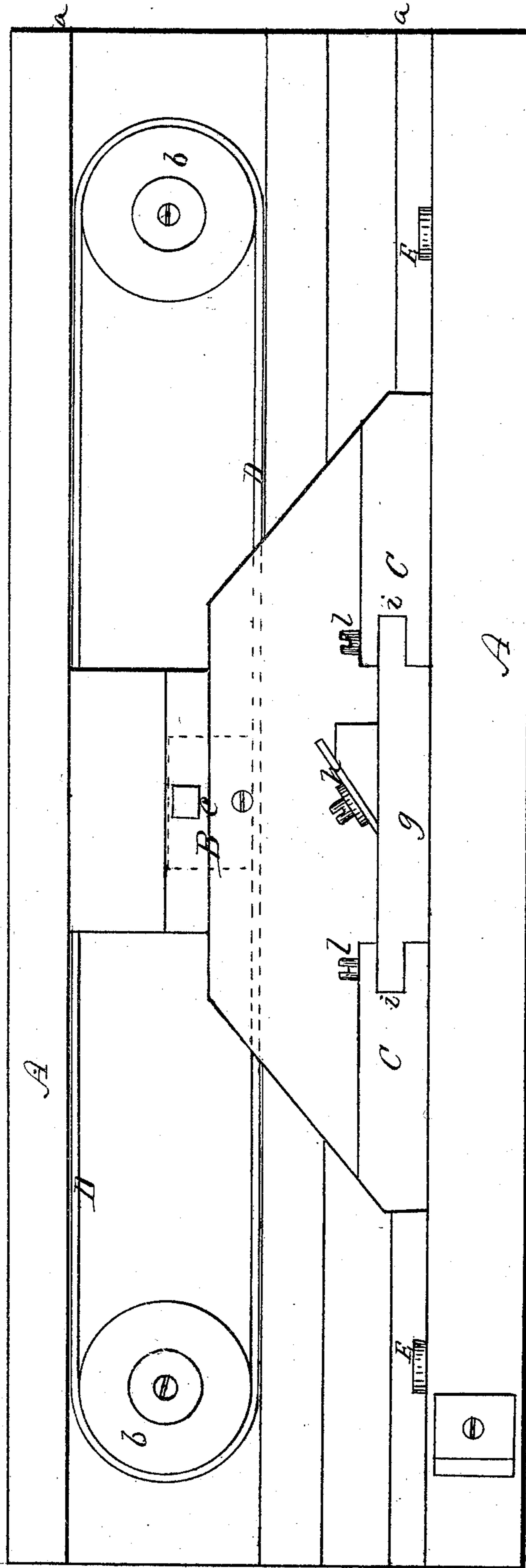


LUTHER T. SMART.
Improvement in Planing Machines.

No. 118,754.

Patented Sep. 5. 1871.

Fig. 1.



