

J. W. Mahlon,

Cutting Screw Threads & Drilling Metals.
No. 109746. Patented Nov. 29. 1870.

Fig. 1.

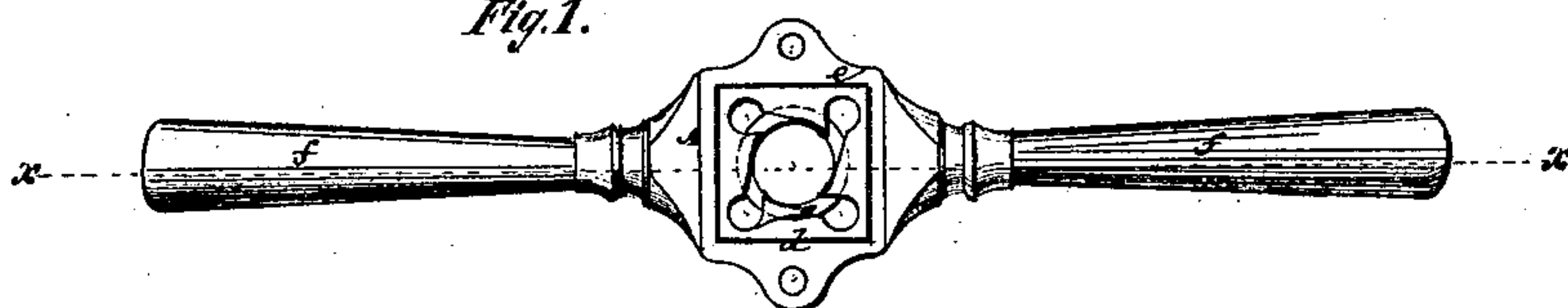


Fig. 2.

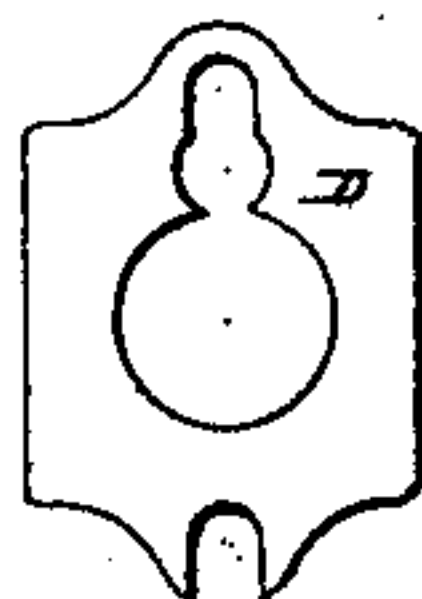
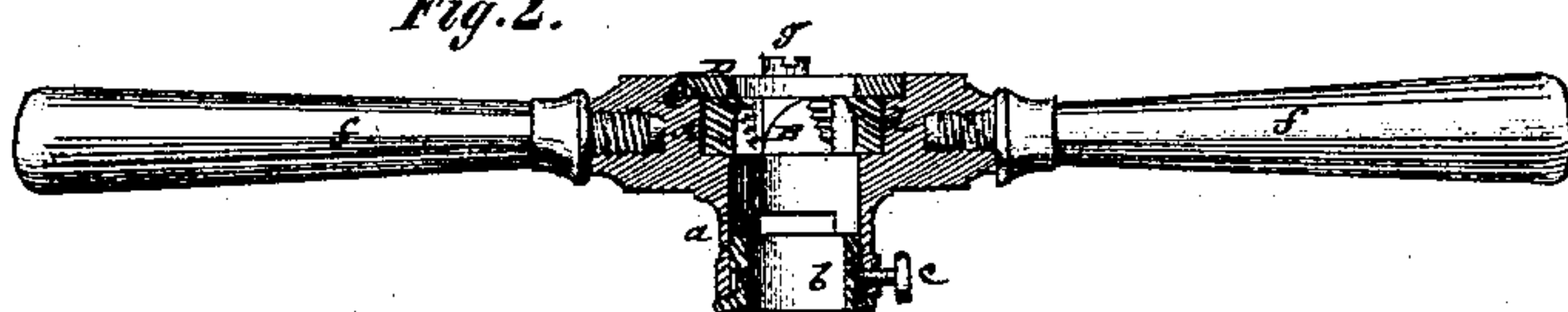


Fig. 3.

Fig. 4.

