

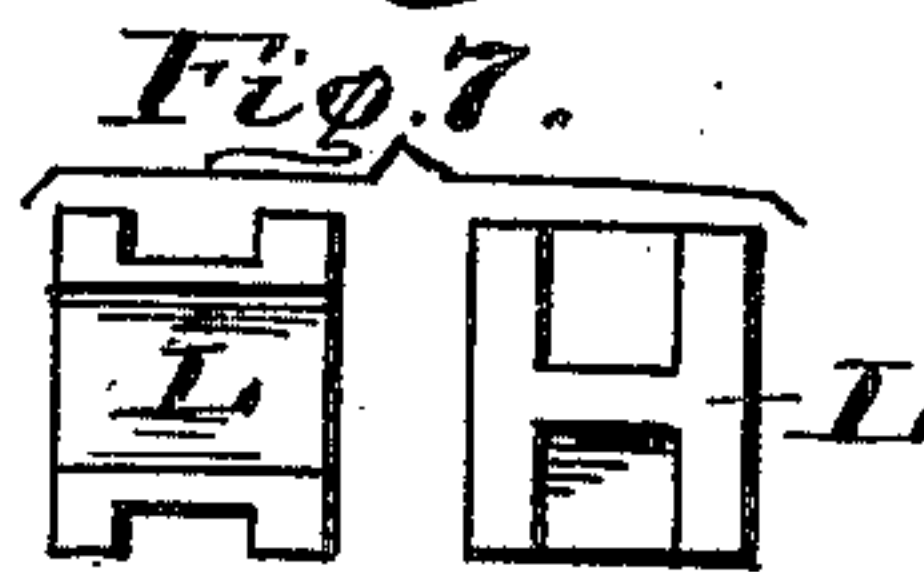
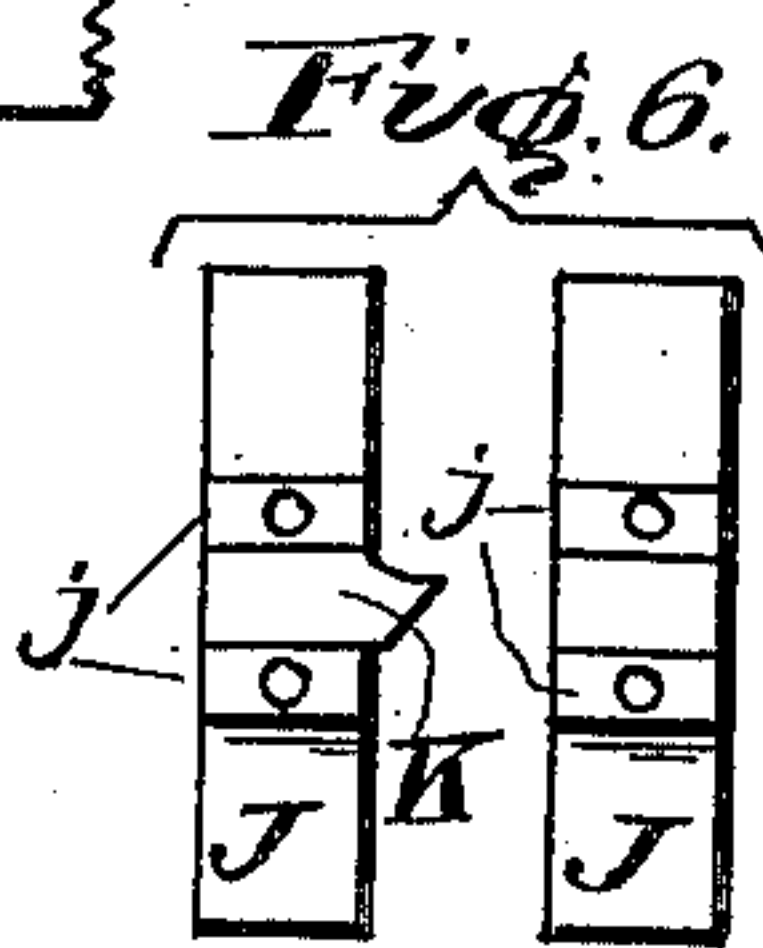
