

(No Model.)

2 Sheets—Sheet 1.

J. H. BLAKE.  
MORTISING MACHINE.

No. 424,849.

Patented Apr. 1, 1890.

Fig. 1.

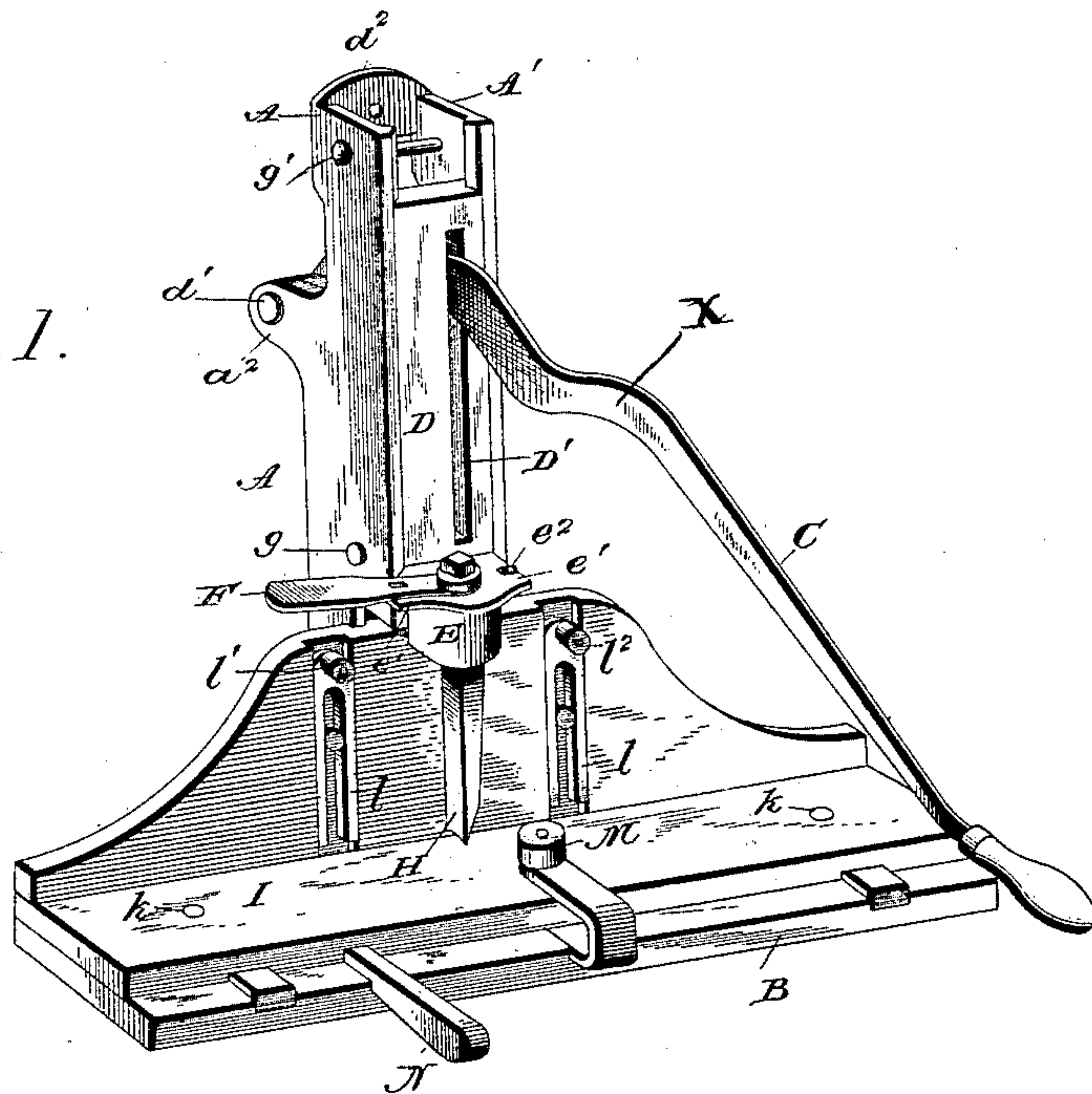
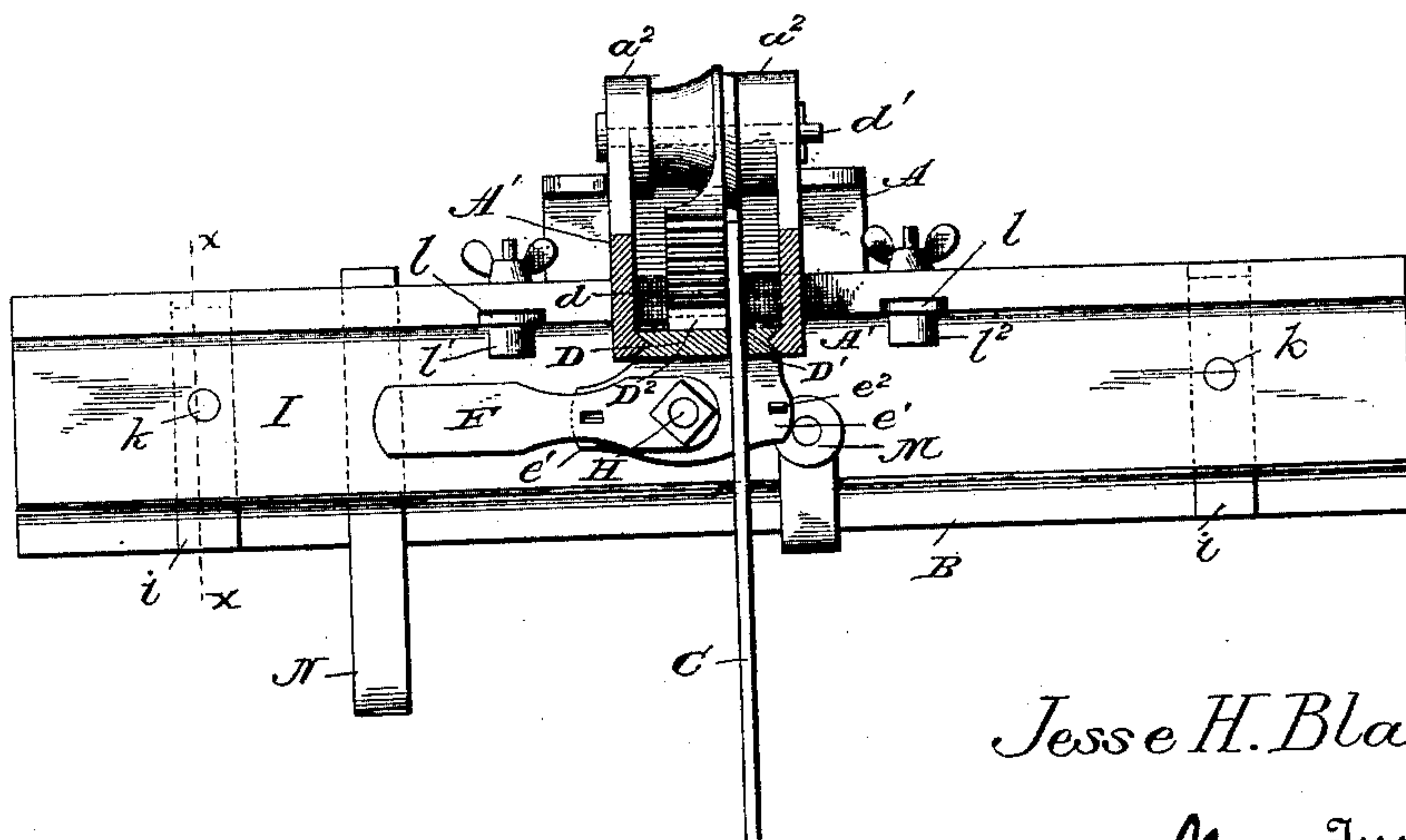


