

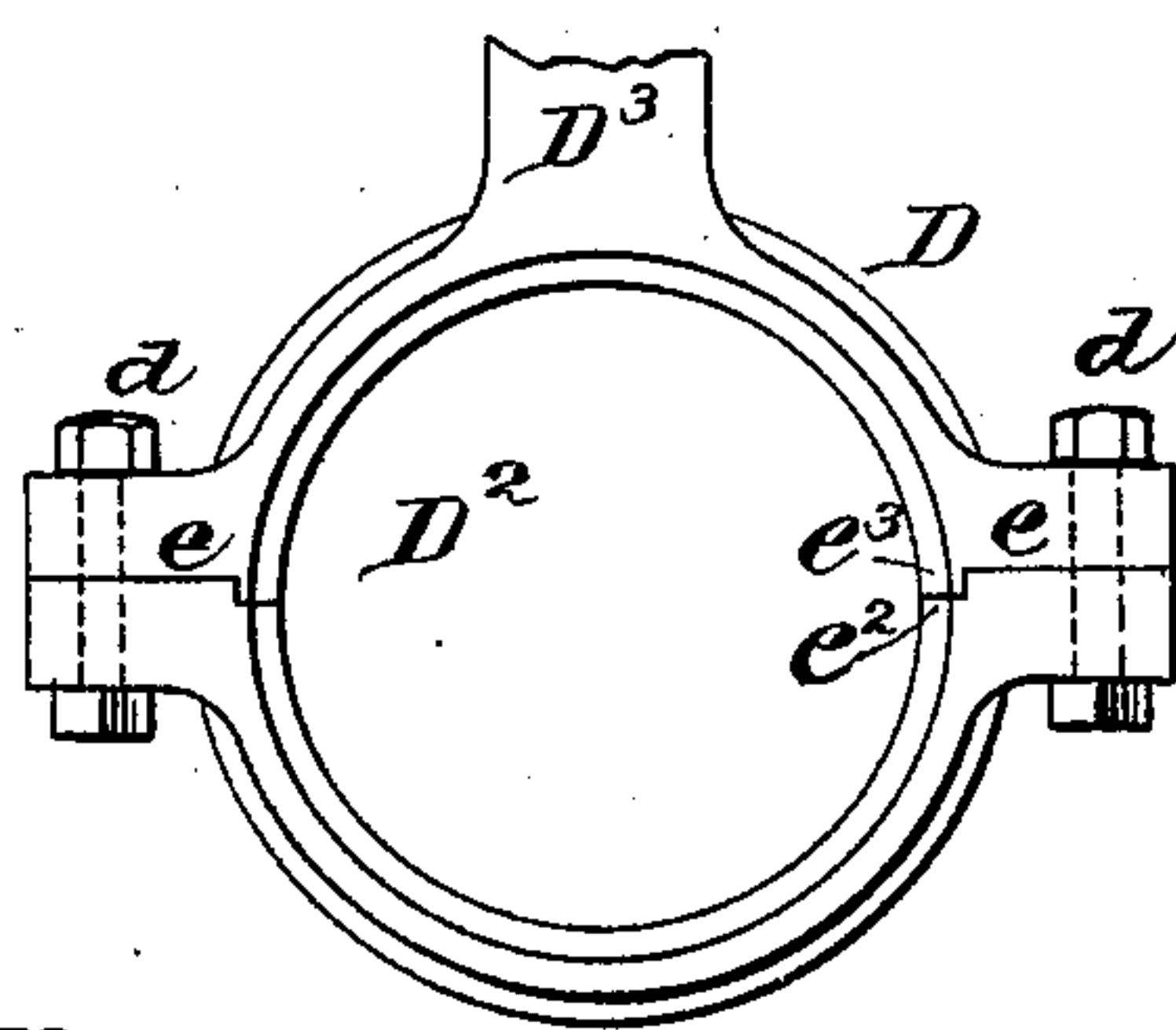