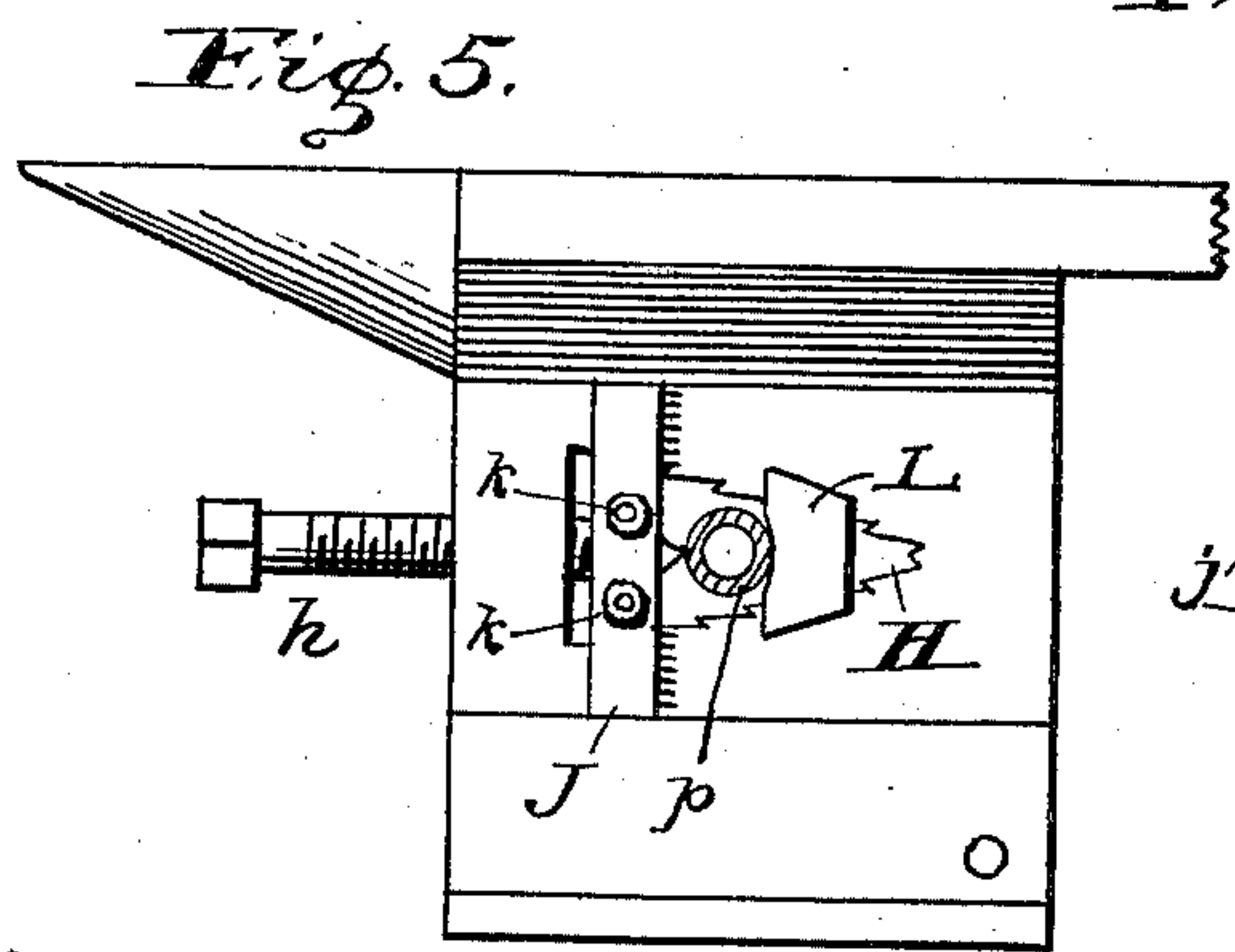
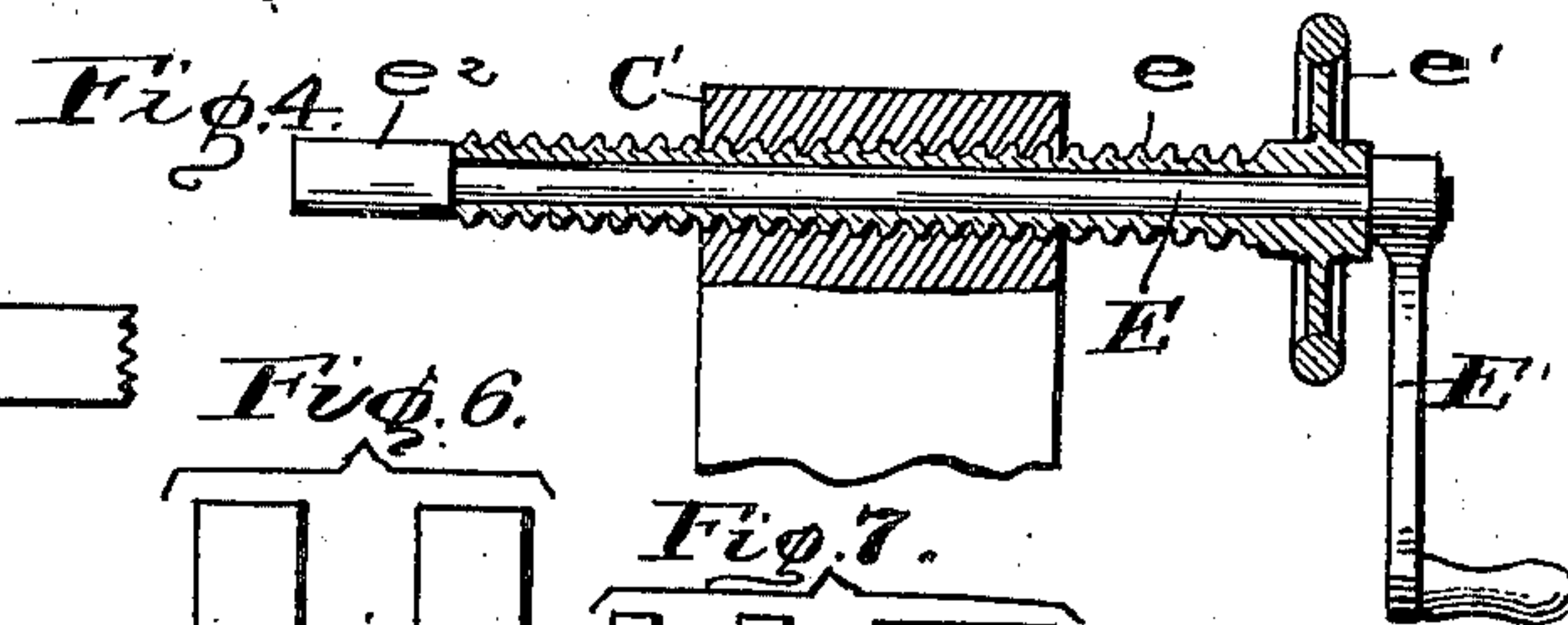
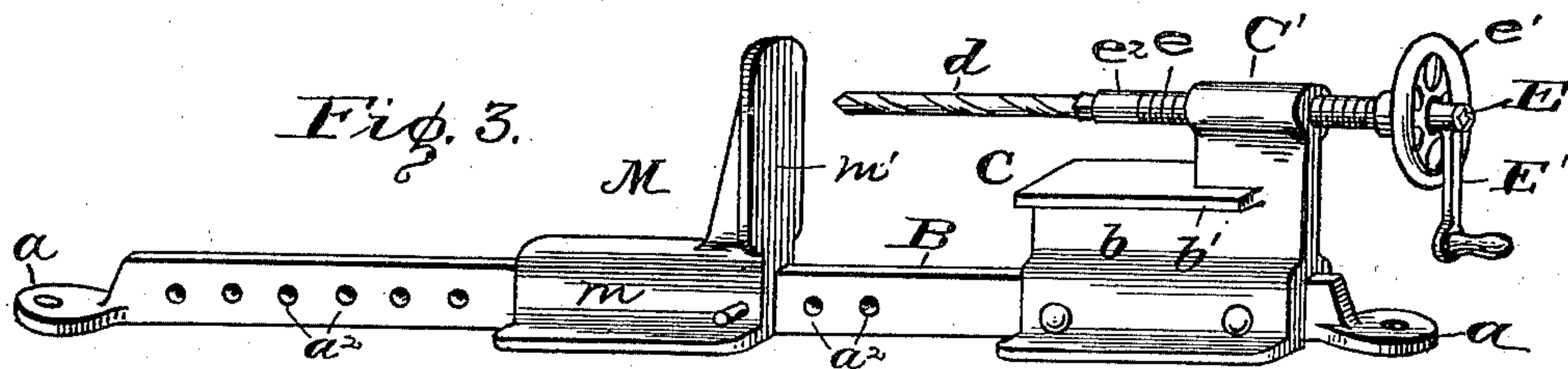
