

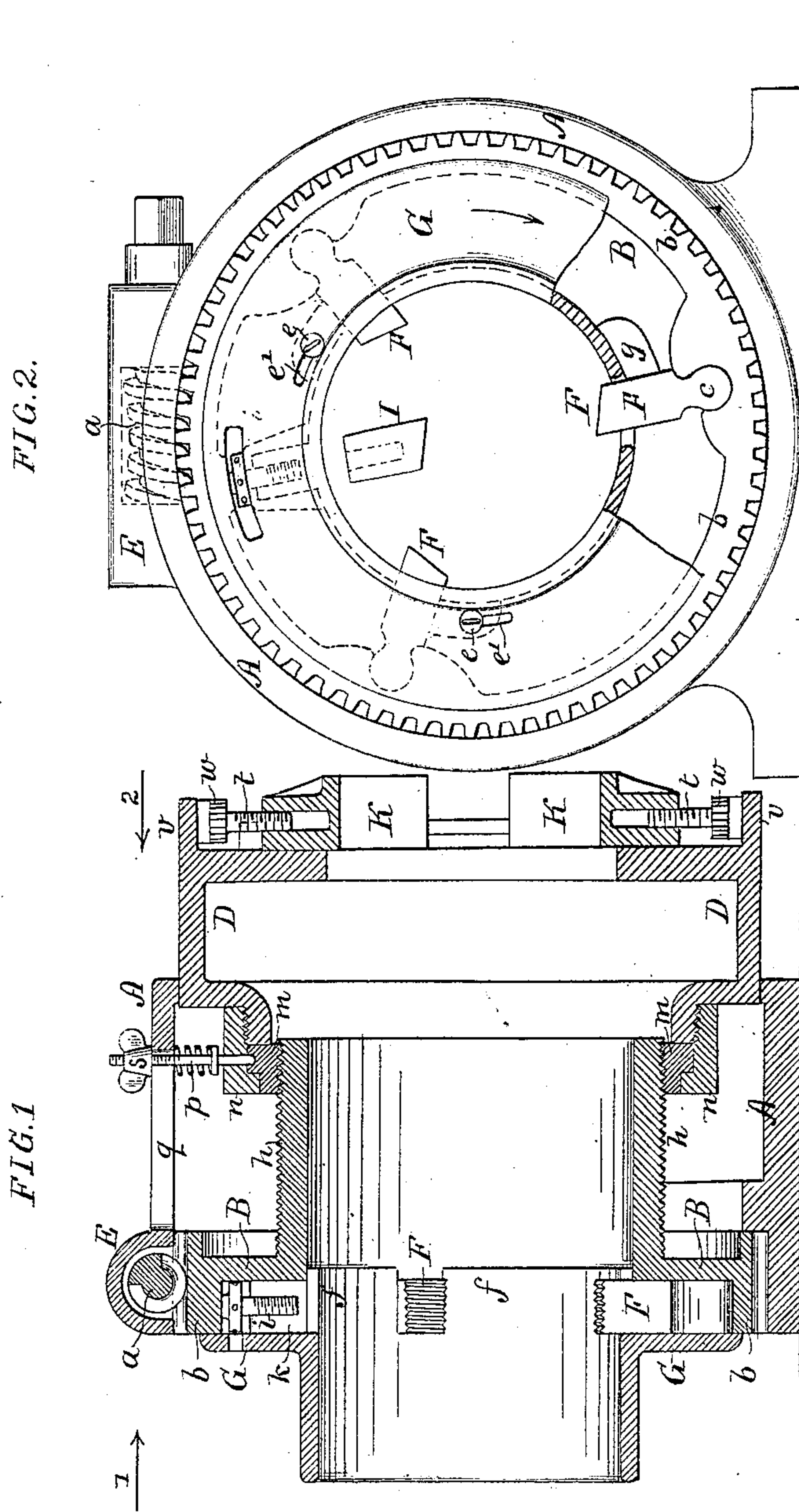
(No Model.)

2 Sheets—Sheet 1

W. D. FORBES.
SCREW THREADING MACHINE.

No. 270,407.

Patented Jan. 9, 1883.