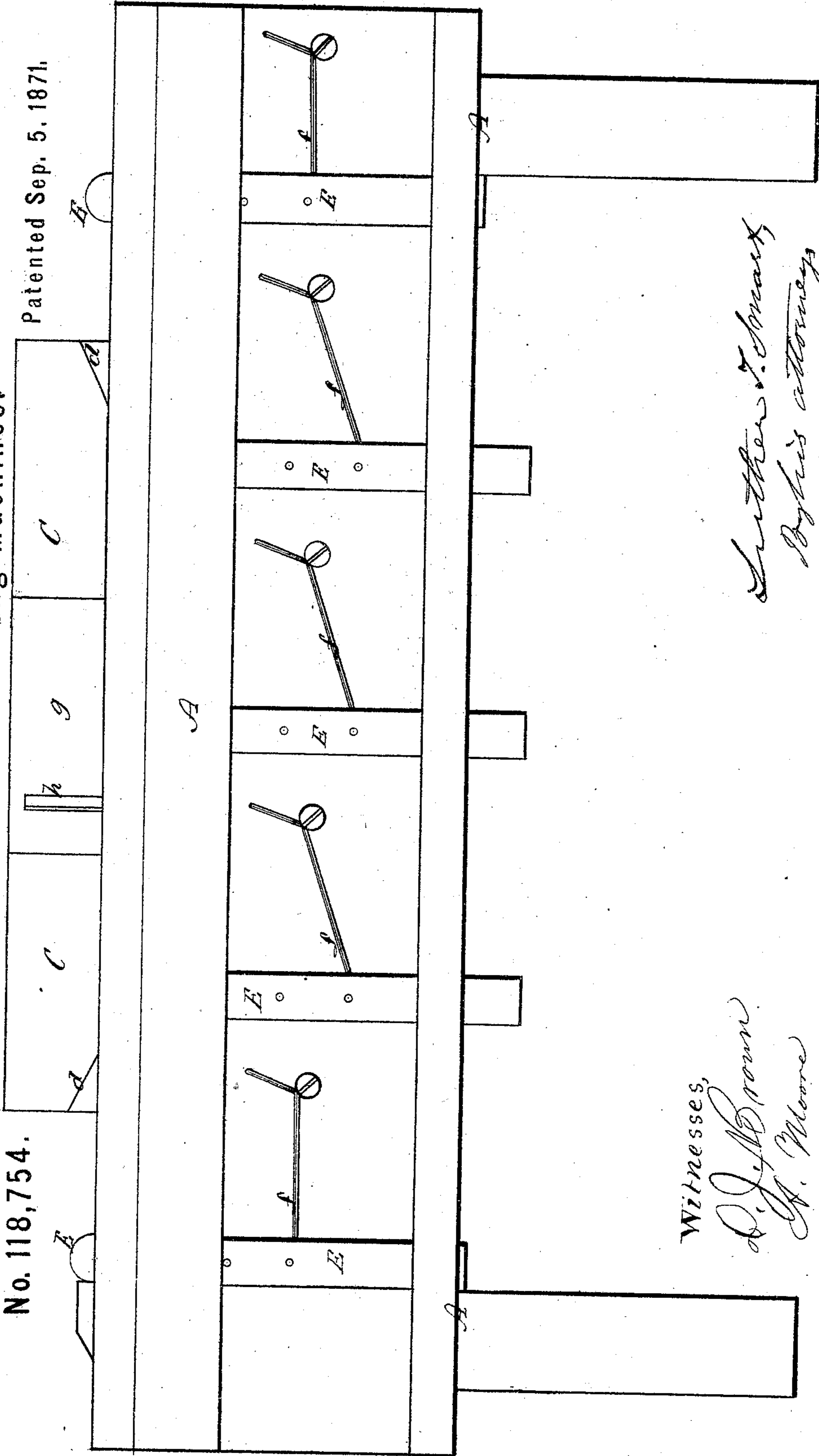
Witnesses,
H. J. Brown
H. J. Moore

Luther T. Smart,
By his attorney,
J. S. Brown.

