in its under side, and is held by pins passing under the said rack-bar, between it and the cross-bar R of the frames A.

The metallic stop *a'*, shown in fig. 4, is rectangular in form, with one of its sides and ends partially removed to form lips *b'' b'''* fitting in the grooves in the inner side and top of the frame A' and movable bar C. Upon the top of the stop *a'*, near its inner side, is securely fastened the right-angular plate C'', against which the door or sash is clamped, the lip *b''* preventing the stop from being lifted up and thrown out of the groove by the pressure of said door or sash during the process of clamping.

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

1. The construction of the stops *a*, and operating in the manner as herein described, for the purpose specified.

2. The combination of the oscillating-bars A', the sliding bar C, cam-levers B, rods *a''*, springs S, and rack-bars D, as herein described, for the purpose specified.

3. The rack-bars D, in combination with the carriage O, and sliding bars C, as herein described, for the purpose specified.

4. The clamping of the sash or doors upon the carriage O by means of the stops *a' a'* mounted upon it, and bar G, having stop F, and working in slot *o*, and operated by cam-lever N, in the manner and for the purposes substantially as above set forth and described.

ELIJAH F. DUNAWAY.

Witnesses:

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