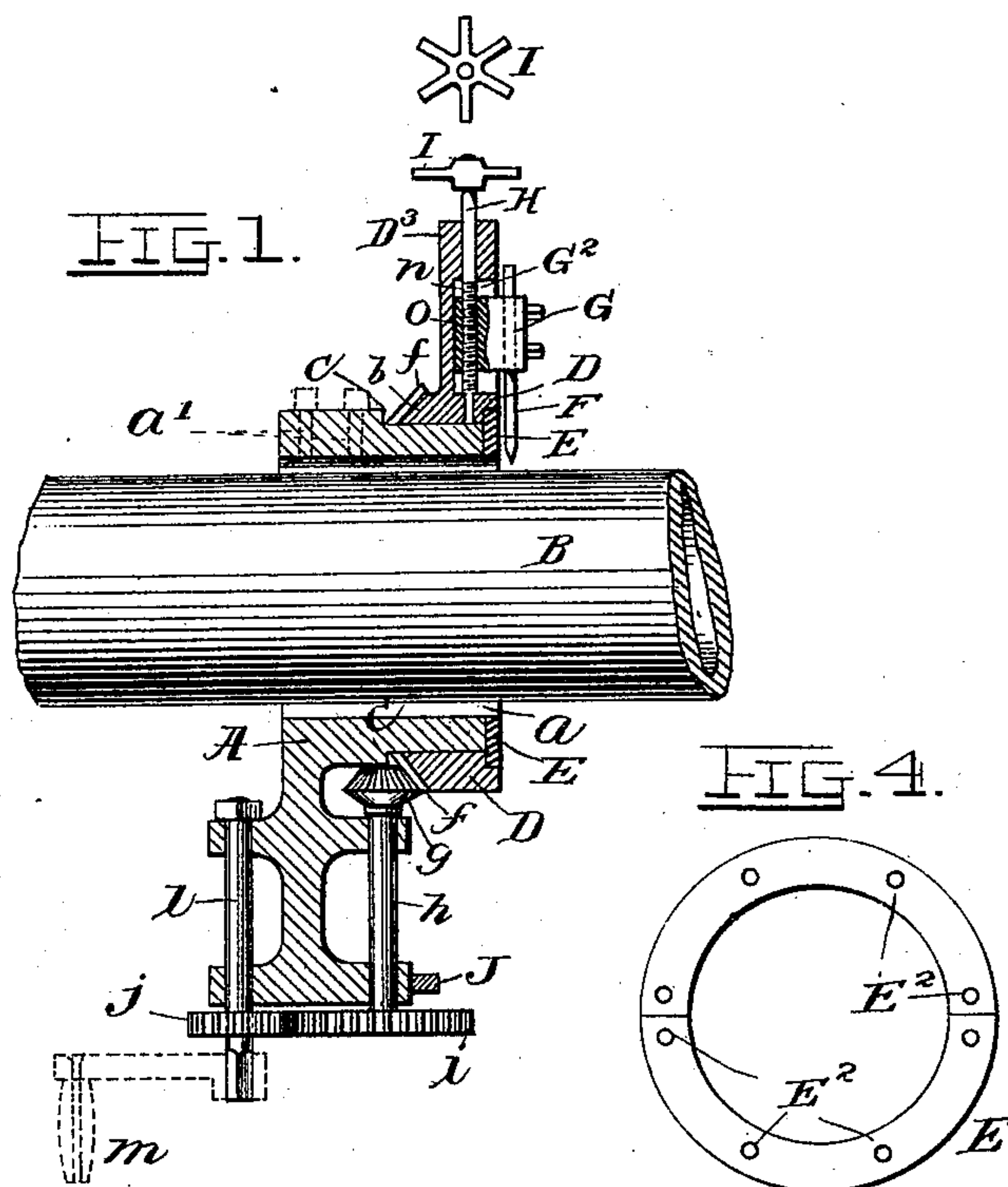
(No Model.)