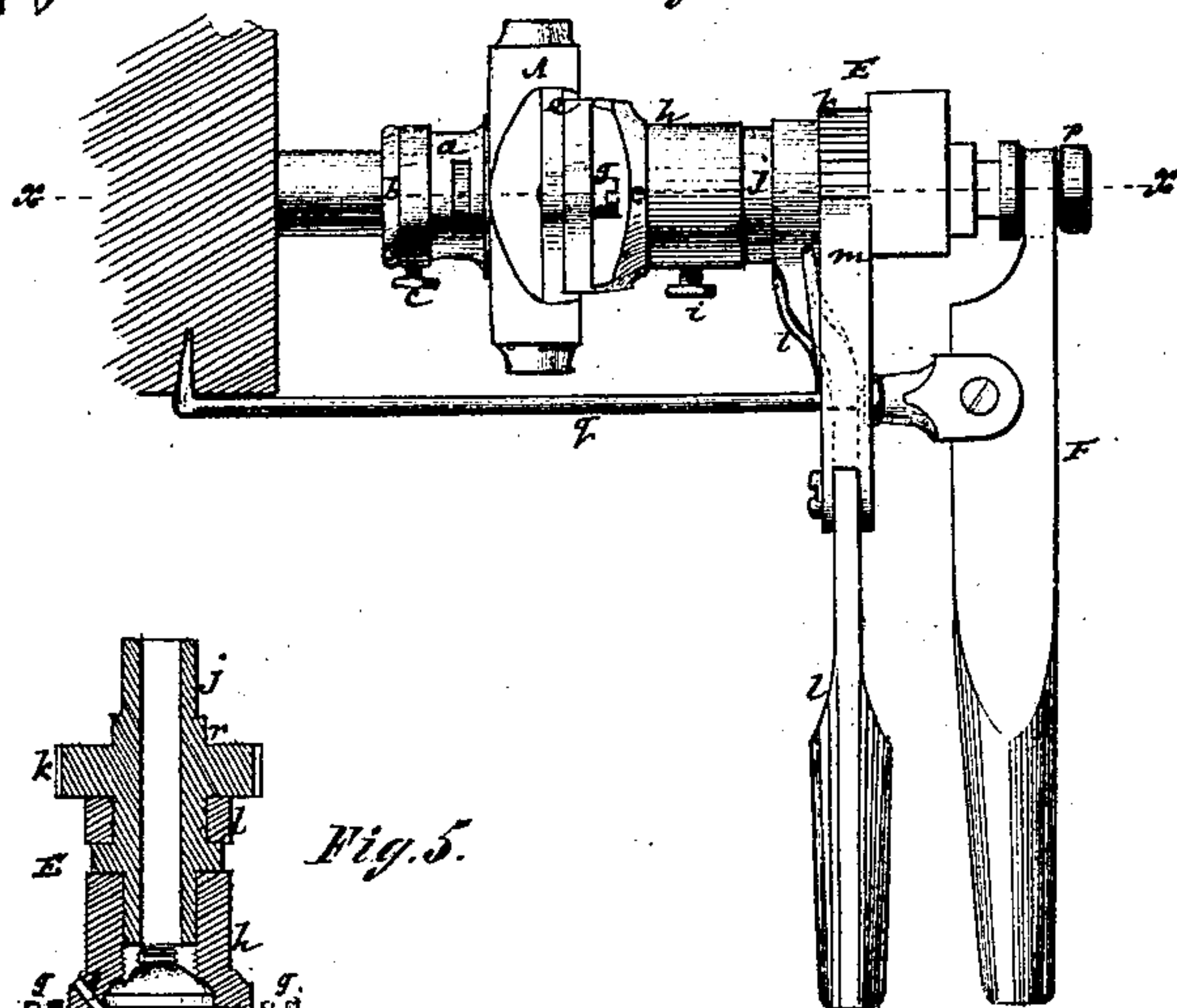


Fig. 7.

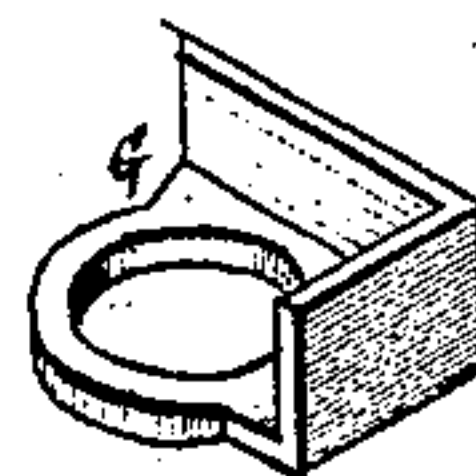


Fig. 5.