Fig. 2.



Jesse H. Blake.

Inventor

Witnesses

G. S. Elliott,  
A. W. Johnson

By his Attorney

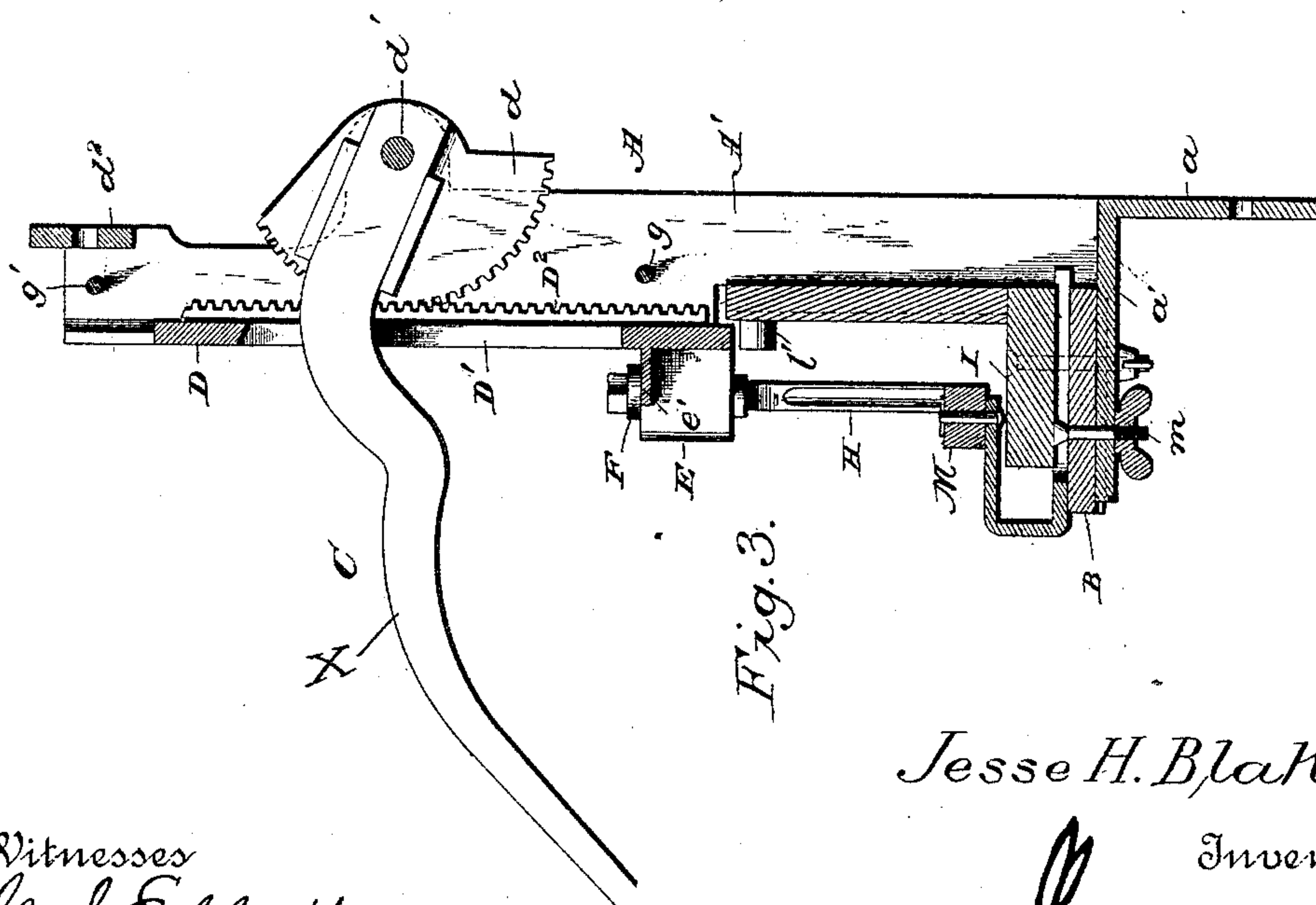