3 Sheets—Sheet 1.

D. W. FRENCH.
PIPE CUTTER.

No. 587,093.

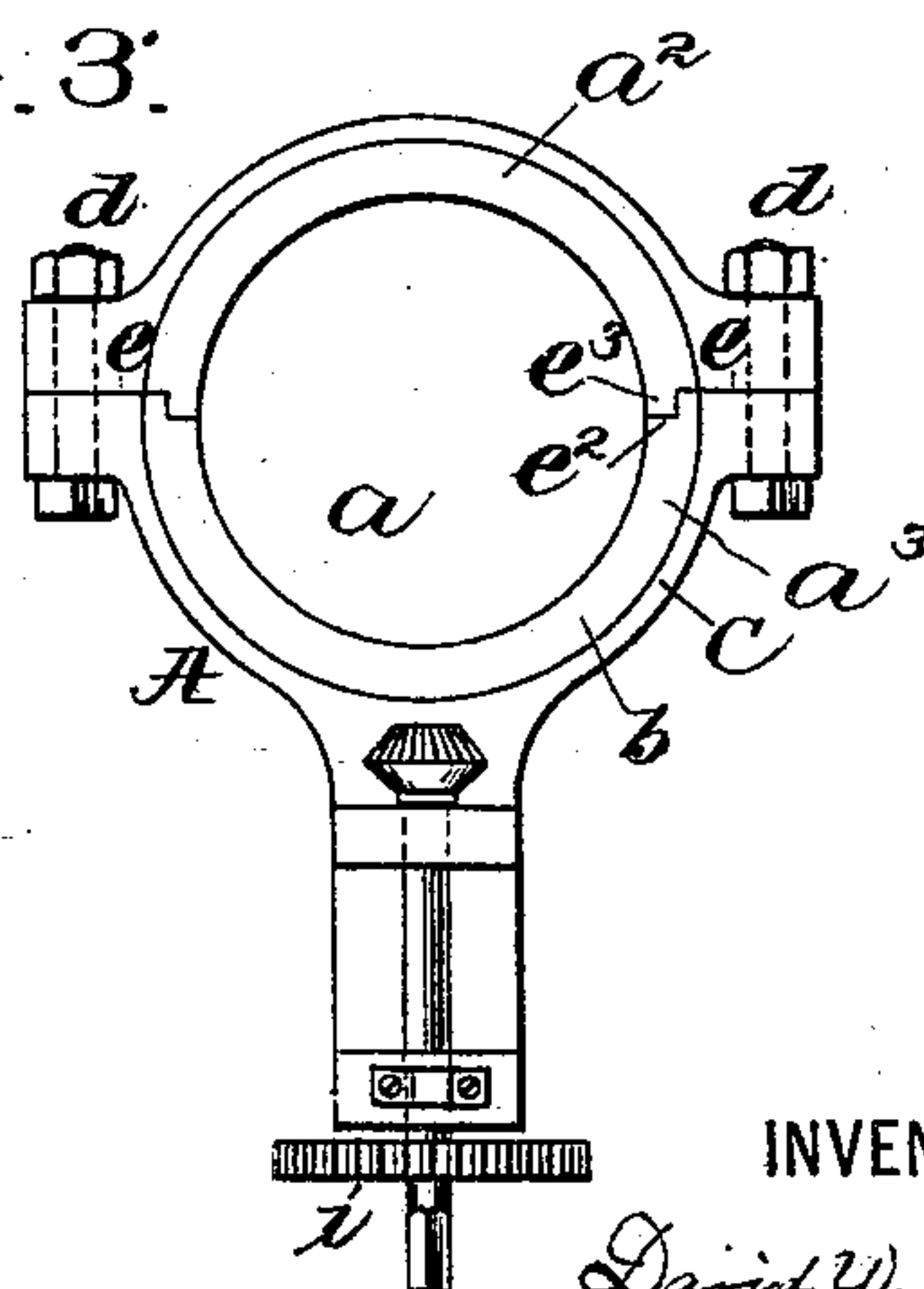
Patented July 27, 1897.