WITNESSES:
James F. Tobin.
Harry Drury

INVENTOR:
William L O Forbes
by his Attorneys
Howson and Sons

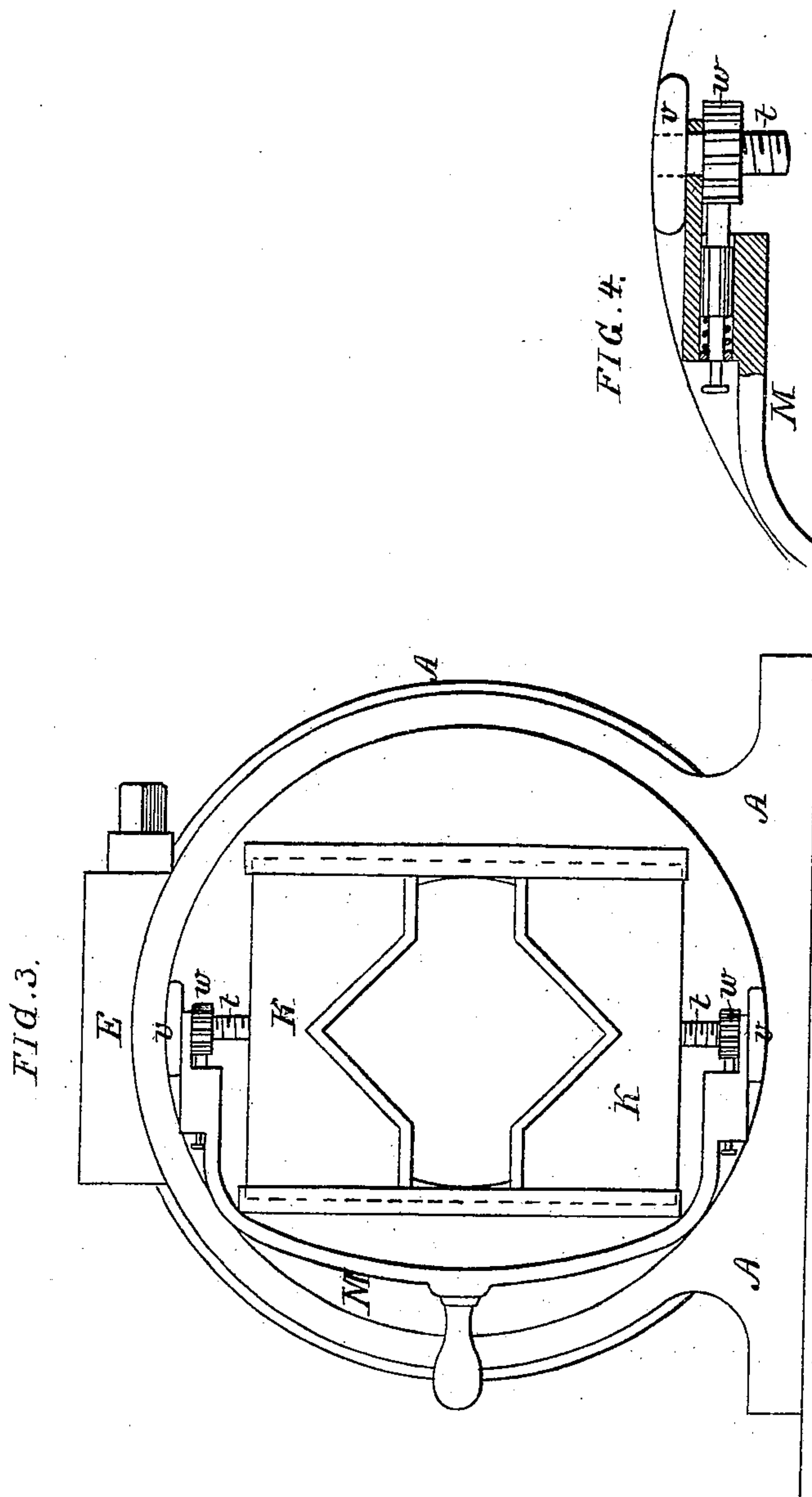
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2 Sheets—Sheet 2.

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James F. John
Harry Drury

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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. 270,407, 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 Screw-Threading Machines, 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, my present improvements relating to certain details of construction too fully described hereinafter to need preliminary explanation.

In the accompanying drawings, Figure 1, Sheet 1, is a longitudinal section of my improved die-stock; Fig. 2, an end view looking in the direction of the arrow 1, Fig. 1; Fig. 3, Sheet 2, an end view looking in the direction of the arrow 2, Fig. 1; Fig. 4, a view of part of the tool drawn to a larger scale than the other figures.