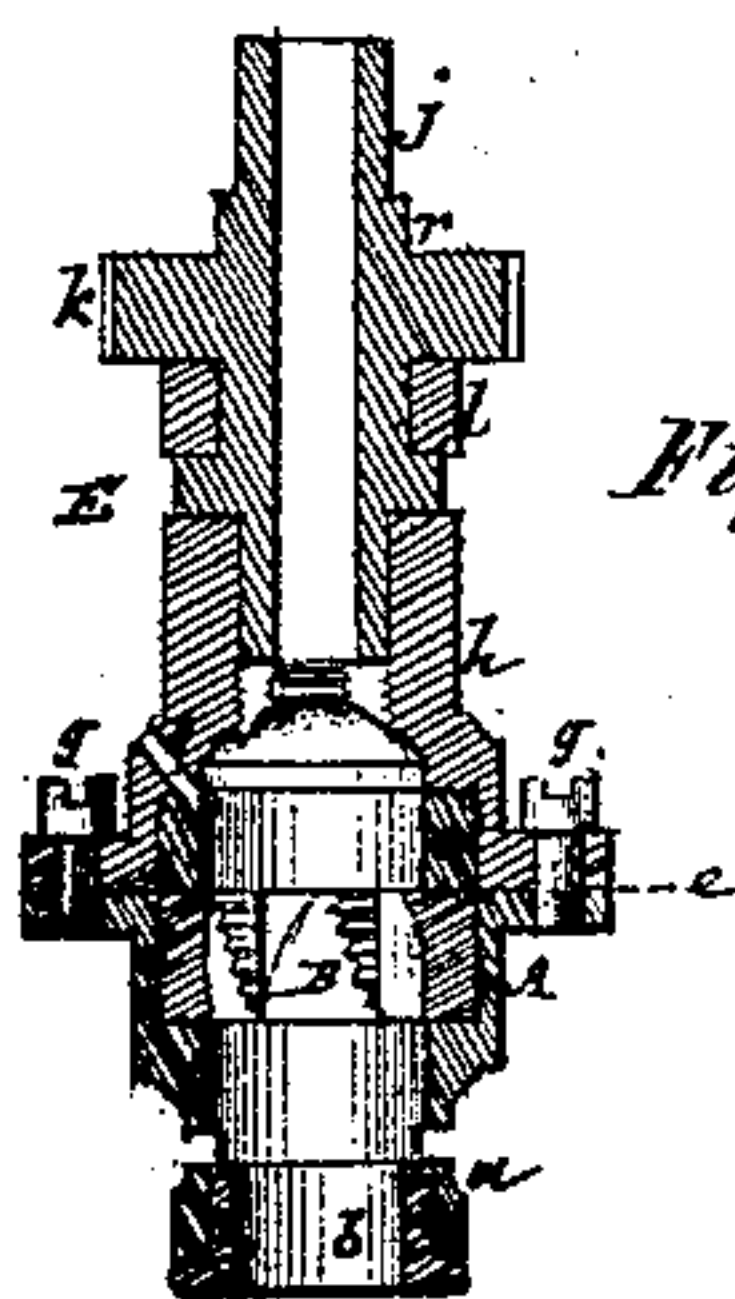
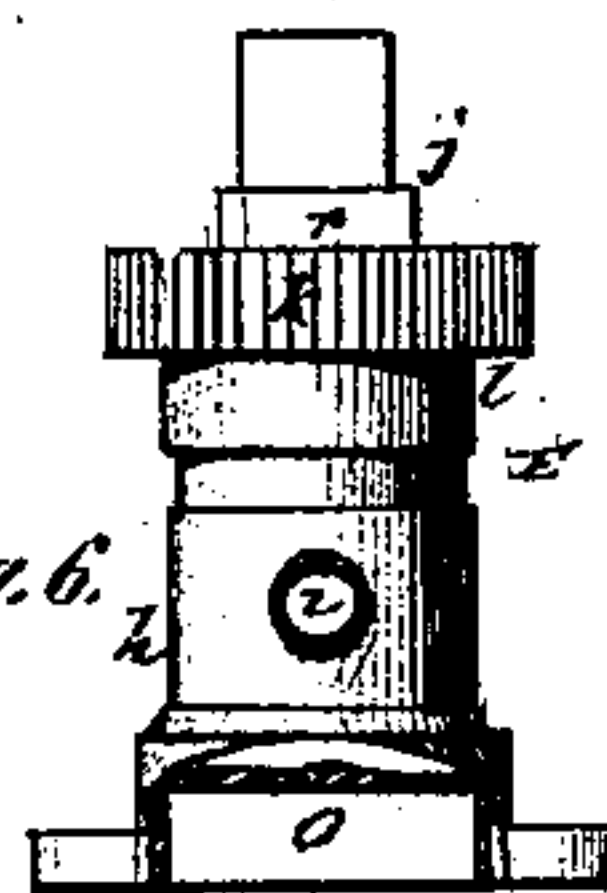


Fig. 6.