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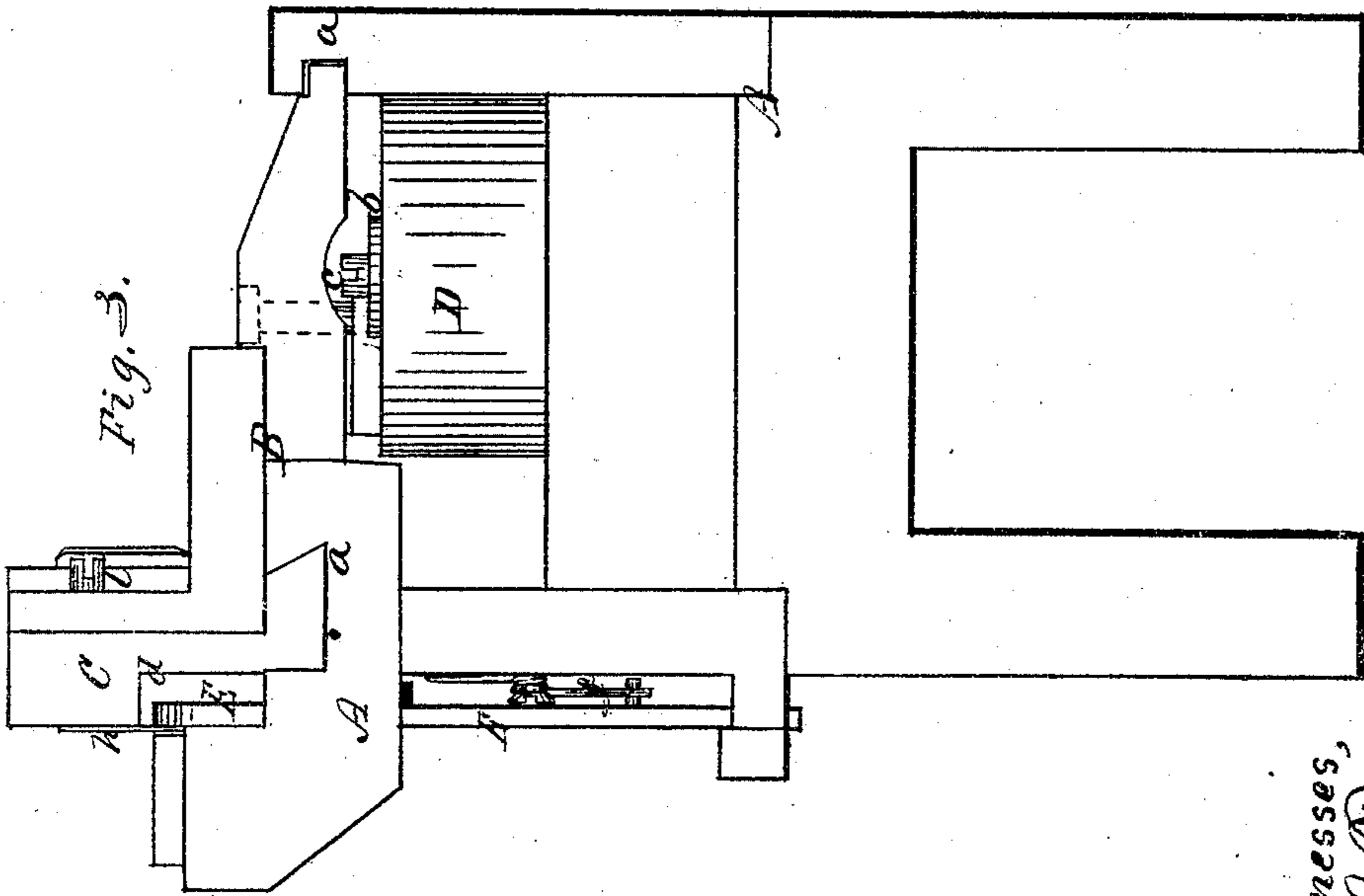


Fig. 3.