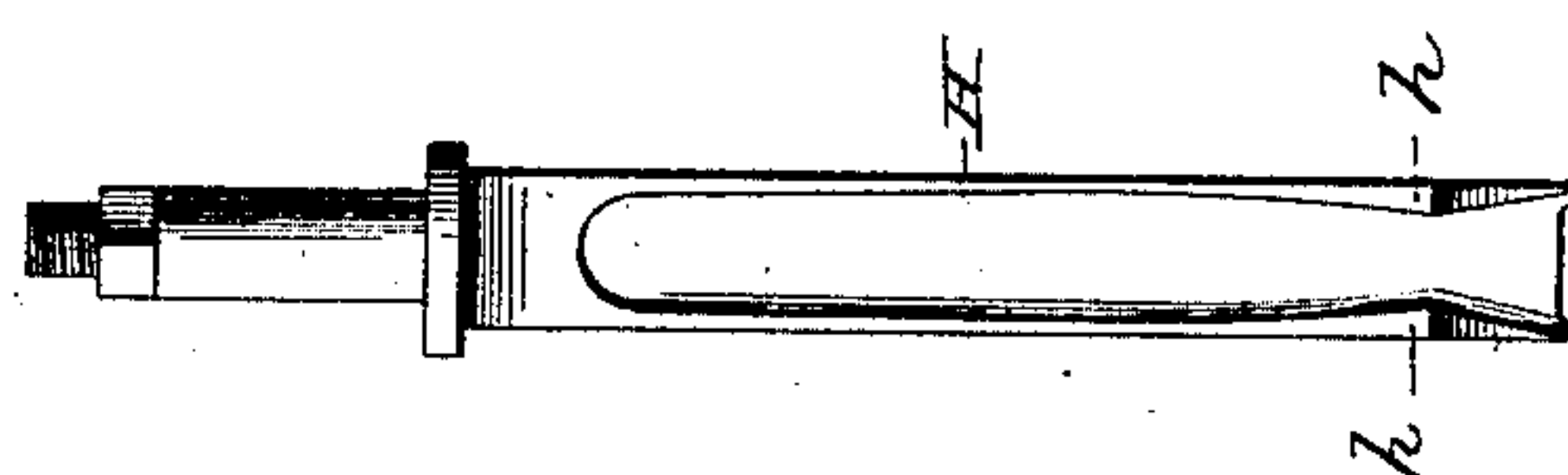
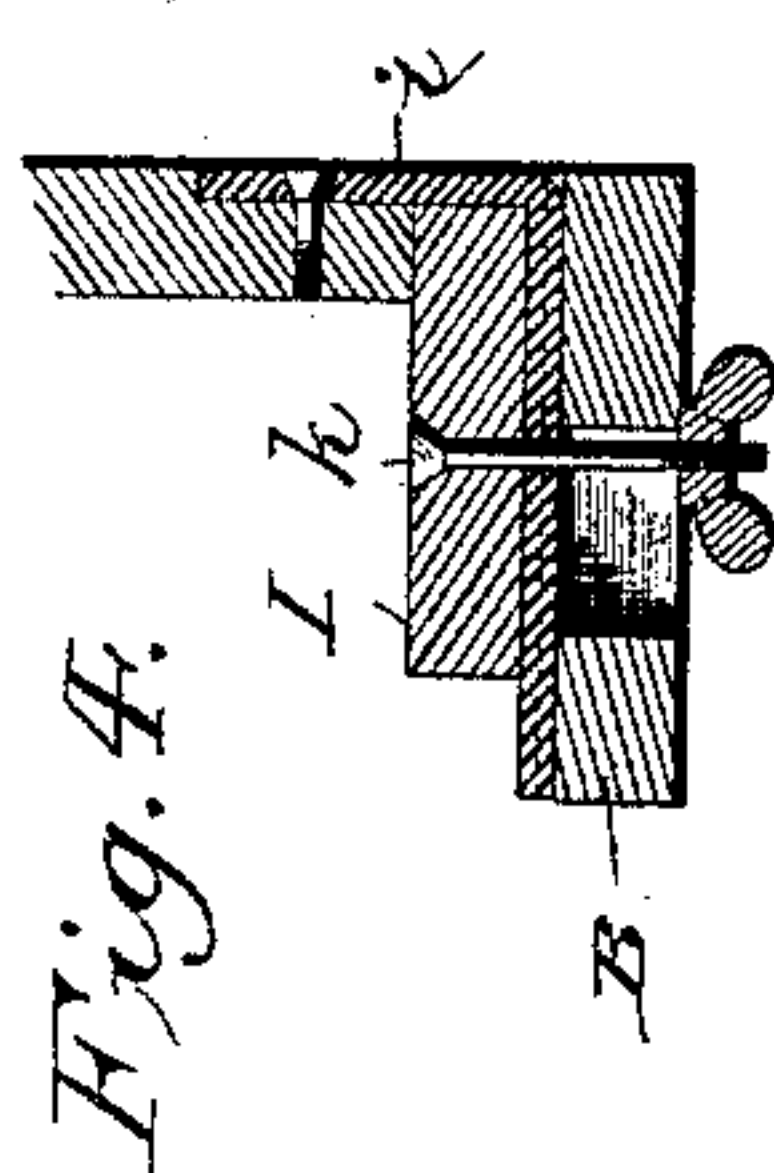
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*Jesse H. Blake.*

