

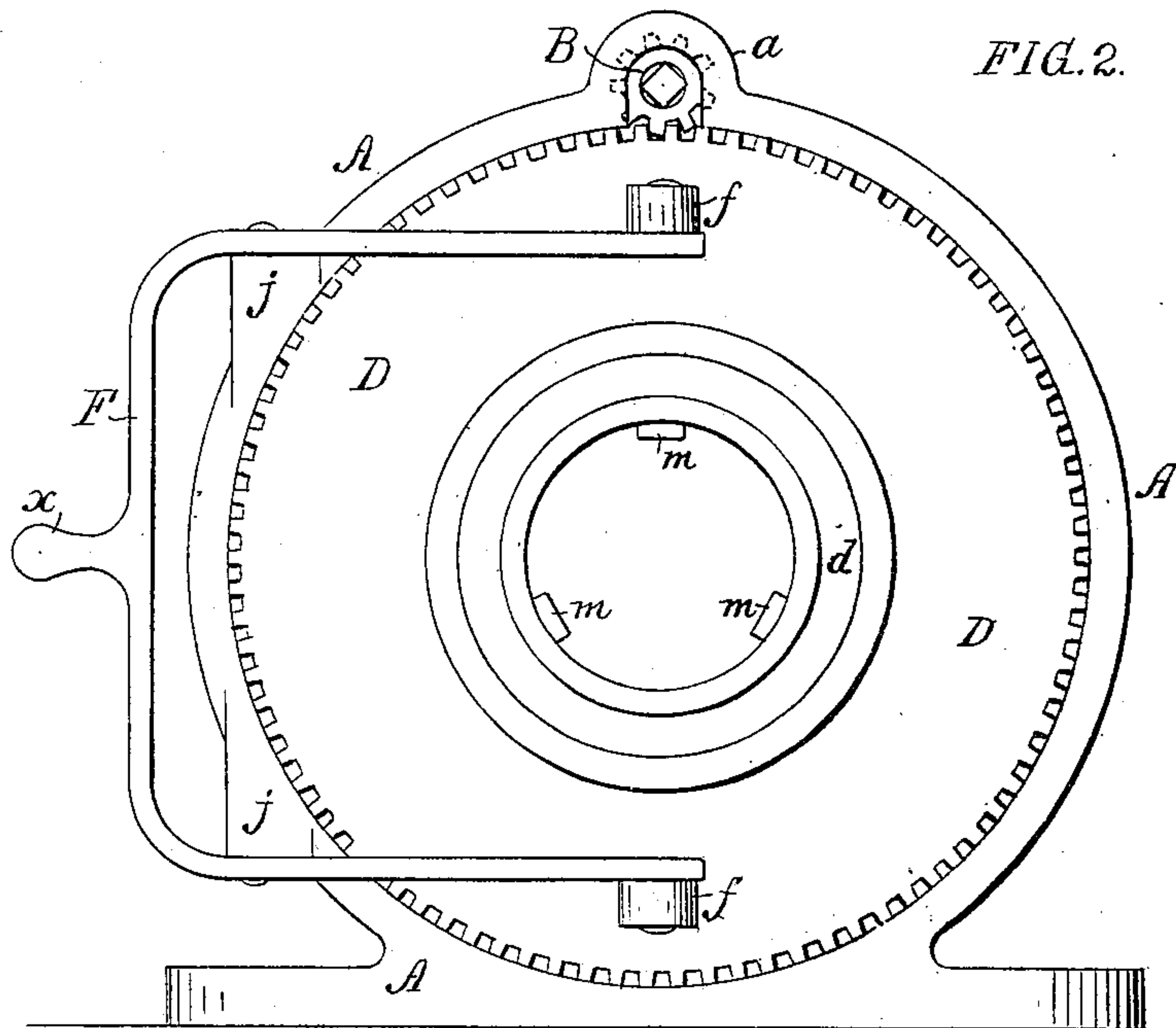