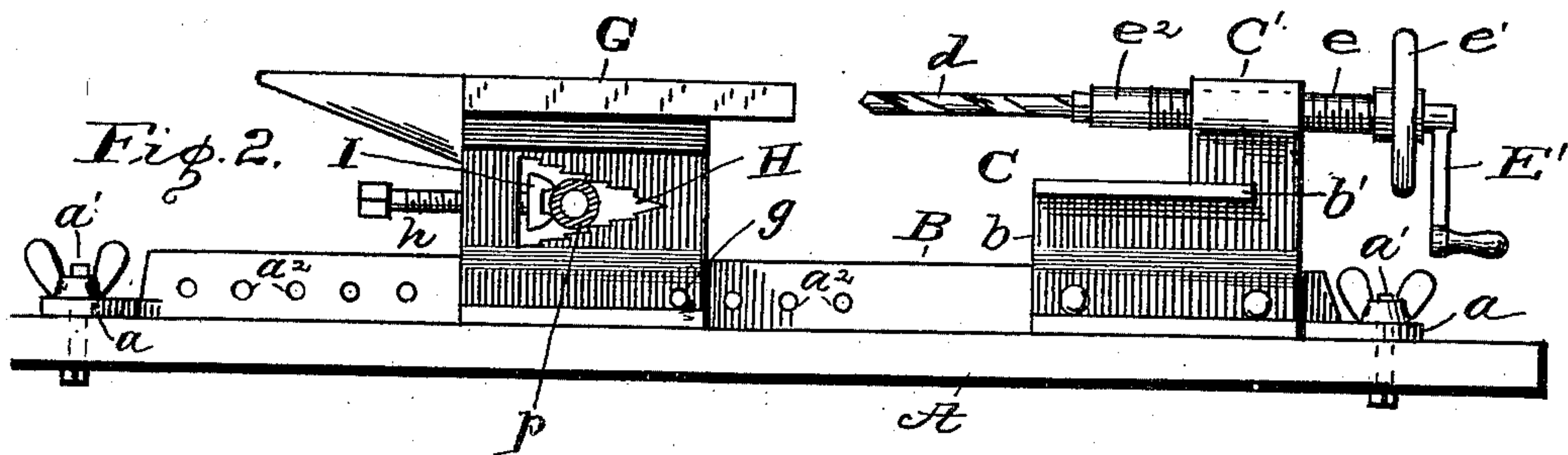
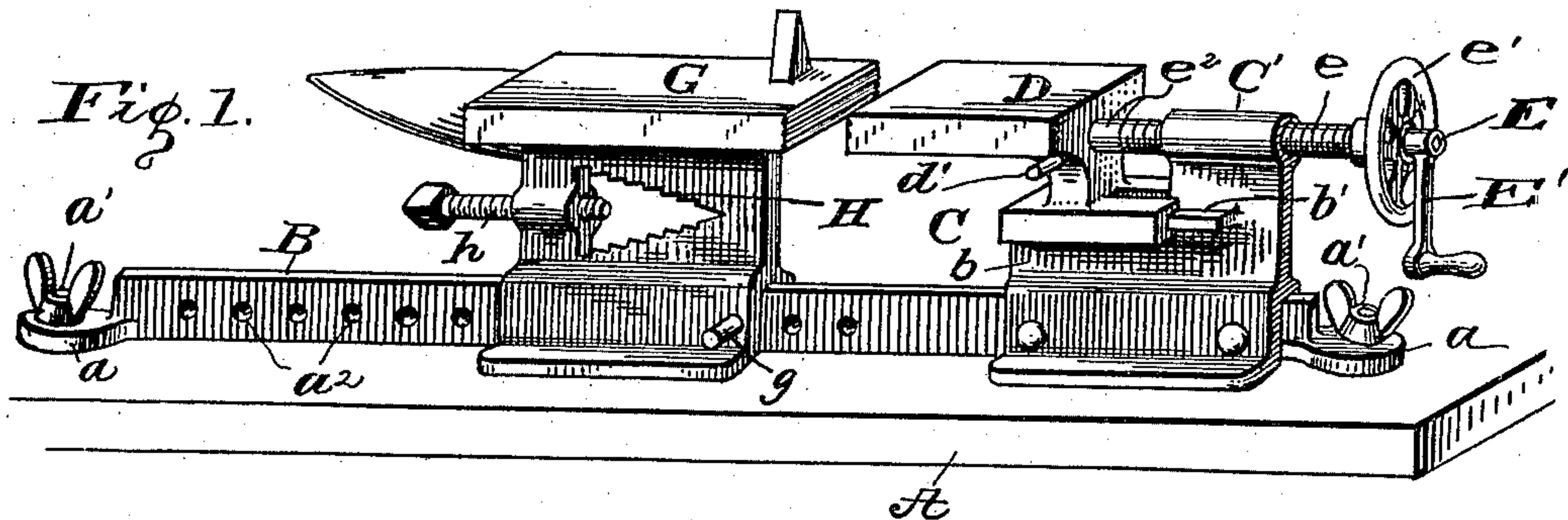
No. 652,448.