Inventor

Witnesses

L. S. Elliott,  
E. W. Johnson

By his Attorney

N. PETERS, Photo-Lithographer, Washington, D. C.



# UNITED STATES PATENT OFFICE.

JESSE H. BLAKE, OF OMAHA, NEBRASKA, ASSIGNOR OF ONE-HALF TO JOHN NELSON, OF SAME PLACE.

## MORTISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 424,849, dated April 1, 1890.

Application filed November 14, 1889. Serial No. 330,278. (No model.)

*To all whom it may concern:*

Be it known that I, JESSE H. BLAKE, a citizen of the United States of America, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Mortising-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in mortising-machines.

The object of the invention is to provide a simple, cheap, and efficient mortising-machine, by the use of which I am enabled to mortise window-sash, legs of tables, and other such articles, so that the mortise can be formed either at right angles or otherwise, as may be desired; and the invention consists in the construction and combination of parts, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a mortising-machine constructed in accordance with my invention. Fig. 2 is a plan view, partly in section. Fig. 3 is a vertical sectional view through the main frame. Fig. 4 is a vertical sectional view on line  $xx$ , Fig. 2. Fig. 5 is a rear view of the cutter or chisel detached.

A refers to the main frame of the machine, which is made up of a single casting, above the base  $a$  of which is a projecting foot  $a'$ , which is provided with bolt-holes, through which pass bolts or wood-screws for attaching the stationary table B thereto. The vertical side pieces  $A'$  of the frame or casting A, at a suitable distance above the projecting foot  $a'$ , are undercut, as shown, so as to provide a space in which the back of the adjustable gage-table may lie. The front vertical edges of the casting A have projecting V-shaped portions, in which the chisel-carrying frame moves, and the casting A is also provided with perforated offsets  $a^2$ , through

which passes a bolt for pivoting the operating handle or lever C thereto, said lever having a bent end, which passes between lugs formed on one of the faces of the segmental gear  $d$ , the end of the lever C and segmental gear both having openings, through which passes the pivot-bolt  $d'$ . The end of the lever is shaped as shown, and when placed in operative position extends in front of the mortising-machine to be in easy reach of the operator. At the front portion of the casting is a transverse connecting-piece  $d^2$ , formed integral therewith, said piece being provided centrally with a bolt-hole, while the portion  $a$  at the base of the frame is also provided with a bolt-hole. By this construction the machine can be secured to a work-bench; or, if desired, it may be held in position by a vise.

When the device is attached permanently to a work-bench, the pivoted bolt  $d'$  is provided with a key, so that said bolt can be easily removed for detaching the operating-lever, which would otherwise project and be in the way.

D refers to the chisel-carrying slide, the vertical edges of which are provided with V-shaped recesses, and to one side of the center this slide has a longitudinal slot  $D'$ , through which passes the bent end of the lever. This slot is of such a length that the upper edge of the curved portion X of the lever when raised will abut against the face of the slide adjacent to the upper end of the slot at the limit of its upward movement, and thus form a stop for limiting the upward movement of the chisel-carrying slide. On the lower end of the slide is formed an outwardly-projecting lug E, having a vertical cylindrical perforation and side projecting wings  $e'$ , which are formed on the upper portion of the lug, the ends of said wings having notches  $e^2$ , in which a projection formed on the spring-handle F will engage, said spring-handle being attached to the upper part of the chisel, and holding said chisel when the lug is in engagement with the notches either to the right or to the left.

On the rear face of the chisel-carrying slide



D is formed a rack-bar  $D^2$ , with which the teeth formed on the segmental gearing operated by the handle engage for reciprocating the slide and cutter.

5 Near the base of the vertical side walls of the casting A, and also at the upper portion thereof, are bolts  $g$  and  $g'$ , which serve as braces for the side walls, and also permit the sides to be drawn together sufficiently to take  
10 up any wear which may be caused by the reciprocation of the chisel-carrying slide. These bolts will also serve to hold the sides of the casting to each other, should it be desired to make the same in two parts.

15 The chisel or cutter H may be of any ordinary construction, such as are used with mortising-machines of this class, though I prefer to use the chisel designed by me, which is fully illustrated in the accompanying drawings, the essential feature of this chisel being that the inner portions of the sides swell  
20 inwardly or toward each other, so that while cutting the chips will be forced above said inwardly-swelled portions and removed from the mortise on the stroke of the chisel. The  
25 chisel slightly above these inwardly-swelled portions  $h$  has a recess of greater depth than any other portion of the chisel, so that the chips will not pack between the sides.