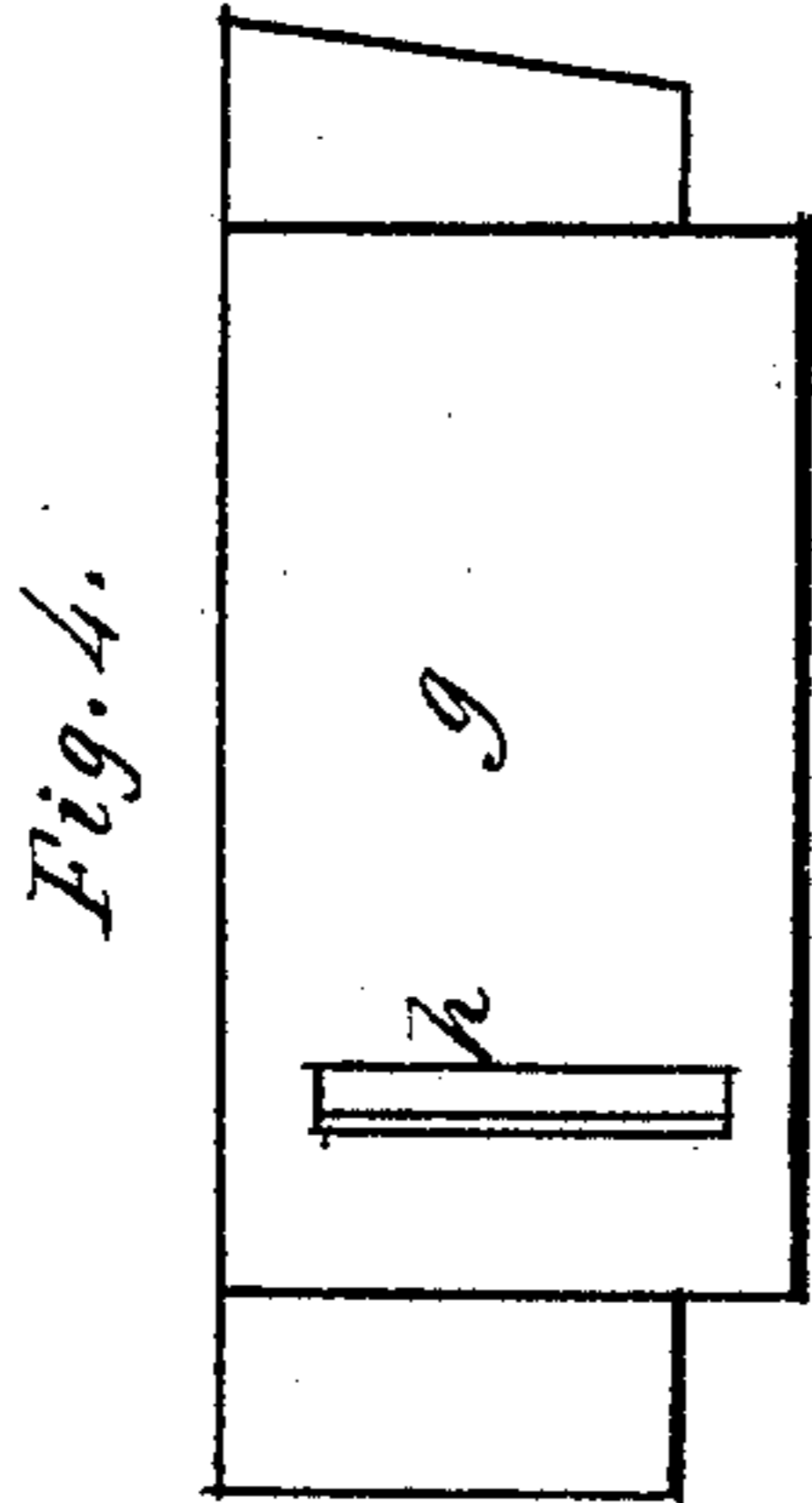


Fig. 4.

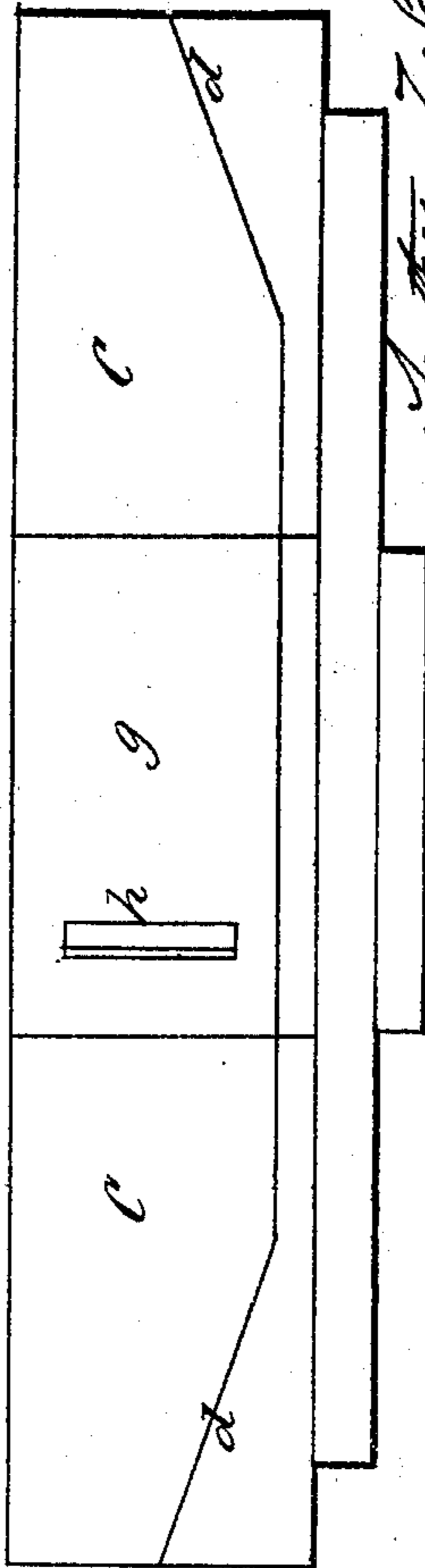


Fig. 5.

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H. J. Brown

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L. A. Brown.

UNITED STATES PATENT OFFICE.