Patented June 26, 1900.

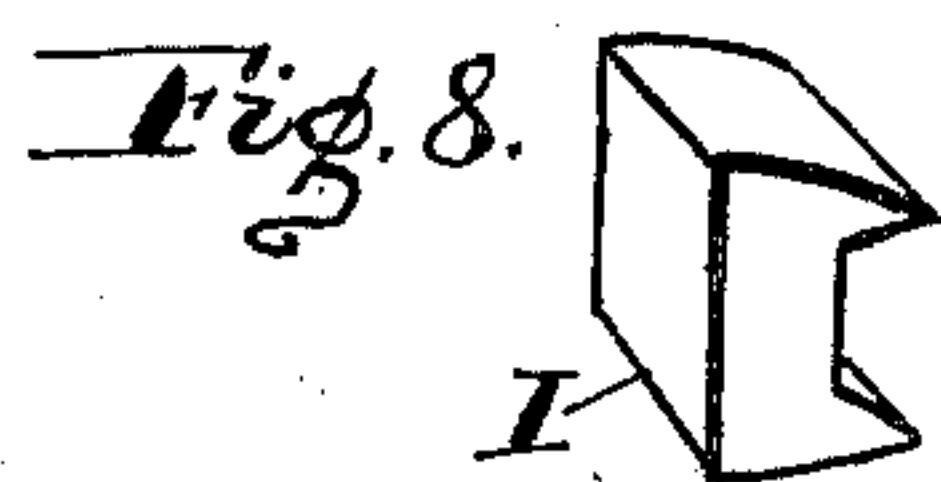
J. WEATHERS.
COMBINED ANVIL, VISE, DRILL, &c.