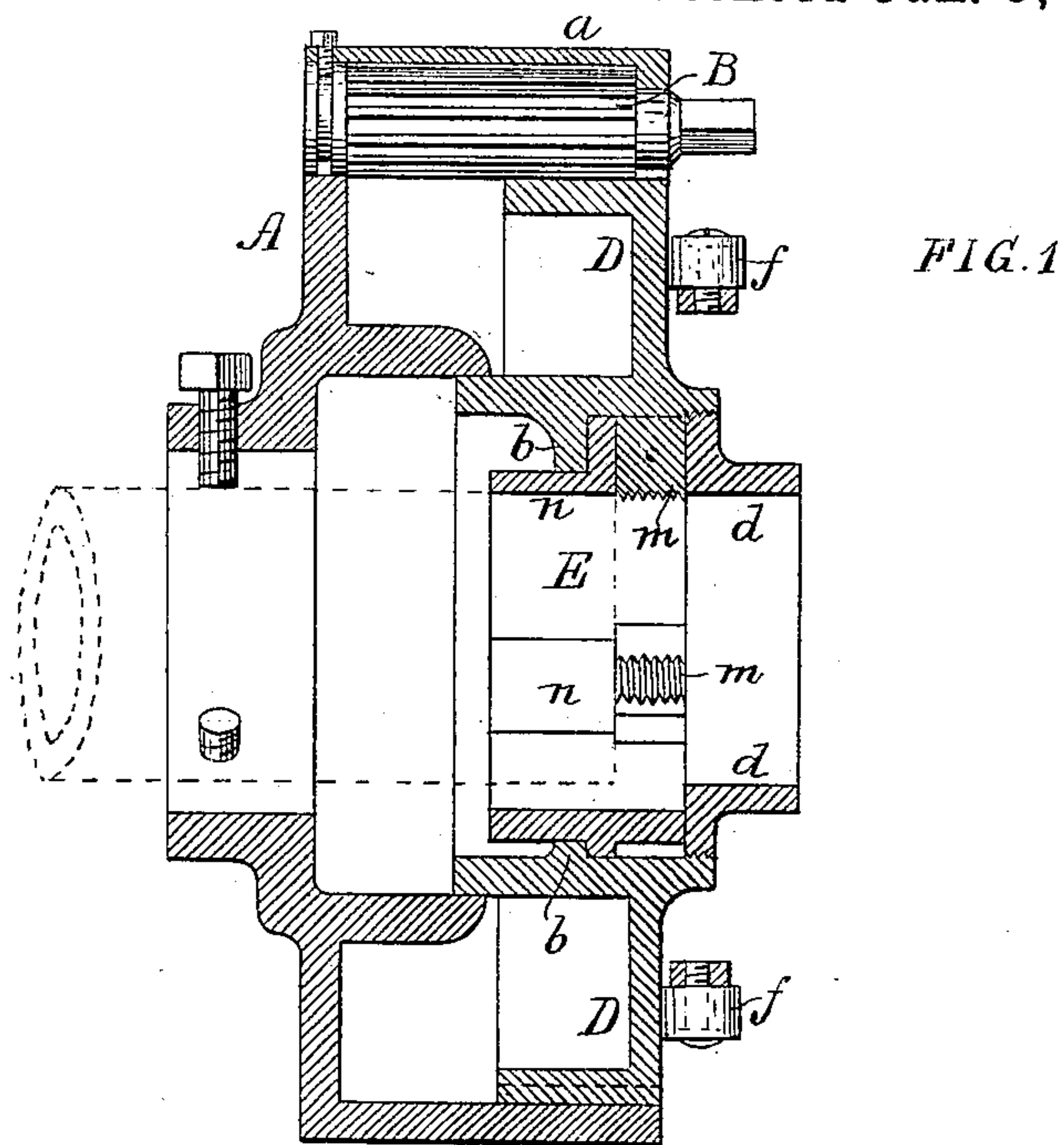
(No Model.)