LUTHER T. SMART, OF CENTRE OSSIPEE, ASSIGNOR TO HIMSELF AND SAMUEL H. SMITH, OF WAKEFIELD, NEW HAMPSHIRE.

IMPROVEMENT IN PLANING-MACHINES.

Specification forming part of Letters Patent No. 118,754, dated September 5, 1871.

To all whom it may concern:

Be it known that I, LUTHER T. SMART, of Centre Ossipee, in the county of Carroll and State of New Hampshire, have invented an Improved Machine for Jointing Boards and other articles of lumber; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being a top view of a jointing-machine provided with my improvements; Fig. 2, a side elevation thereof; Fig. 3, an end view of the same; Fig. 4, view of a part detached; Fig. 5, view of another part detached.

Like letters designate corresponding parts in all of the figures.

The object of my invention is to produce a machine-jointer, for jointing or straightening the edges or sides of boards and other articles of lumber, in place of hand-jointing, so that the work may be done both rapidly and accurately.

In the drawing, which represents the main parts of a machine for the purpose, and to which my improvements are applied, let *A* represent any suitable frame, and *B* a reciprocating carriage, bearing the plane-stock *C* of the jointer, and traveling forward and backward in suitable ways or guides *a a* of the frame. The jointer-carriage receives its reciprocating movement either from an endless belt, *D*, as shown in the drawing, or preferably from an endless chain similarly applied, or by an endless screw, or any other equivalent and suitable device. When the endless belt or chain is used it passes around two pulleys, *b b*, at the ends of the machine, and receives a reciprocating movement from the driving-power by any suitable and well-known device for imparting reciprocating movements. And such device should be so arranged as to vary the extent of the movement at pleasure, by adjustment, so that the jointer may operate equally well either on long or short stuff, having sufficient reach for the former, and making no unnecessary travel for the latter. The belt or chain is connected with the jointer-carriage *B* by a bolt, *c*, or its equivalent.

The first feature of my invention consists in the employment of a series of guide-stops, *E E*, arranged with their front sides or surfaces in a true straight line, and in the same plane as the jointing-surface of the jointer *C*, for the edge or

surface of the stuff which is to be jointed to bear against, whenever the jointer-stock in its motions forward and backward is not in place to perform that function. These guide-stops are placed at short intervals apart, so that an article of any length which the plane-stock will not hold and guide in position will be sure to be kept in exact position at or near both ends and at short intermediate distances by said stops. Being located in the path of the jointer itself, they must give way and allow the same to pass, both going forward and backward; and to effect this they are made to be easily pressed down out of the way by the action of the jointer-stock *C*, and again to automatically rise into position when the jointer-stock has passed over or receded from them. In order to enable the jointer-stock to depress the guide-stops they are rounded on their upper projecting ends; and the jointer-stock has two inclined surfaces, *d d*, one at each end, to ride over the stops and act as cams to depress them. The guide-stops are again raised automatically by springs *f f* by counter-weights, or any equivalent means.

One special advantage of these guide-stops, besides their convenience and accuracy of operation, is that the jointer-stock does not require to be proportioned in length to the length of the stuff to be jointed, so that it may be as short as it is convenient to make it, and yet possess all the advantages of a plane-stock twice as long as the stuff to be jointed. Lightness of construction is therefore obtained, and the frame of the machine requires to be but a little longer than the longest stuff to be jointed thereon, so that a machine of given length, as well as the jointer-stock, however short, can joint stuff of much greater length than without the guide-stops.

The other feature of my invention consists in making the middle part *g* of the jointer-stock *C*, containing the plane-iron or cutter *h*, as a separate piece, and removable from the main stock, so that it can be taken out for sharpening the knife or cutter, or for any other purpose, without removing or disturbing the whole stock and readjusting every time. As represented, this removable part has tenons at the ends fitting into grooves *i i* of the stock, and held in place by set-screws *l l*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The automatic guide-stops E E, arranged and operating in combination with the jointer or plane-stock C, substantially as and for the purpose herein specified.

2. The plane-stock C, moving in ways or guides, as described, when constructed with the separate removable middle part or block *g* bearing

the plane-iron or cutter *h*, substantially as and for the purpose herein specified.

Specification signed by me this 12th day of June, 1871.

Witnesses: LUTHER T. SMART.

CHARLES H. SMART,

CHARLES J. DORE.