(Application filed Dec. 26, 1899.)

(No Model.)



Witnesses,
Chas C. Failles,
S. A. Minter



Inventor,
James Weathers,
By Joseph A. Minter,
Attorney.

UNITED STATES PATENT OFFICE.

JAMES WEATHERS, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF
TO JOHN A. ROBBINS, OF SAME PLACE.

COMBINED ANVIL, VISE, DRILL, &c.

SPECIFICATION forming part of Letters Patent No. 652,448, dated June 26, 1900.

Application filed December 26, 1899. Serial No. 741,538. (No model.)

To all whom it may concern:

Be it known that I, JAMES WEATHERS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in a Combined Anvil, Vise, Drill, &c., of which the following is a specification.

The object of this invention is to provide a tool which can be used in a practical manner as an anvil, vise, drill, pipe-holder, and pipe-cutter and which as a drill can be removed from the supporting-bench and carried to the article to be drilled.

I accomplish the object of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the tool as an anvil, vise, and pipe-holder; Fig. 2, a side elevation of same changed into a drill and pipe-holder; Fig. 3, a perspective view of the tool removed from the bench and with a modified stop-block in place of the anvil; Fig. 4, a detail in perspective of the drill-rod, showing the feed-screw; Fig. 5, a detail in side elevation of the anvil, showing the pipe-cutting mechanism; Fig. 6, inside views of the plates for holding the pipe-cutting tool; Fig. 7, views of the two opposite edges of the bearing-block to be used for pipe while the latter is being cut off, and Fig. 8 a perspective view of grip-block between screw and pipe.

Similar letters of reference indicate like parts throughout the several views of the drawings.

A is the bench on which the tool is mounted, and B a bar of thick strap iron or steel turned edge up and having perforated horizontally-flattened ends *a*, through which by means of the bolts *a'* the bar is bolted to the bench in a removable manner. The bar also has the series of perforations *a''* in longitudinal alignment.