2 Sheets—Sheet 1

W. D. FORBES.
SCREW THREADING MACHINE.

No. 270,408.

Patented Jan. 9, 1883.



WITNESSES:

James F. Tobin
Harry Drury

INVENTOR:

William D. Forbes
by his Attorneys
Howson and Jones

(No Model.)

2 Sheets—Sheet 2.

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FIG. 3.

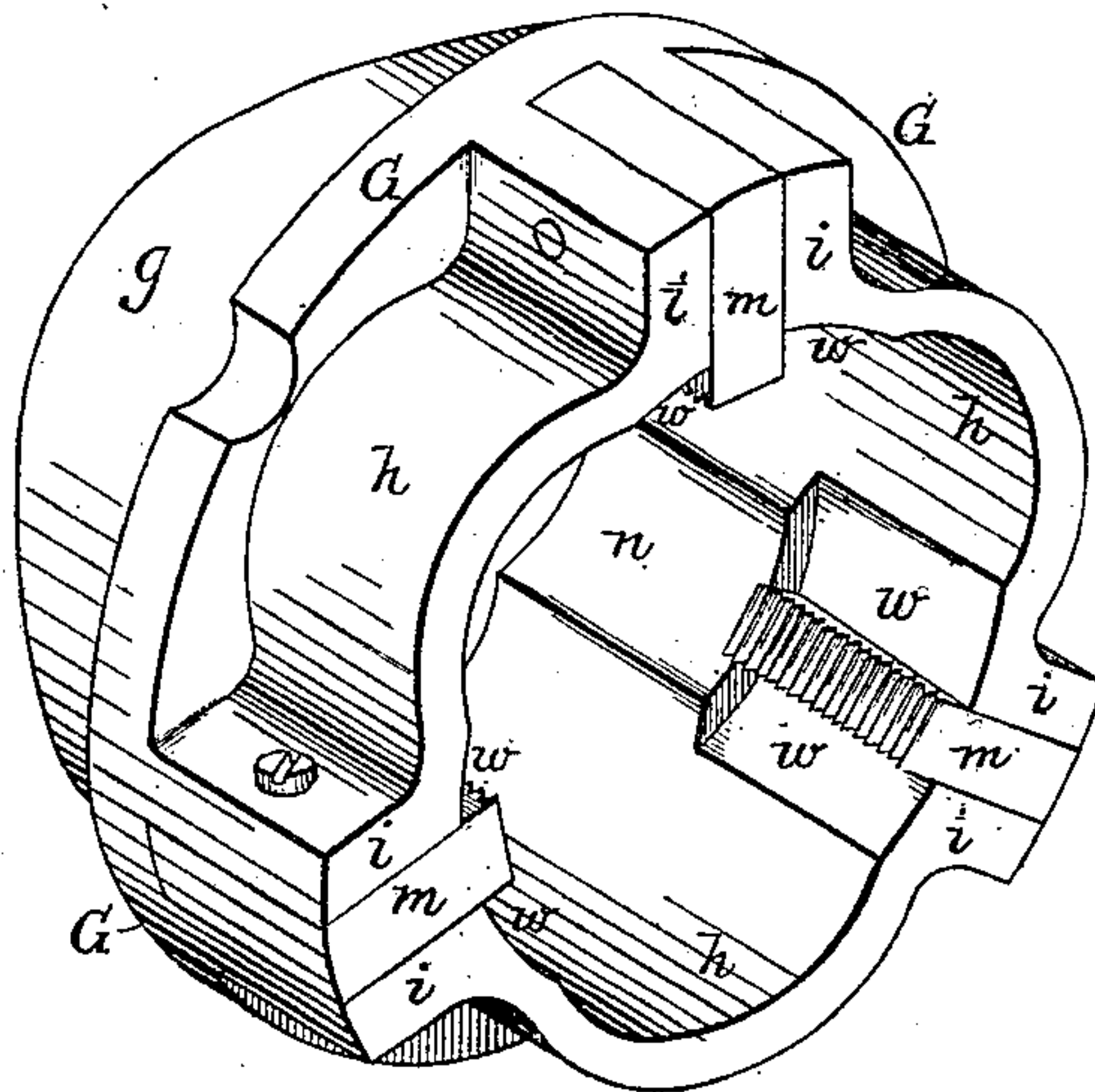
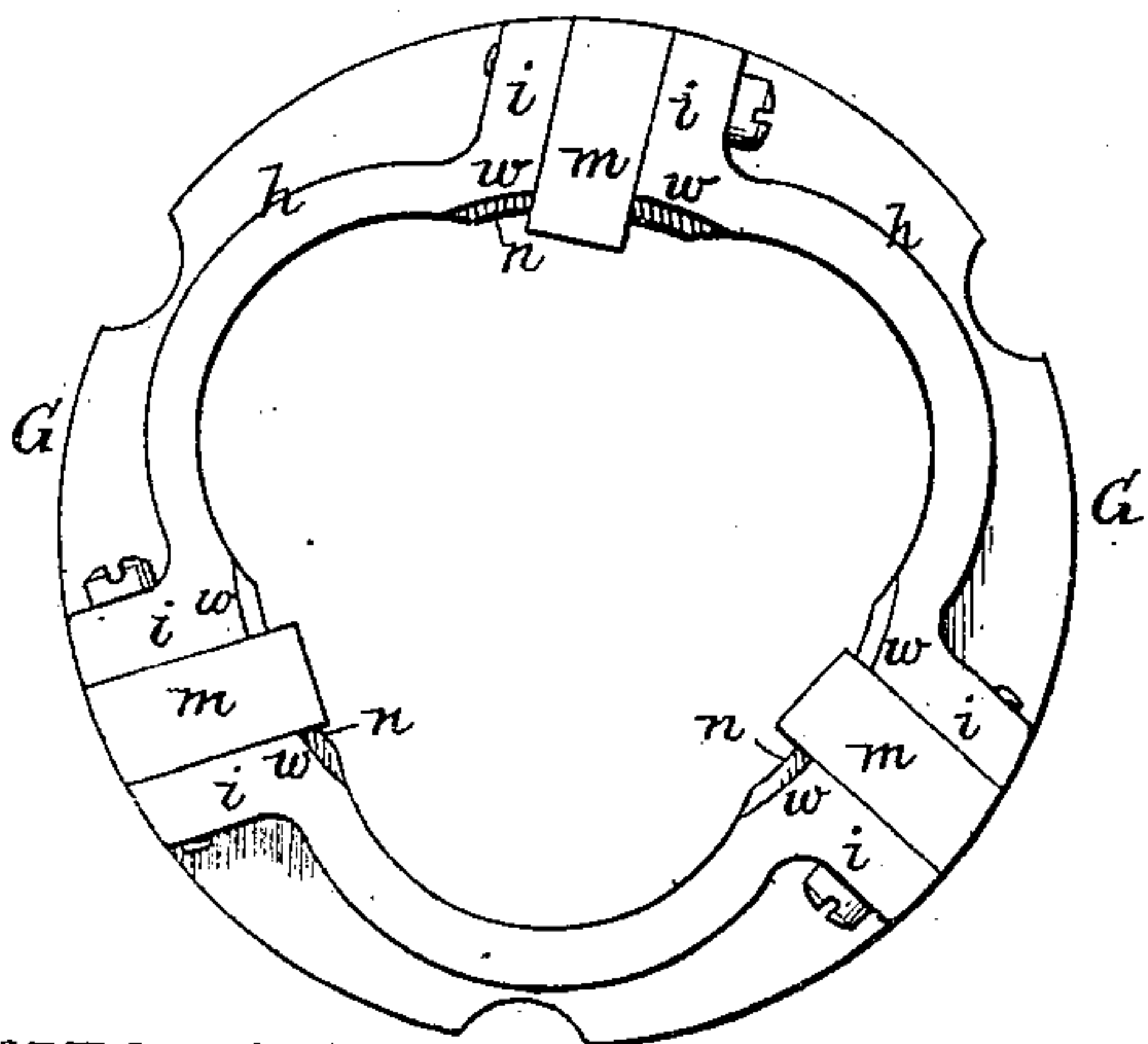
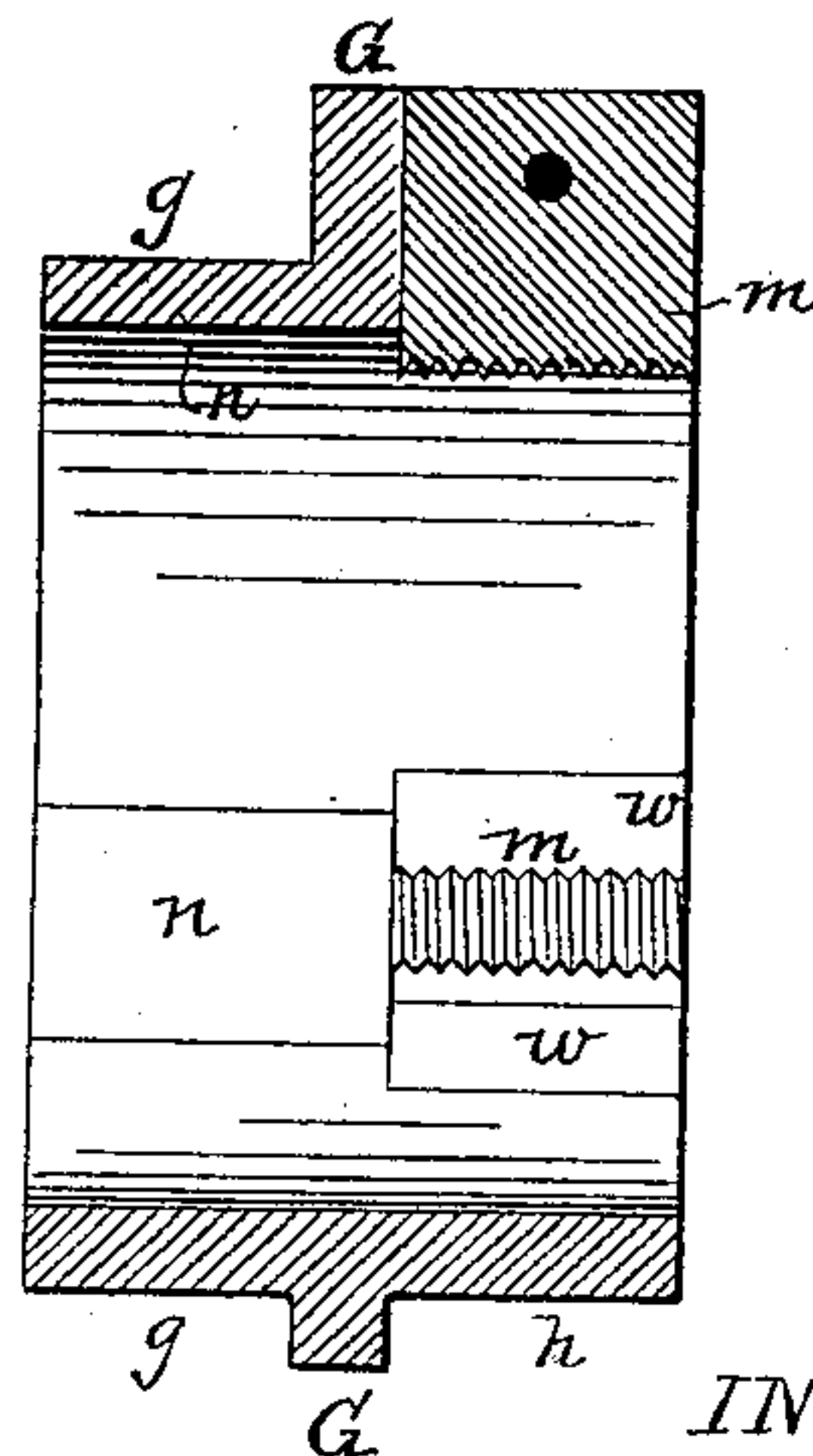


