

(No Model.)

G. W. BUMGARNER.
MACHINE FOR THREADING PIPES.

No. 398,580.

Patented Feb. 26, 1889.

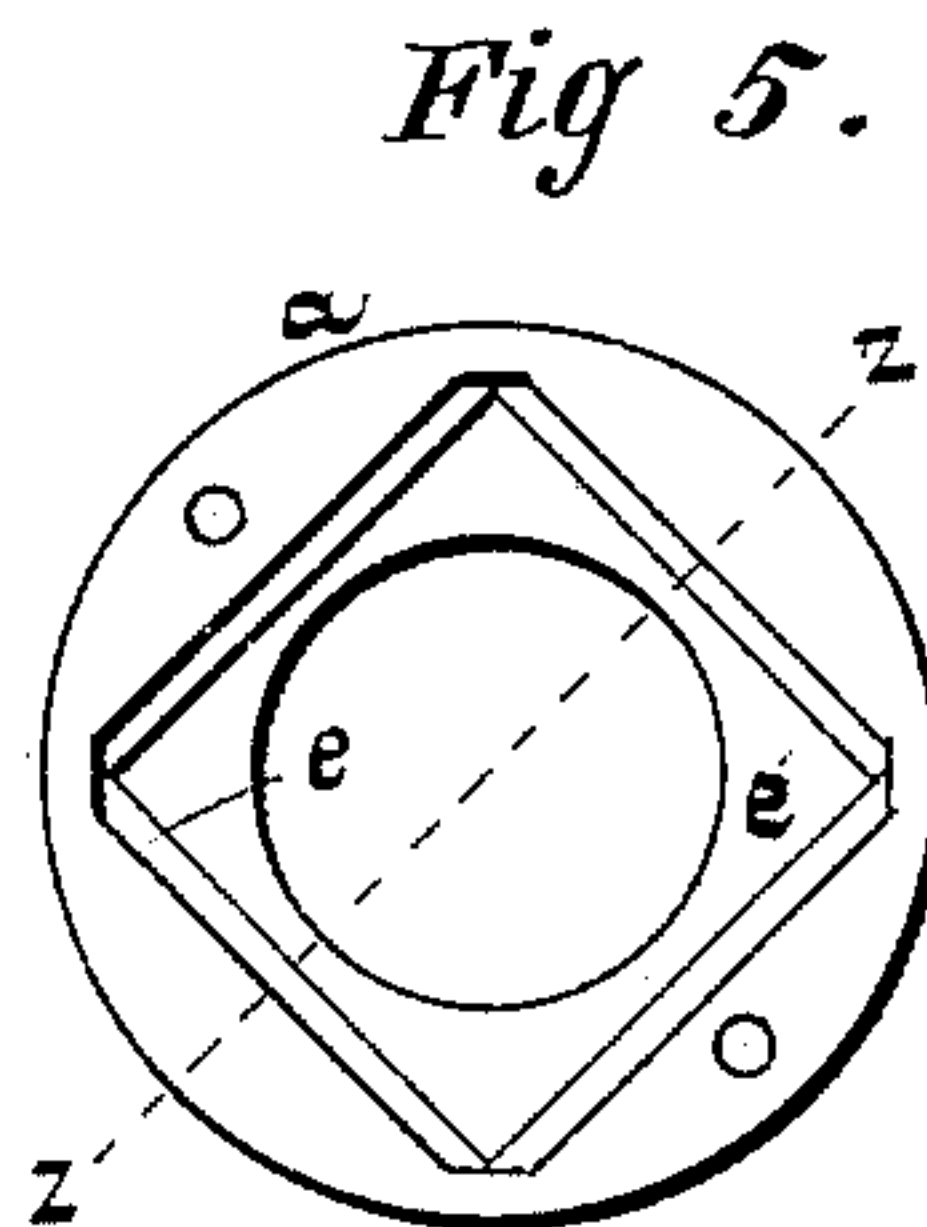
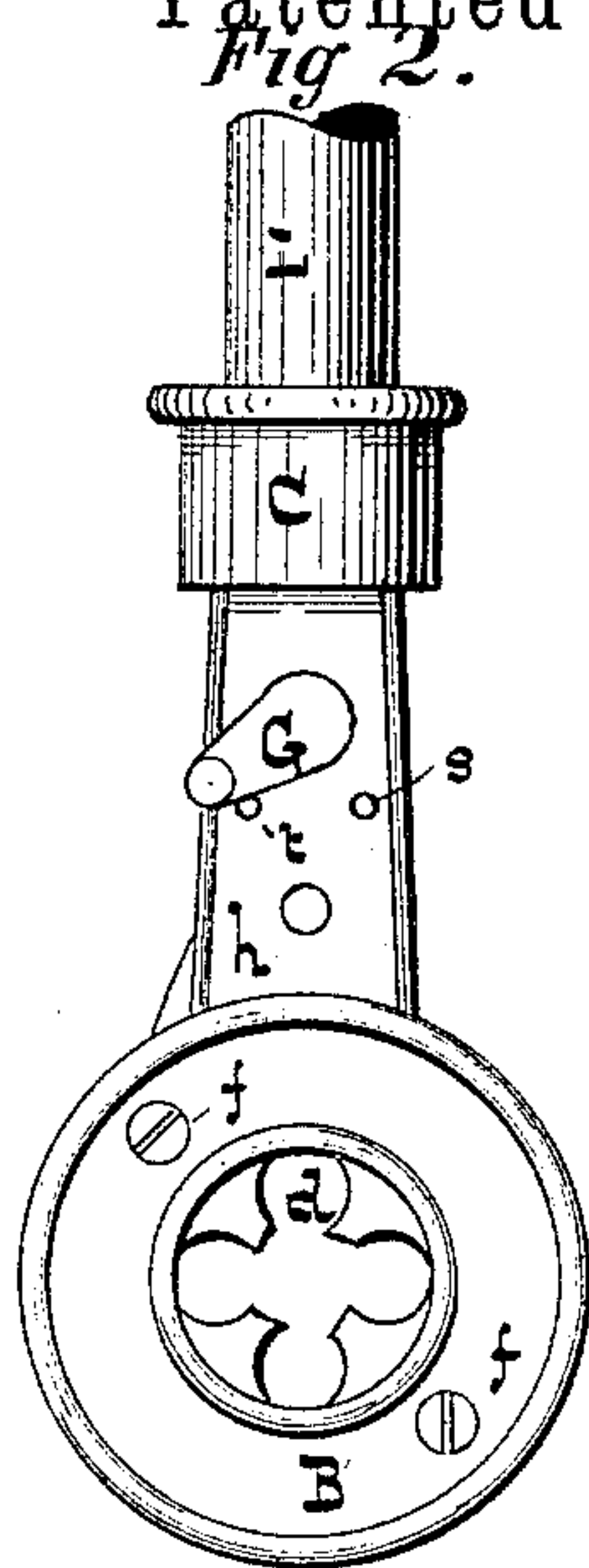
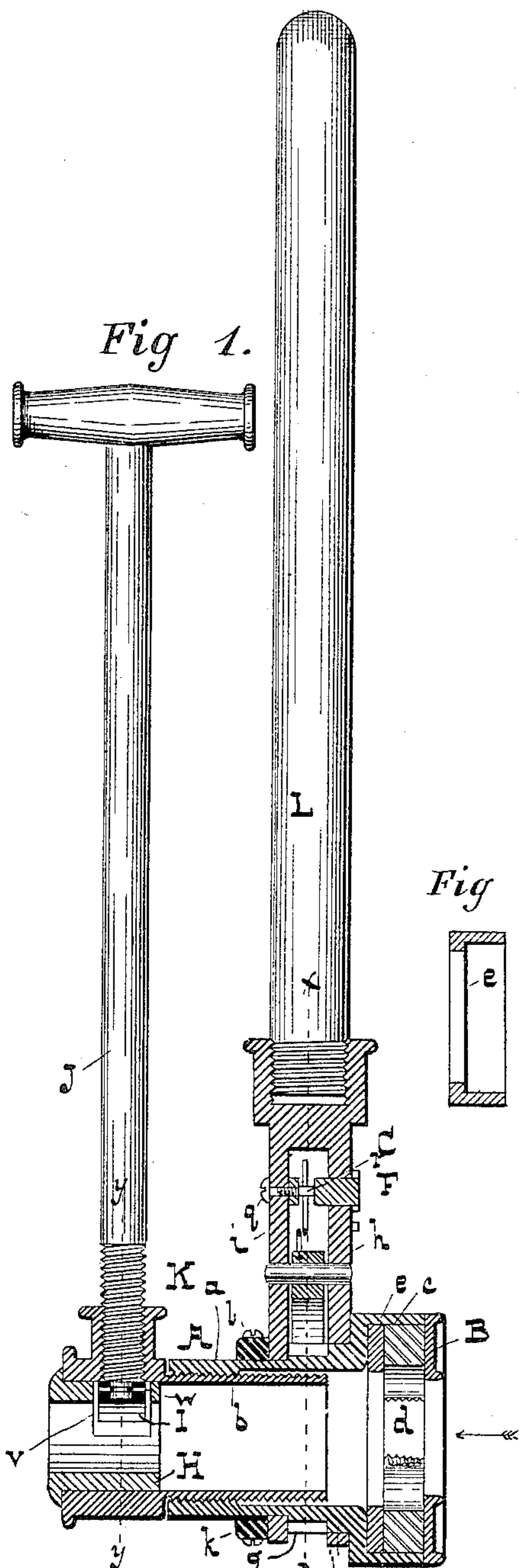