James W. Mahlon

Witnesses:

Fred. Haynes
R. E. Rabreau

United States Patent Office.

JAMES W. MAHLON, OF BROOKLYN, NEW YORK.

Letters Patent No. 109,746, dated November 29, 1870.

IMPROVEMENT IN DEVICES FOR CUTTING SCREW-THREADS AND FOR DRILLING METALS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES W. MAHLON, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Hand-Tools for Screwing and Drilling, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification.

This invention consists in the novel combination of an ordinary die-stock body, with a ratchet-drill brace, whereby I obtain a ratchet-die stock, the parts of which are separable, one for screwing, as with an ordinary die-stock, and the other for drilling.

Figure 1 is a plan, and

Figure 2, a side view, partly in section, of a die-stock furnished with handles, but constructed to form part of the ratchet-die stock, fig. 1 representing the die exposed by the removal of the covering-plate, of which

Figure 3 is a face view.

Figure 4 represents a side view of the ratchet-die stock, completed by the attachment of the ratchet-drill brace, and

Figure 5, is an axial section of the same.

Figure 6 is a partly-broken side view of the ratchet-brace.

Figure 7 is a perspective view of a guard, to be slipped on the tool, to prevent injury to a wall or contiguous surface in the operation of the tool.

Referring, in the first instance, to figs. 1 and 2 of the drawing—

A represents the body or die-holding portion of a die-stock, provided with a socket, *a*, on the one face of it, and which serves to carry a pipe, guide, or sleeve, *b*, of any desired size, according to the size of the pipe to be operated on, said sleeve being held to its place by a set-screw, *c*, to facilitate the changing of it for another of different size.

B is the die, which may be made in one piece, and be inserted to its place in the die-stock by simply dropping it into a chamber, *d*, therein, through the opposite face of the stock to that on which the socket *a* is arranged.

This opposite side or face of the stock is formed with a recess, *e*, within which is fitted a plate, D, when it is required to work the die-stock in the ordinary way by means of handles *f f*.

Said plate D serves to hold the die in its place, and is secured to the body A by screws *g*, so as to be detachable therefrom.

The handles *f f* are also made detachable, at pleasure, by means of a screw-thread cut on their ends made to fit female threads in the ends of the body A.

When it is required to work the die-stock by a ratchet motion, as in cases where there is not room for operating it by the handles *f f*, said handles are

removed and the plate D also detached, and the body *h* of a ratchet-operating attachment E (see figs. 4 and 5) inserted within the recess *e*, and secured therein by means of the screws *g*, the die B occupying the same position in the body A as before.

The portion or body *h*, which is hollow, is extended longitudinally, and has fitted within it, and secured to it by a set-screw, *i*, a socket or hollow shank, *j*, the hole through which is preferably of square or angular shape, to favor the introduction of a drill when it is required to use the tool for drilling purposes.

This hollow shank *j* has the ratchet-wheel *k* formed on or firmly secured to it, and constitutes a bearing for the operating level *l* (carrying a spring-borne pawl, *m*,) to turn upon.

The body-portion *h* of this ratchet attachment E may be provided with a lubricating aperture, *s*, and is made at its base or inner end with a recess of the size and configuration of the die B, into which recess is loosely fitted a blank, *o*, that serves to keep the die in its seat.

The stock-body A, having the ratchet-operating device thus attached to it, may then be worked as a ratchet-drill is operated, to cut a screw-thread on a pipe, as represented in fig. 3, and it is in the tool so organized that this invention mainly consists.

To secure grip on the work at starting, or to start the cut, a lever-feeder, F, may be loosely and temporarily applied to the back of the tool, said device consisting of a hand-lever, to give the requisite pressure, and which is connected with the shank *j* by a free pin, *p*, fitting in the hollow of said shank, and which lever has furthermore connected with it, by joint, a hooked rod, *q*, that may be driven at its hooked end into any convenient fixture, to form a fulcrum or rest for the hand-lever of the device F.

G, fig. 7, is a guard, having one, two, or more straight sides, and a circular hole through its base, to provide for its loose fit over a circular collar *r* on the shank *j*.

This guard operates by its projecting side or sides to protect the wall or other surface the tool is working close up to from being bruised or injured by the tool.

What is here claimed, and desired to be secured by Letters Patent, is—

The die-stock body A, detachable handles *f*, socket *a*, hollow body *h*, and the ratchet-and-pawl mechanism, jointly, the several parts being constructed and fitted to co-operate in the cutting of screw-threads, or drilling of metals to the extent and in the manner substantially as described.

JAMES W. MAHLON.

Witnesses:

FRED. HAYNES,
R. E. RABEAU.