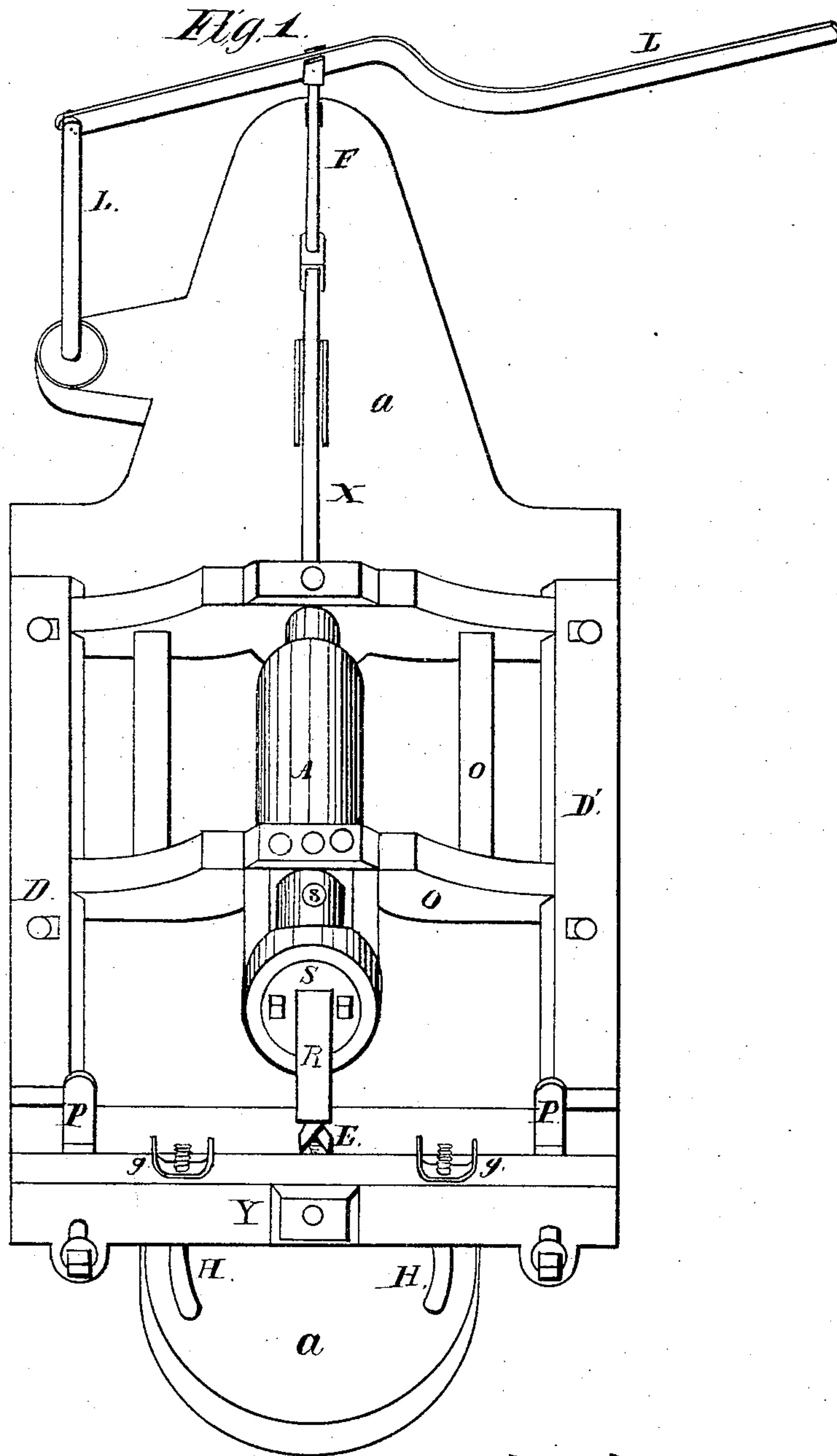


**P. HERZOG.**  
**Mortising-Machines.**

No. 157,328.

Patented Dec. 1, 1874.