Fig 6.

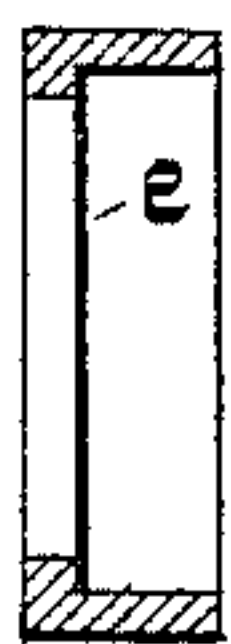


Fig 3.

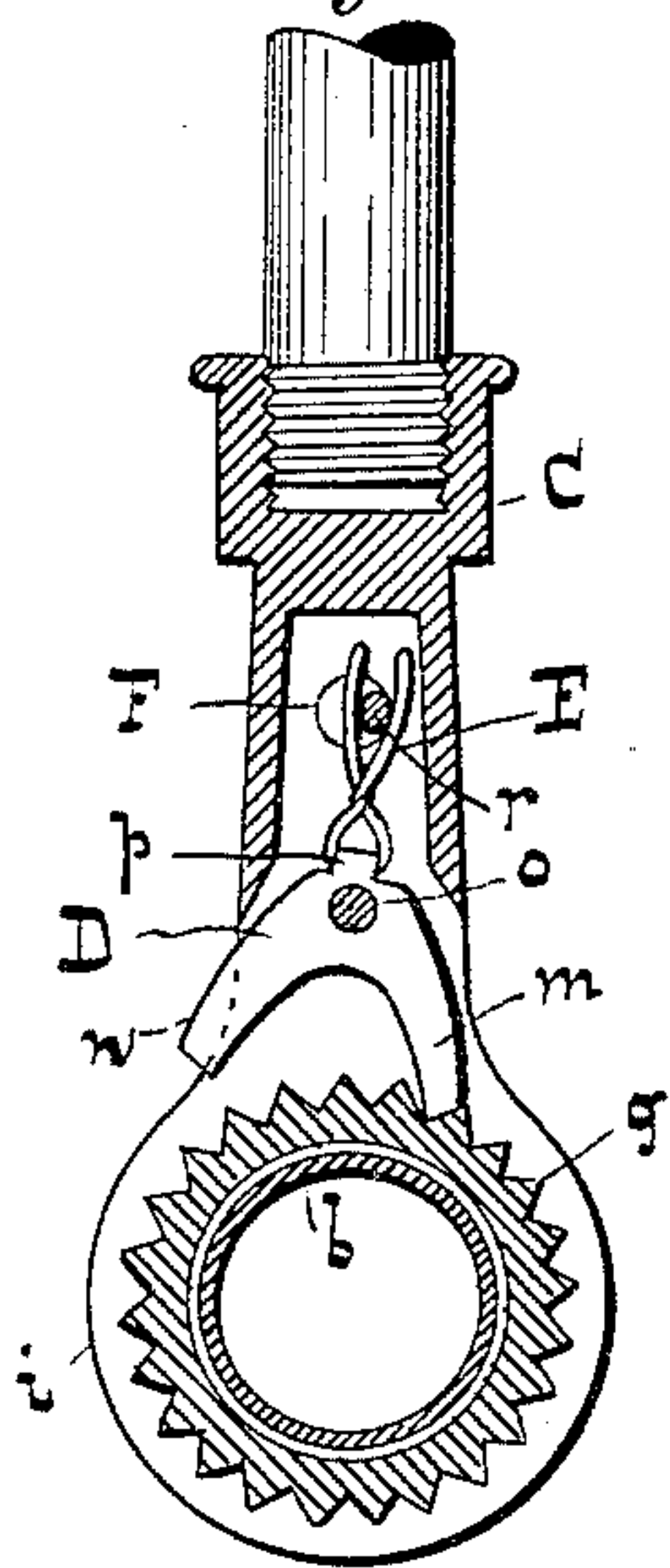
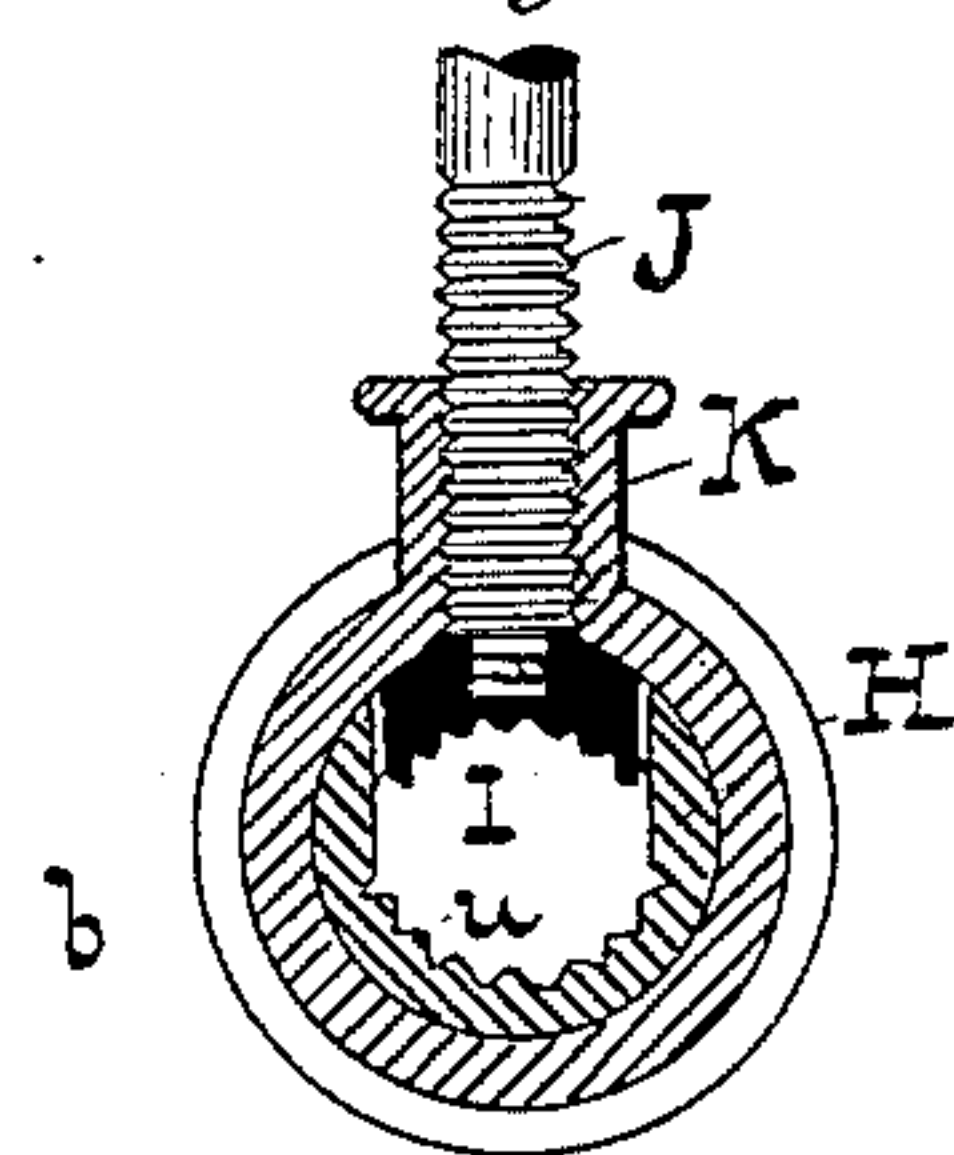


