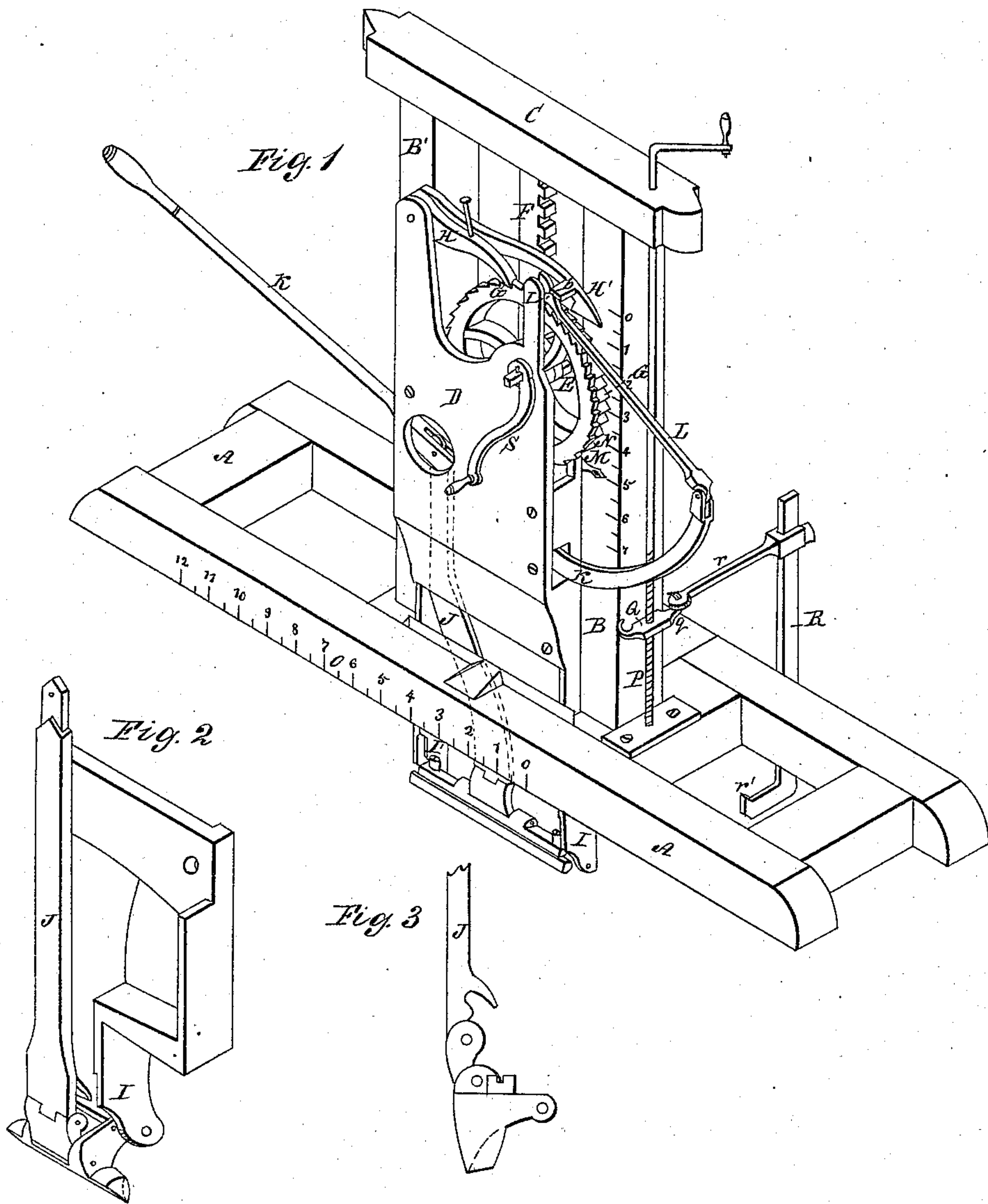


H. C. Smith,
Mortising Machine.
N^o 39,502. Patented Aug. 11, 1863.



Witnesses;
James H. Layman
R. M. Conline

Inventor;
H. C. Smith
By Hugh W. Prosser
att'y.

UNITED STATES PATENT OFFICE,

HENRY C. SMITH, OF CLARKSVILLE, OHIO.

IMPROVED MORTISING-MACHINE.

Specification forming part of Letters Patent No. 39,502, dated August 11, 1863.

To all whom it may concern:

Be it known that I, HENRY C. SMITH, of Clarksville, Clinton county, Ohio, have invented a new and useful Improvement in Mortising-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, making part of this specification.

My present invention relates to improvements on the mortising-machine patented to me on the 4th day of September, 1860, and is chiefly directed to provisions for placing the cut of the chisel under more complete control of the operator.

Figure 1 represents a machine embodying my improvements. Fig. 2 is an enlarged view of a chisel and its accessories adapted for a short mortise. Fig. 3 is an enlarged side elevation of my chisel.

The frame consists of a base, A, and stanchions B B', united at the top by a transom, C. The stanchions B B' confine to vertical path the sash D.

E is a pinion journaled in the sash D and gearing in a vertical rack, F, attached to the frame. Attached to the shaft of the pinion is a compound ratchet-wheel, G G', whose periphery has two distinct sets of teeth, of which the teeth of one set, G, point to the left, and the teeth of the other set, G', point to the right. Two pawls, H H', engage in the ratchets G G' and act in opposite directions, so as to hold the pinion E, and consequently the sash D, immovable, except when one or other pawl is lifted. The chisel is journaled in brackets I I' at bottom of the sash, and is vibrated in a semicircular path by means of pitman J and lever K, as in my previous patent. A counter-arm, k, on the lever K carries a feed-hand, L, which engages in the left-hand ratchet G, and acts to slightly depress the sash and its appurtenances as the lever K completes its up-

ward stroke, or, in other words, at the period when the bit of the chisel is entirely withdrawn from the mortise, and in order to enable this to take place the right-hand pawl H' is momentarily lifted from the ratchet G' by a cam, l, which, passing under a lateral projection, h, from the pawl H', acts to lift the latter. The downward or effective stroke of the lever K, by throwing back the cam l, allows the pawl H to descend, so as, in conjunction with the pawl H, to hold the sash immovably to its place while the cutting action is being made. An index, M, projecting from the sash, and a scale, N, on the stanchion, enable the operator to observe and regulate the exact depth of the stroke. Another scale, O, on the base guides the operator as to the length of the mortise.

The utensil is secured to the stuff by the following means: P is a screw-threaded rod, which extends vertically from transom to base, and has a nut, Q, having one or more hooks, q, for connection to an arm, r, from a bent bar or dog, R, having a sharpened point or spur, r', for firm hold beneath the stuff. S is a winch, by means of which (the pawl H and feed-hand L being disengaged) the entire sash and chisel may be lifted bodily from the mortise.

I claim herein as new and of my invention—

In the described combination, with the mortising-sash D, and its accessories, the compound or right-and-left ratchet-wheel G G', pawls H and H', feed-hand L l, rod P, hooked nut O, and dog R, or their equivalents, substantially as set forth.

In testimony of which invention I have hereunto set my hand.

HENRY C. SMITH.

Witnesses:

BENAMIN LOWENTHAL,
JOSEPH MCCRAY.