Witnesses:

Inventor:

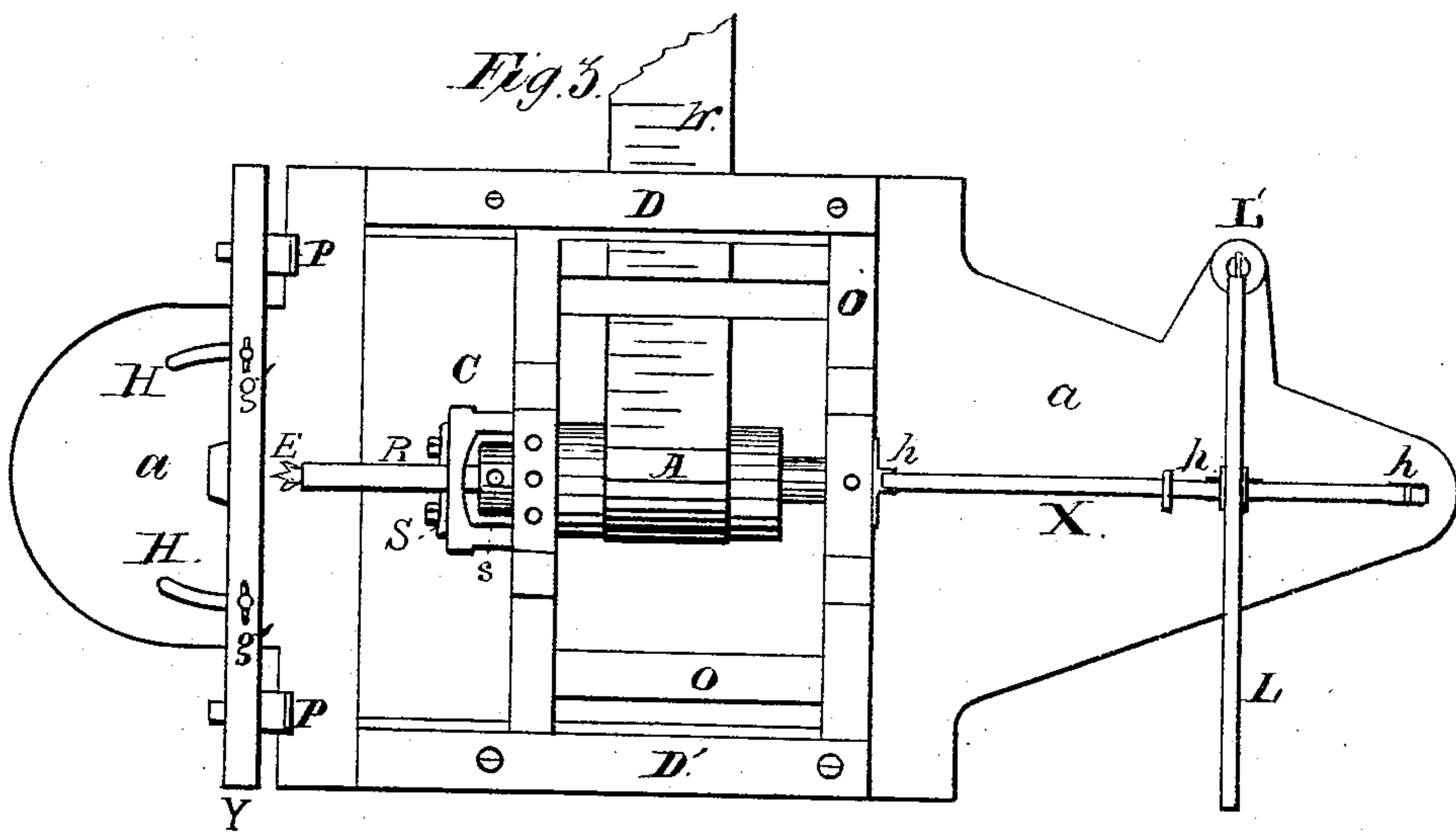
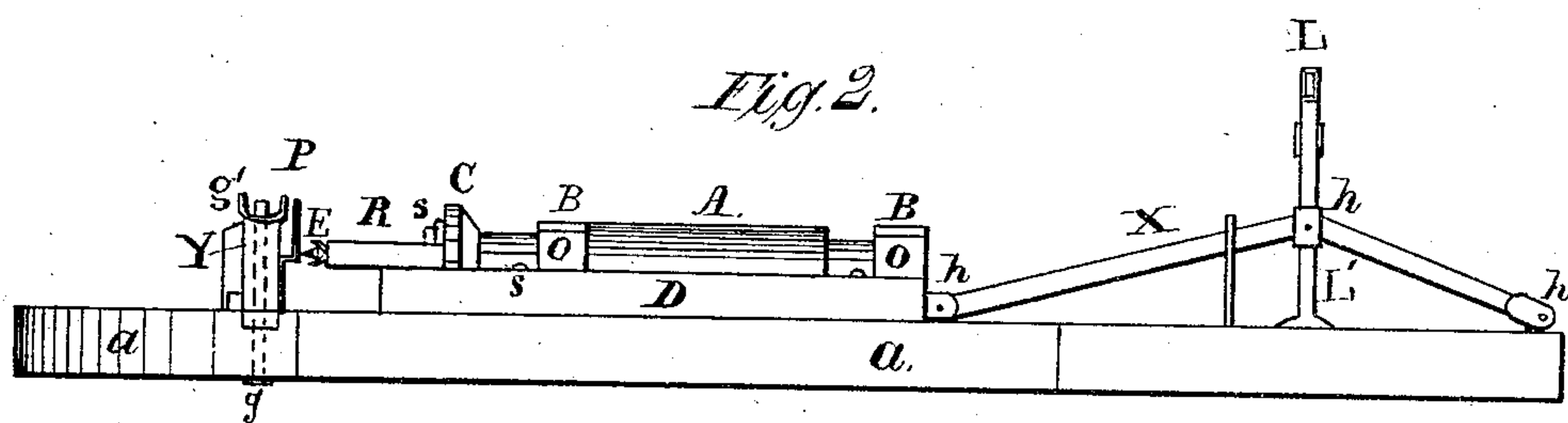
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# UNITED STATES PATENT OFFICE.