Fig 4.



-WITNESSES-

Dan'l Fisher
Geo. E. Taylor

-INVENTOR-

George W. Bumgarner,
by W. H. T. Howard,
att'y.

UNITED STATES PATENT OFFICE.

GEORGE W. BUMGARNER, OF BALTIMORE, MARYLAND.

MACHINE FOR THREADING PIPE.

SPECIFICATION forming part of Letters Patent No. 398,580, dated February 26, 1889.

Application filed November 19, 1888. Serial No. 291,254. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BUMGARNER, of the city of Baltimore and State of Maryland, have invented certain Improvements in Screw-
5 Thread-Cutting Machines, of which the following is a specification.

This invention relates to an improved device specially adapted for cutting threads on
10 pipes situated near walls, in ditches, or in other nearly inaccessible positions that will not admit of the employment of the ordinary contrivances for that purpose, as will hereinafter fully appear.

In the further description of the said invention which follows reference is made to the
15 accompanying drawings, forming a part hereof, and in which—

Figure 1 is a central longitudinal section of the improved thread-cutter; and Fig. 2, a face
20 view of the lower portion of the same, looking in the direction indicated by the arrow, Fig. 1. Fig. 3 is a section of Fig. 1, taken on the dotted line *xx*. Fig. 4 is a sectional view of Fig. 1, taken on the dotted line *yy*. Fig. 5 is a
25 similar view to Fig. 2, except that a plate, hereinafter described, is removed. Fig. 6 is a detail of the invention, the part represented being shown in section, the line of which is taken through *Z z*, Fig. 5.

30 Similar letters of reference indicate similar parts in all the figures.

In the said drawings, A is a sleeve, formed of the two parts *a* and *b*—the former interiorly threaded and the latter threaded on the out-
35 side and adapted to fit within the former. The outer end of the section *a* is enlarged, so as to form a polygonal chamber, *c*, in which is secured the die *d* for cutting the thread. This die, if of the largest size intended to be used
40 in the tool, is placed directly in the chamber *c*; but if it is of a size smaller a bushing-box, *e*, is used, and the die placed in the box, as shown in the drawings. In case a still smaller die is to be used, a box having thicker side
45 walls is substituted for the one shown, so as to further reduce the size of the chamber. It is obvious that if all the dies for cutting screws were of the same exterior size a bushing-box would not be necessary, or one bushing would
50 suffice. The die is held in its chamber by means of a plate, B, secured to the face of the

sleeve by the screws *f*. A portion of the sleeve is provided with ratchet-teeth *g*, which are of the same angle with reference to radial lines on both sides, as shown in Fig. 3. Around
55 the sleeve *a*, and directly over the ratchet-teeth *g* thereon, is loosely placed a handle, C, the lower end of which is formed of two plates, *h* and *i*. The plate *h* rests on a collar, *j*, while the one *i* fits around the sleeve proper, and
60 the handle is retained in position by means of a collar, *k*, which is fastened to the sleeve through the medium of the screws *l*.