WITNESSES:

Edward C. Rowland,
Theodore Bourne

FIG. 3:



INVENTOR

David W. French
By *J. F. Bourne*
his ATTORNEY

(No Model.)

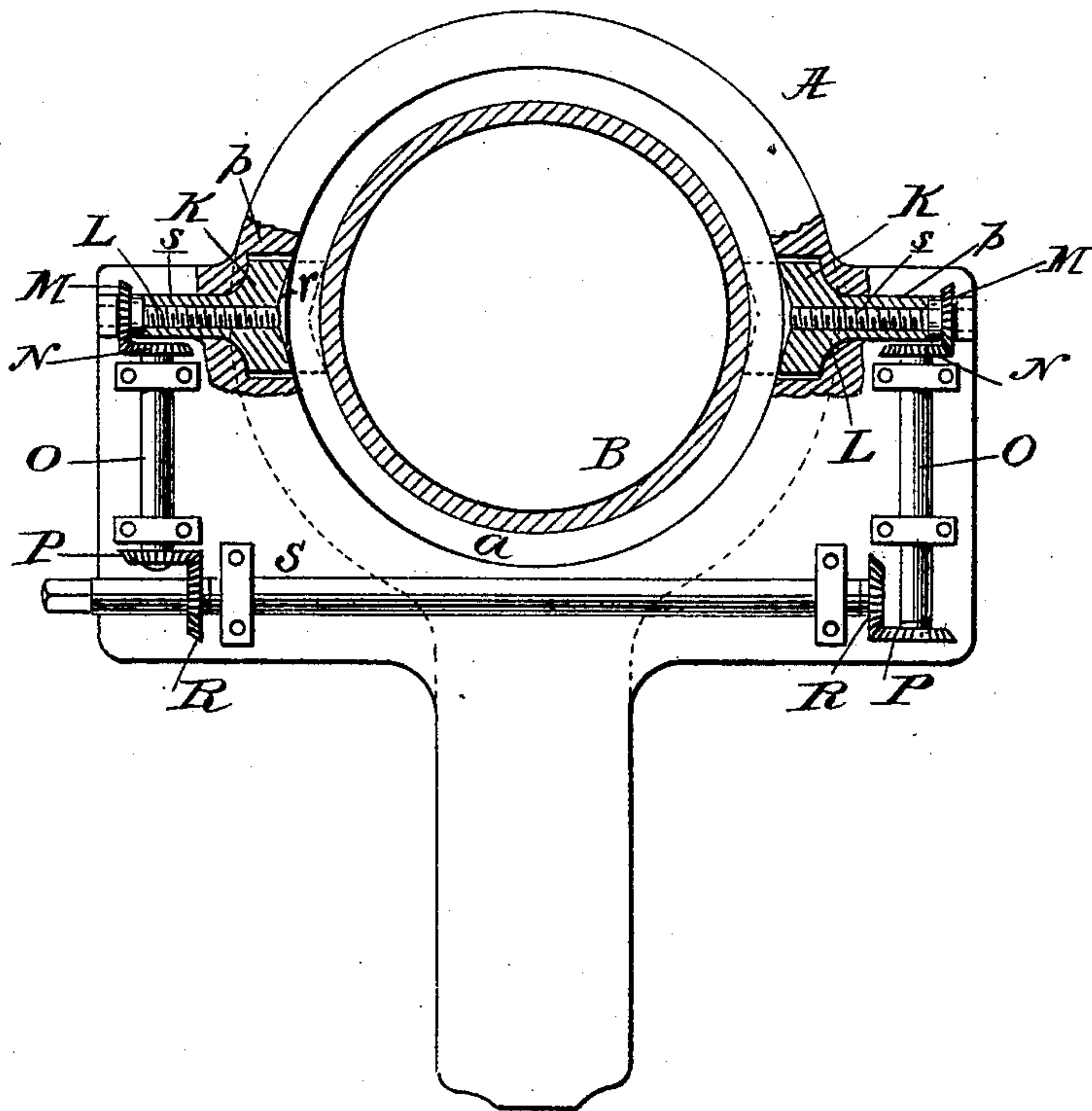
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FIG 5.