A is the fixed casing of the stock, B the die-carrying ring, and D the holder for the pipe to be threaded. In a projection, E, on the casing A are formed bearings for the journals of a worm, *a*, which gears into teeth formed on the periphery of the die-carrying ring B. This ring has a flange, *b*, in which are formed recesses *d* (three in the present instance) for the reception of the rounded outer ends, *c*, of the dies F, the inner ends of which are threaded in the usual manner, and project through openings in a flange, *f*, formed upon the cover-plate G, which is secured to the face of the die-carrying ring by screws *e*, the stems of the latter passing through slots *e'*, Fig. 2, in the cover-plate. When the ring B is turned in the direction of the arrow, Fig. 2, the rear edges of the pivoted dies will bear upon blocks *g* on the ring, and the dies will cut a thread upon a tube or rod subjected to their action, but when the ring is stationary, and the cover-plate G is moved in the direction of the arrow, the dies will be caused to swing upon their pivots, owing to the action upon the dies of the flange *f* of the cover-plate, and the pipe or rod will be freed from the dies, so as to be withdrawn longitudinally. By turning the cover-plate G in a direction the reverse of that shown by the arrow the dies will be turned down, so as to be again brought into operative position.

Instead of actuating the dies by means of the flange *f*, the cover-plate may have internally-projecting pins adapted to act upon said dies.

On the rear of the die-carrying ring is a threaded flange, *h*, the pitch of the thread being similar to that of the dies F, and to this threaded flange is adapted a nut, *m*, which is swiveled by means of a flanged ring, *n*, to the pipe-holder D. Under ordinary circumstances the nut *m* is locked to the ring *n* by means of a spring-bolt, *p*, adapted to openings in said ring and nut, and to a slot, *q*, in the casing A, so that as the die-carrying ring is rotated, the pipe-holder is caused to longitudinally traverse the casing, and thus properly present the pipe to the dies F. On withdrawing the bolt *p*, however, by means of a thumb-nut, *s*, adapted to the threaded stem of the bolt, the nut *m* can be freed from the pipe-holder, and the ring B can then be rotated without imparting any longitudinal movement to the said holder, the nut *m* turning with the threaded flange *h*. This operation is resorted to when it is desired to cut the end of the pipe, a cutter, I, being adapted to a recess, *k*, in the die-carrying ring B, and being acted upon by a feed-screw, *i*, the head of which is confined between lugs on the ring B, and has openings for the reception of a suitable implement introduced through a slot in the cover-plate G, and serving to turn the feed-screw, so as to project or retract the cutter.

The pipe to be threaded is clamped between a pair of V-shaped jaws, K, adapted to suitable guides on the holder D, and controlled by feed-screws *t*, which are adapted to threaded openings in the jaws, and journaled at the outer ends in lugs V on the holder. These feed-screws have ratchets *w*, which are acted upon by pawls carried by a forked lever, M, journaled on the stems of the screws, as shown. The pawls are reversible, so that by vibrating the lever M the feed-screws may be so operated as to advance or retract the jaws and grip or release the pipe.

The object of constructing the dies and hanging them to the die-carrying ring in the manner shown is to cheapen the manufacture of the tool, the dies being simple steel bars having the rounded ends *c* formed thereon by suitable

ble tools, and the segmental openings *d* being simply milled in the flange *b* of the ring B.

I claim as my invention—

5 1. The combination of the casing A, the die-carrying ring adapted to be rotated in the casing, a lead-screw, *h*, on the said ring, and the pipe-holder D guided in the casing independently of the lead-screw, and having a nut adapted to the said lead-screw, all substantially as set forth.

10 2. The combination of the casing A, the rotating die-carrying ring having a lead-screw, *h*, the pipe-holder having a nut, *m*, and devices for securing said nut to and releasing it from the pipe-holder, as set forth.

15 3. The combination of the ring B and the pivoted dies F with the fixed abutment-blocks *g* and the cover-plate G, having a flange, *f*, or

projections adapted to act upon the dies F, as set forth.

20 4. The combination of the pipe-holder D, the sliding jaws K, the feed-screws *t*, with ratchets *w*, and the forked lever M, carrying pawls adapted to said ratchets, as set forth.

25 5. The combination of the rotating die-carrier B having a lead-screw, the pipe-holder D, having a flanged ring, *n*, the nut *m*, confined thereby, the spring-bolt *p*, and the thumb-nut *s* thereon, as set forth.

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

WILLIAM D. FORBES.

Witnesses:

HARRY DRURY,

HARRY SMITH.