PHILIP HERZOG, OF MINNEAPOLIS, MINNESOTA.

## IMPROVEMENT IN MORTISING-MACHINES.

Specification forming part of Letters Patent No. **157,328**, dated December 1, 1874; application filed April 28, 1874.

*To all whom it may concern:*

Be it known that I, PHILIP HERZOG, a resident of the city of Minneapolis, county of Hennepin and State of Minnesota, have invented a new and useful Mortising-Machine, of which the following is a full, clear, and exact description.

Figure 1 is a perspective view of my invention. Fig. 2 is a side view, Fig. 3 a top view, and Fig. 4 a sectional detail view, of the boring-bit and mortising-chisel.

The same letters of reference are used in the various figures in the designation of identical parts.

*a* designates the bed of my device, and *o* a reciprocating carriage, held in place by the slideways *D D'*. *Y* is an adjustable holder, that may be swung to any desired angle upon its center pivot *g*, Fig. 2, and held firmly by the bolts and thumb-nuts *g' g'*, said bolts working in the slots *H*, as seen in Fig. 2. The belt *W* drives the spindle *A*, to which the boring-bit *E* is attached. The boring-bit *E* passes through and rotates in the mortising-chisel *R*, said boring-bit being socketed in the end of the spindle *A*, where it is firmly held by a set-screw, *s*.

The hollow mortising-chisel *R* may have its outside form varied to suit the kind of mortise destined for it to do. It is firmly attached to the projecting hub *C* of the carriage *O* by the aid of the projecting flange *S* upon its inner end. The fastenings proper may be screws or bolts, so that they will allow of the annular adjustment of the said chisel.

To properly secure the wood being worked to the holder *Y*, the adjustable guides *P P* are used, their adjustability allowing the correct or desired position of the said wood to be obtained.

The knuckle-jointed lever-press *X* is attached, at its inner end, to the carriage *O* by a hinged joint, *h*, and at its outer end to the bed

*a* by a hinged joint. The lever *L* is hinged at its inner end to the upper end of the standard *L'*, and at its center by the connecting-rod *F* to the center knuckle-joint of the lever-press *X*.

It will readily be seen that a reciprocating movement given to the lever *L* must convey a reciprocating movement to the carriage *O*, whereby the boring-bit *E* and hollow mortising-chisel *R* are forced into or withdrawn from the wood being operated upon.

Should it be necessary to produce a mortise in the wood at other than a right angle as regards its plane, the carrier *Y* is swung upon its center pivot *g* until the angle required is obtained, and the wood being worked upon is thus presented to the action of the boring-bit and mortising-chisel.

It will thus be seen that by the use of my device a mortise can be formed in or through a piece of wood at any required angle as regards its plane; also, that by the adjustability of the flanged and hollow mortising-chisel *R* the mortise so made may be parallel with or at any angle to the edge of the piece being mortised as regards its square.

The object of my invention is to furnish a simple and effective machine capable of producing any shaped mortise at any desired angle in wood.

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

A combined boring and mortising machine constructed as described, and consisting of the bed *a*, reciprocating carriage *O*, adjustable holder *Y*, spindle *A*, carrying the bit *E*, which rotates in the mortising-chisel *R*, knuckle-jointed lever-press *X*, and lever *L*, the whole constructed to operate substantially as and for the purpose set forth.

PHILIP HERZOG.

Witnesses:

F. M. COMSTOCK,  
GEORG P. HALL.