WITNESSES:

Edward Rouland

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T. F. Bourne

his ATTORNEY

(No Model.)

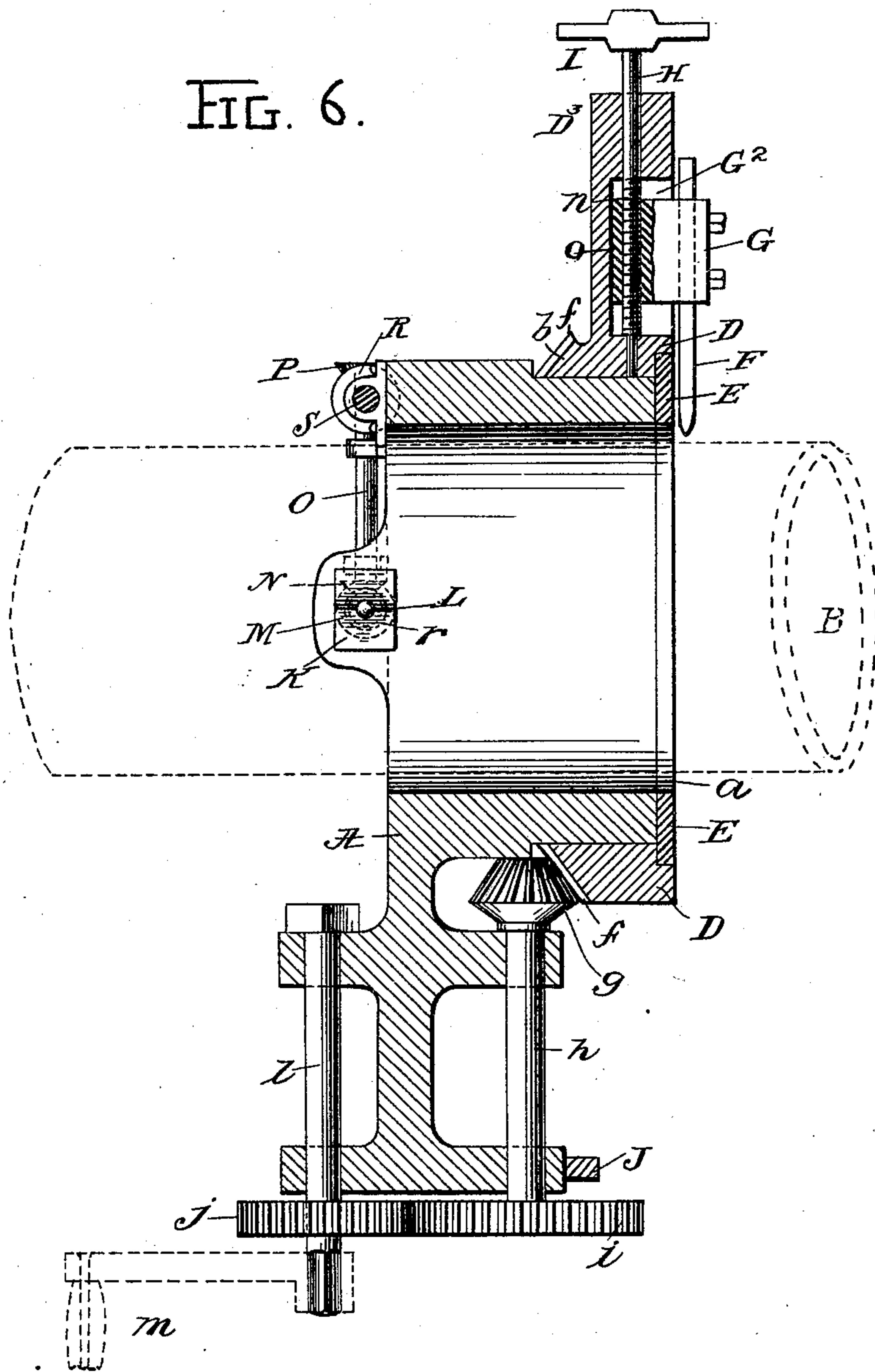
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FIG. 6.