FIG. 4.



WITNESSES:
James J. Tobin
Harry Drury

FIG. 5.



INVENTOR
William D. Forbes
by his Attys
Howson and Jones

UNITED STATES PATENT OFFICE.

WILLIAM D. FORBES, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR OF ONE-HALF TO RODERICK P. CURTIS, OF SAME PLACE.

SCREW-THREADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 270,408, dated January 9, 1883.

Application filed July 17, 1882. (No model.) Patented in England May 26, 1882, No. 2,508.

To all whom it may concern:

Be it known that I, WILLIAM D. FORBES, a citizen of the United States, and a resident of Bridgeport, Connecticut, have invented certain Improvements in Die-Stocks, of which the following is a specification.

My invention relates to certain improvements in the die-stock for which Letters Patent of the United States No. 253,996 were granted to me on the 21st day of February, 1882, the objects of my present improvements being to dispense with the lead-screw of the patented device, and to provide a cutting-die adapted to support the end of the pipe to be threaded.

In the accompanying drawings, Figure 1, Sheet 1, is a sectional view of my improved die-stock; Fig. 2, a front view of the same; Fig. 3, Sheet 2, a perspective view, on a larger scale, of the cutting-die; Fig. 4, a front view of said die, and Fig. 5 a sectional view of the same.

The instrument is in many respects similar in construction to that described in the said patent, A being the casing, to which is secured the pipe to be threaded, the pipe being shown by dotted lines in Fig. 1. The casing has a projection, *a*, in which are bearings for an elongated pinion, B, the teeth of the latter gearing into teeth on the periphery of the die-carrying ring D, which can turn freely in the casing.

The cutting-die E is confined to the ring D between an internal rib, *b*, and a screw-ring, *d*; but instead of adapting a flange on the ring D to a leading-screw in the casing, as in my said patented die-stock, I rely upon the threads of the cutters *m* to effect the feeding of the said die onto the pipe as it is being rotated. In order to do this, I must impart end pressure to the ring D at the commencement of the cutting operation, and until two or three convolutions of the thread have been cut upon the pipe, after which, the die being self-feeding, the end pressure may be discontinued. In order to impart the desired end pressure to the ring D, I prefer to use a lever, F, Fig. 2, which in the present instance is forked, each arm being pivoted to a stud, *j*, on the casing A, and carrying at the end a roller, *f*, which bears upon

the face of the ring D, so that by forcing the arm *x* of the lever outward the ring D will be moved inward and the die will be applied to the end of the pipe under pressure. This method of feeding demands a firm support for the end of the pipe and a proper centering of the same in respect to the cutters *m* of the die. Hence I use the die which is illustrated in Figs. 3, 4, and 5, Sheet 2, and which consists of a central ring, G, with two flanges, *g* and *h*, one on each side of the ring. The flange *g* is continuous; but the continuity of the flange *h* is interrupted at intervals by pairs of lugs *i i*, three pairs being shown in the present instance, and between each pair of lugs is firmly bolted a threading-cutter, *m*. In the interior of the flange *g* are formed bearings *n*, concentric with the inner edges of the cutters, and in the interior of the flange *h*, on each side of the cutters, are formed recesses *w*, so as to permit the proper clearance of the tool and prevent clogging by the accumulation of cuttings. The bearings *n* serve to insure the proper centering of the pipe, and support and guide the same close up to the cutters. The threading-tool made in this way, moreover, is extremely cheap, as the cutters are simple short pieces of steel which can be rapidly and accurately made and effectually hardened, and the cutter-holder is a simple casting, in preparing which no elaborate fitting is required.

A lever, F, having but one roller-carrying arm, may be used instead of the forked lever shown; but the latter is preferred as a medium for imparting a more even pressure to the ring D.

I claim as my invention—

1. The combination of the fixed casing A and devices for securing a pipe thereto with the die-carrying toothed ring D, adapted to be rotated, and to slide within and to be guided by the said casing A, and with a lever by which the said ring may be forced into the casing, substantially as set forth.

2. The combination of the casing A, the rotating die-carrying ring D, the pinion B, and the forked lever F, having rollers *f*, as set forth.

3. The within-described cutting die, having internally-projecting cutters *m*, and internal pipe-supporting bearings *n*, concentric with

and adjacent to the edges of said cutters, as set forth.

4. The within-described cutting-die, the same consisting of the ring G, having a flange, *g*,
5 for receiving the pipe to be threaded, and a flange, *h*, slotted to receive the cutters, and having lugs *i i*, between which the cutters are secured, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two 10 subscribing witnesses.

WILLIAM D. FORBES.

Witnesses:

HARRY DRURY,
HARRY SMITH.