30 B refers to the stationary table, which, as heretofore indicated, is securely bolted or screwed to the projecting portion  $a'$  of the frame, and this table, with its attachments, is adapted to support and maintain in place  
35 an adjustable table I, which is provided with a horizontal and vertical portion, as shown, which are thoroughly braced to each other by angle-irons  $i$ , said angle-irons carrying  
40 at their horizontal portions bolts  $k$ , which pass through slots in the stationary table, said bolts being provided with thumb-nuts, thus providing a means for adjusting the movable  
45 table I upon the stationary table B. The horizontal portions of the angle-irons are let into recesses in the under side of the adjustable table, and the stationary table is also  
50 provided with similar recesses, in which the lower portions of these irons lie, thus preventing any lateral movement of the adjustable table upon the table B.

The vertical portion of the table I is provided with recesses, within which lie bifurcated bars  $l$ , which carry rollers  $l'$  and  $l''$ , which are adapted to abut against the upper  
55 edge of the board or piece of lumber to be mortised. These bifurcated and adjustable roller-carrying frames are secured in place by bolts provided with thumb-nuts.

M refers to a vertical roller carried by an  
60 angular frame having a bifurcated member, through which passes a bolt  $m$  or thumb-nut for adjusting this roller, and its frame being located under the adjustable table, and the roller when used is adapted to abut against  
65 the front edge of the board, as shown.

When it is desired to adjust the table I at

an angle with the cutter, I employ a wedge N, which is placed between the stationary and adjustable tables, and will thus tilt the upper  
70 table and give it the desired inclination, after which the thumb-nuts, hereinbefore referred to, can be turned to hold the table securely in position. Recesses are made on the  
75 lower and upper edges of the tables on each side of the center for receiving the wedge.

If desirable, the adjustable table can be provided with clamps for holding in place the article to be mortised, and it may also have  
gages.

I am aware that prior to my invention cut-  
80 ters for mortising-machines have been secured to vertically-reciprocating frames adapted to be operated by a toothed segment operated by a lever, and I do not, therefore, claim such broadly. Neither do I claim in  
85 connection with a mortising-machine a table or bed-frame which can be adjusted; but

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

1. In a mortising-machine, in combination  
90 with a vertical frame or casting having parallel sides forming vertical guides and a projecting foot, to which a table or bed-plate is attached, rearwardly-extending lugs for securing pivotally thereto a lever and toothed  
95 segment, a reciprocating chisel-carrying frame comprising a vertical flat plate playing between said guides to be flush with the front of the vertical frame or casting and having a  
100 projection formed on its lower end, a longitudinal slot, through which passes an operating-lever, and rack-teeth on the rear side of said sliding frame, substantially as shown, and for the purpose set forth.

2. In combination with a frame or casting  
105 A, having a forwardly-projecting portion, to which a table or bed-plate is secured, rearwardly-extending lugs  $a^2$  and undercut portion, as shown, and inwardly-projecting  
110 V-shaped sides, between which a reciprocating frame slides, a toothed segment pivoted between the lugs and provided with parallel projecting portions, between which the end of a lever is secured, and a reciprocating slide carrying a chisel or cutter, said slide having  
115 teeth formed on its rear face, substantially as shown, and for the purpose set forth.

3. In a mortising-machine, in combination with the frame A, horizontal table or bed-plate rigidly secured thereto and provided  
120 with transverse slots, through which pass adjusting-bolts, which are connected to a movable table having a horizontal and vertical portion, said vertical portion carrying adjustable rollers, and a roller carried by an angular  
125 frame, which is adjustable over and toward the vertical portion of the adjustable table, substantially as shown, and for the purpose set forth.

4. The combination, in a mortising-machine,  
130 of the stationary table B, an adjustable table I, having a recess, a wedge for adjusting



the upper table at an angle, and means for securing said tables to each other, substantially as set forth.

5 In combination with a frame A, reciprocating cutter-carrying frame having a longitudinal slot, and a lever having a bent end, which is connected to a segment, said lever being adapted to abut against the face of the slide adjacent to the upper portion of the slot when  
10 it reaches the limit of its upward movement,

whereby the upper movement of the cutter-frame and lever is limited, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JESSE H. BLAKE.

Witnesses:

GEO. F. GILMORE,  
CLEMENT E. REYNOLDS.