WITNESSES:

WITNESSES:
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O. M. Fort.

INVENTOR

David W. French
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his ATTORNEY

BY

UNITED STATES PATENT OFFICE.

DAVID W. FRENCH, OF UNION HILL, NEW JERSEY.

PIPE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 587,093, dated July 27, 1897.

Application filed February 2, 1893. Renewed May 21, 1897. Serial No. 637,623. (No model.)

To all whom it may concern:

Be it known that I, DAVID W. FRENCH, a citizen of the United States, and a resident of Union Hill, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Pipe-Cutters, of which the following is a specification.

My invention relates to the class of pipe-cutters in which a cutter-carrier and cutter are caused to travel around a pipe or bar to cut it; and the invention has for its object to provide improved means for connecting the parts of the device with a pipe or bar and properly holding them; also, to provide improved means for automatically feeding the cutter as it is carried around the pipe or bar.

Another object is to provide improved means to increase the cutting power of the device and means for centering the device upon a pipe or bar.

The invention consists in the novel details of improvement and the combinations of parts that will be more fully hereinafter set forth, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a vertical longitudinal section of the device shown mounted on a pipe. Fig. 2 is a detail face view of the cutter-carrier ring or body. Fig. 3 is a corresponding view of the main frame or body. Fig. 4 is a detail face view of the ring for holding the parts together. Fig. 5 is a partly-broken side view of the device, looking from the left in Fig. 1, showing means for centering it upon a pipe, this centering mechanism being omitted from Fig. 1; and Fig. 6 is a view corresponding to Fig. 1, on an enlarged scale, showing the means for centering the device upon a pipe.

In the drawings, the letter A indicates a frame or body having a bore a to receive a pipe B, any suitable means being employed for holding frame A rigidly on pipe B—as, for instance, set-screws a^1 . The frame A is provided with a circular portion b and a shoulder c , as shown. The frame A is preferably made in two parts or halves $a^2 a^3$, that may be held firmly together by bolts or the like d , as shown. (See Fig. 3.) By this means the frame A may be placed upon a pipe B, whose ends are both embedded in the earth or otherwise held and which would not permit the frame being

slipped along the pipe from one end to place it in position thereupon. For convenience in fitting parts $a^2 a^3$ together I prefer that the joint between said parts be made as in Fig. 3, wherein said parts are provided with straight meeting faces $e e$ and with a depression e^2 on one part to receive a projection e^3 on the other part, whereby the parts $a^2 a^3$ can be readily centered to bring the apertures for the bolts $d d$ quickly and accurately in line.

D is a cutter-carrier or ring having a bore D^2 to encircle the portion b of frame A, and it is adapted to travel around thereon. (See Fig. 1.) The cutter carrier or frame D is also preferably made in two parts held together by bolts d and provided with joints e , e^2 , and e^3 , like frame A, for the same purpose.

The cutter-carrier D on one side bears against shoulder c on frame A. The outer sides of cutter-carrier D and frame A are brought substantially flush, and a ring E is placed on the end of frame A and extends in front of cutter-carrier D to hold it on frame A and permit it to travel around on said frame between shoulder c and ring E. The ring E is made in two or more parts to permit it to be placed over pipe B, and it may be secured to the frame A by screws passing through holes E^2 in ring E or otherwise.