C is the headpiece, having an expanded base slotted longitudinally and centrally to fit over the bar B. Above the base is a web *b*, a portion of which is higher than the rest, the higher portion terminating with the cylindrical head *C'*, which has a screw-threaded longitudinal central bore, and the lower portion with opposite lateral flanges *b'*, said

flanges preferably extending over onto the web which supports the head *C'* in order to give a longer bearing for the sliding jaw D, which moves on the flanges *b'* as guides. The jaw D has suitable runs in its base to receive the flange-guides *b'* and a socket or hole to receive the head on the end of shaft E. The shaft E passes through the bore of an externally-threaded hollow sleeve *e*, the said sleeve taking into the threaded bore of the head *C'* and having a hand-wheel *e'*, (see Fig. 4,) by which the sleeve will be given a motion of rotation. The shaft E has an outside head to which the crank *E'* is attached, and the screw-threaded sleeve is held against longitudinal movement on the shaft. The head *e''* has a socket entering its end to receive the drill *d*, the jaw D being first removed, however. The jaw D is removably secured to the head *e''* by means of the pin *d'*, which passes through the jaw into a hole in the head. It will be seen that by rotating the hand-wheel *e'* the jaw D will be made to slide on the guides *b'*, or by the removal of the jaw D and the insertion of the drill the latter will be rotated by turning the crank *E'*, and a longitudinal movement may be given to it by rotating the hand-wheel, thereby feeding the drill in or out.

The opposite jaw of the vise, which also serves as the stop against which the work is held in drilling, will be in the form of an anvil G, having an expanded and longitudinally-slotted base to fit over the bar B. It is fastened at any desired position along bar B by a pin or bolt *g*, which passes through holes in the base and through one of the series of openings in the bar. The position of adjustment will be determined by the size of the work to be handled.

Formed through the middle web of the anvil is a triangular slot H, with horizontal screw-bolt *h* entering the slot from one end. The opposite tapering sides of the slot are toothed to engage the sides of a pipe (see Fig. 2) which is held against rotation by being pressed by the bolt against said teeth. To more securely hold the pipe, I provide a bearing-plate I, to be inserted between the end of the bolt *h* and the pipe and having chiseled edges in contact with the pipe-walls to keep same from turning. For a pipe-cutter I provide a

pair of clamp-plates J, each having a pair of transverse ribs *j* to form a seat for a tool K. The plates are placed on opposite sides of the slot with the ribs in and are held in place and the tool between them by bolts *k* on either side of the tool. The cutter thus described is placed between the screw-bolt *h* and the pipe and is fed against the pipe by turning the screw-bolt in the right direction. By rotating the pipe the latter will be cut by the action of the tool, and to facilitate the turning of the pipe a bearing-block L will be introduced into the slot on the opposite side from the cutting-tool.

By making the device readily detachable from the bench it can be carried after removal to clamp or drill many objects which could not be brought on account of environment, size, &c., to the device on the bench, and for greater convenience in transportation and handling, especially for drilling purposes, I prefer to substitute the stop M, (shown in Fig. 3,) comprising a casting with a longitudinally-slotted base *m* and an integral vertical standard *m'*.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

A compound metal-working machine comprising a horizontal bar with a series of transverse perforations and vertically-perforated flattened ends with bolts taking through said perforations, a standard rising from one end

of said bar and having a screw-threaded bore therethrough and laterally-projected guide-flanges below said bore on either side of said standard, a longitudinally-sliding jaw moving on said guide-flanges, a screw-threaded sleeve passing through the bore of the standard and having a hand-wheel, a shaft passing through the bore of the sleeve and having a head of larger diameter at its inner end, a removable pin passing through the sliding jaw into engagement with the head of the crank-shaft when the jaw is in use, a second standard rising from said bar and having a transverse opening and a pin taking into said opening and through one of the perforations of the bar whereby the standard is adjustably secured to the bar, said standard having an anvil top with an opening for a hardy and a projecting inner end which forms one of the jaws of a vise, the said standard having a triangular slot with serrated edges and a screw-threaded bore and having a screw-bolt taking into the slot through said bore and said slot having removable pipe cutters and holders, all substantially as described and for the purposes specified.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 5th day of December, A. D. 1899.

JAMES WEATHERS. [L. S.]

Witnesses:

J. A. MINTURN,
CHAS. A. FAILLES.