D is a pawl having two prongs, *m* and *n*, either one of which is adapted to engage with
65 the ratchet-teeth *g*. This pawl is pivoted within the handle C on a pin, *o*.

E is a spring formed of a piece of wire, which is inserted through the lug *p* on the upper end of the pawl, and twisted so as to form a fork,
70 as shown in Fig. 3.

F is a shaft which passes through the plate *h*, and is held to the inner surface of the plate *i* by means of a screw, *q*, as shown in Fig. 1. This shaft, at a point between the tines of the
75 fork E, is turned to a small size, and the pin thus produced is eccentric with reference to the remaining portion, so as to form a crank-pin, *r*. (See Figs. 1 and 3.)

The shaft F is fitted with a handle, G, on the
80 outside of the plate *h*, whereby the crank-pin may be thrown to one side or to the other, and thereby make either of the prongs of the pawl D the active one. This change in the position of the pawl is to admit of the reversal of the
85 movement of the sleeve with a common movement of the handle C. The pins *s* and *t* limit the movement of the handle G in either direction.

At the rear end of the sleeve A, and in the
90 section thereof denoted by *b*, is inserted a centering-ring, H, provided at its bottom with the inner teeth, *u*, and at its upper side with a toothed jaw, I, which enters the said centering-ring through a slot, *v*. The movement of
95 this jaw to clamp the pipe or rod to be threaded is effected by means of the threaded bar J, which passes through a threaded boss, K, and rests in a recess in the jaw. The portion of the bar J in the jaw is reduced in size and
100 grooved, and a pin, *w*, forms the fastening device which holds the jaw to the said bar,

and at the same time permits the rotation of the same independently of the jaw.

At the top of the handle C is a socket, in which a rod, L, is screwed to give the desired 5 leverage.

When it is desired to thread the end of a pipe or bolt, the two sections of the sleeve A are unscrewed or extended, when the device is placed on the pipe and clamped thereon by 10 means of the jaw, as before described, with its ends in contact with the inner face of the die. The pawl is then placed in the position shown in Fig. 3 and the handle vibrated. In this 15 movement the die is forced on the pipe or bolt and the thread cut. The object of the screw-connection between the two sections of the sleeve is to enforce the passage of the die over the pipe, and after that is accomplished to relieve the die of a portion of its work. 20 When a thread is cut a sufficient distance on a pipe, the handle G is reversed in position, which has the effect of changing the position of the pawl and bringing the prong *n* in contact with the ratchet-teeth instead of the one *m*. 25 The vibration of the handle L is then resumed and the die unscrewed from the pipe.

I claim as my invention—

1. In a screw-thread-cutting tool, the sleeve A, formed of the outer and inner threaded

sections, *a* and *b*, the former having a polygo- 30 nal chamber, *c*, at its end adapted to hold a die and ratchet-teeth on its circumference, and the latter provided with the centering-ring H, having inner teeth, and the movable 35 toothed jaw I, with a threaded bar to adjust it within the said ring, combined with a handle, C, formed of the plates *h* and *i*, double pawl D, 40 forked spring E, and shaft F, having the crank-pin *r* situated between the tines of the said forked spring, substantially as and for the purpose specified.

2. In combination with the sleeve-section *a*, having the circumferential teeth *g*, the handle C, having the double pawl D, forked spring E, shaft F, with the crank-pin *r* situated be- 45 tween the tines of the said forked spring, and handle G, whereby the said crank-pin is moved and the position of the pawl changed, substantially as and for the purpose specified.

3. As means for holding a pipe within the 50 section *b* of the sleeve A, the interiorly-toothed ring H, movable toothed jaw I, and the threaded bar J, all combined substantially as and for the purpose specified.

GEORGE W. BUMGARNER.

Witnesses:

WM. T. HOWARD,
DANL. FISHER.