By the foregoing means I am enabled to readily clamp the parts mentioned upon a pipe however the latter may be held. The two-part ring E is essential to hold cutter-carrier D upon frame A, and yet it can be adjusted upon a pipe held at both ends very easily and quickly.

The cutter-carrier D is provided on its inner side with gear-teeth f , that are adapted to mesh with a pinion g , carried by a shaft h , suitably journaled in frame A. The shaft h carries a gear-wheel i , that meshes with a pinion j on a shaft or pivot l , carried in frame A. A handle m may be adjustably connected with shaft l for turning the latter. As the pinion g is turned the cutter-carrier D is carried around the pipe B and upon the frame A. By means of the gearing $i j$ great power may be applied upon cutter-carrier D, whereby a person is enabled to readily operate the device to cut a pipe without undue expenditure of power.

The cutter-carrier D carries a suitable cut-

ter or tool F, arranged to cut pipe B as it is carried around the latter. G is a block carrying the cutter F in suitable manner. The block G is carried in a recess or guide G² in an extension or standard D³ on frame D. The block G is moved to feed the cutter F toward or from the pipe B, and for this purpose it is shown receiving a rod H, that is journaled in the standard D³ and ring D and provided with a threaded portion *n*, entering a threaded aperture *o* in block G. The rod H is shown provided with a handle or toothed wheel I to turn said rod, which is done automatically to feed the cutter F toward pipe B as the cutter carrier or ring D turns by means of a projection J, carried by frame A and arranged to engage a tooth or arm of handle or wheel I. By this means as the wheel I engages projection J each time the cutter-carrier D turns the rod H will be turned a corresponding amount, thereby moving the block G and cutter F forward toward pipe B, whereby an automatic feed for cutter or tool F is effected.

By reference to Fig. 5 means for properly centering the frame A upon the pipe B will be seen. On opposite sides of bore *a* of frame A are located sliding blocks or bars K, that enter recesses or bearings *p* in or on the frame A. The inner faces of blocks K are preferably recessed at *r* to more readily center the pipe. The blocks K have threaded apertures *s* to receive threaded shafts L, which are journaled at one end in or on frame A. The shafts L carry gear-wheels or pinions M, that mesh with similar wheels or pinions N on shafts O, suitably journaled on frame A. The shafts O also carry gear-wheels or pinions P, that mesh with similar wheels or pinions R on a shaft S, suitably journaled on frame A. The shaft S may be provided with a squared end

to receive handle *m* for turning it, or said shaft may be otherwise turned, if desired.

From the foregoing description it will be understood that when the shaft S is turned the centering-blocks K will be moved simultaneously toward or from the pipe B in the bore *a* of frame A. When blocks K are moved inwardly, they will impinge uniformly upon pipe B, as in dotted lines in Fig. 5, and thus cause the frame A to be properly centered upon said pipe, the recessed inner faces of said blocks assisting in centering the frame A by causing the pipe B to move centrally until properly seated in said recesses.

Having now described my invention, what I claim is—

1. The combination of a frame adapted to receive a pipe, a cutter-carrier mounted thereon and having a gear-shaft *h* carried by said frame, pinion *g* and gear *i* carried by said shaft, said pinion *g* meshing with said gear on the cutter-carrier, pinion *j*, shaft *l* carrying it, said pinion engaging said gear *i*, and means for turning shaft *l*, substantially as described.

2. The combination of frame A, blocks K carried thereby, threaded shafts L, supported by said frame for actuating said blocks, shafts O, shaft S and gearing between said shafts S, O and L for turning the shafts L simultaneously by a single turning of shaft S, substantially as described.

Signed at New York, in the county of New York and State of New York, this 25th day of January, A. D. 1893.

DAVID W. FRENCH.

Witnesses:

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T. F. BOURNE.