(No Model.)

C. D. ROGERS.

THREADING DIE.

No. 255,817. Patented Apr. 4, 1882.

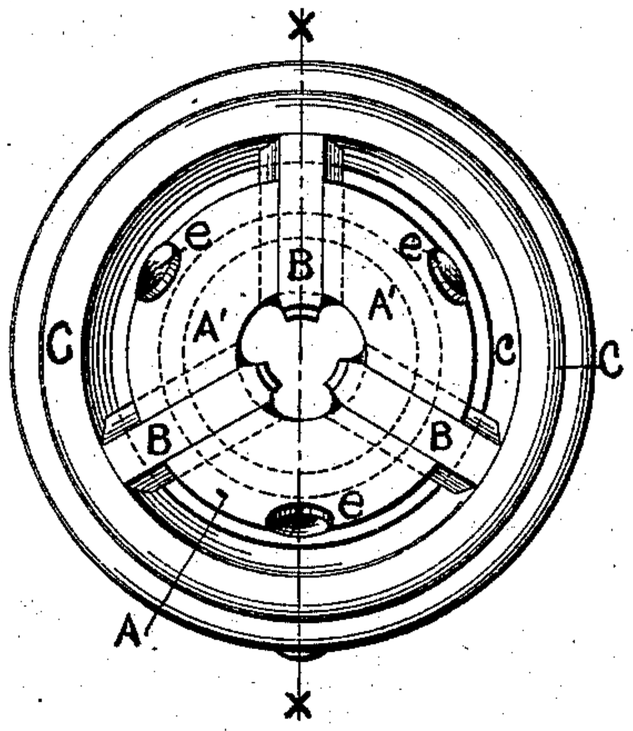

FIG. 1.

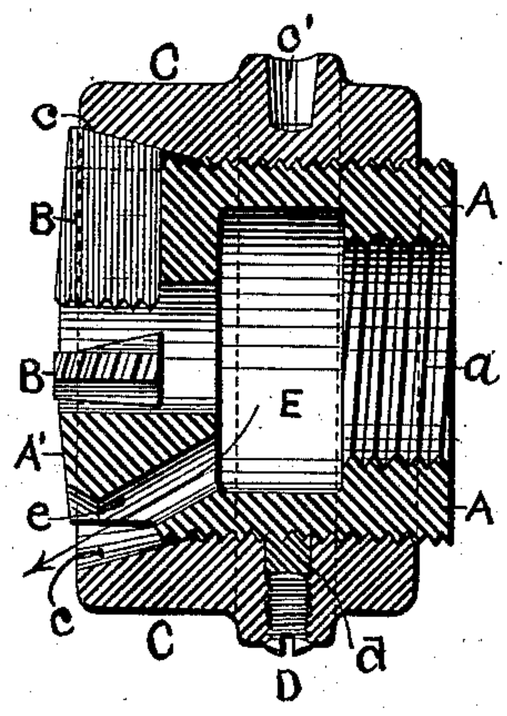

FIG. 2.

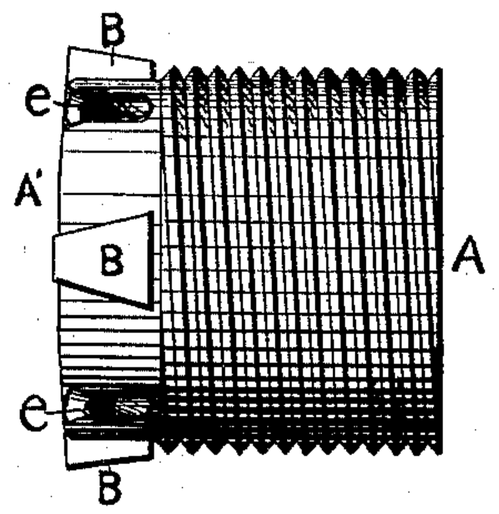

FIG. 3.

WITNESSES:

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CHARLES D. ROGERS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE AMERICAN SCREW COMPANY, OF SAME PLACE.

THREADING-DIE.

SPECIFICATION forming part of Letters Patent No. 255,817, dated April 4, 1882.

Application filed October 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. ROGERS, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Threading-Dies; and I do hereby declare that the following specification, taken in connection with the accompanying drawings, forming a part of the same, is a full, clear, and exact description thereof.

My invention relates to that variety of dies for threading screw-blanks, bolt-blanks, &c., in which the cutters are adjustable, in order that the gage of cut may be maintained as the cutters wear away, and in order that blanks of different sizes within certain limits may be threaded with one and the same die.

My improvement consists in mounting the cutters on the face or extreme end of the die-hub and in radial grooves of a dovetail or equivalent shape, which hold the cutters against displacement or removal in a direction lengthwise of the die-hub, and combining with the die-hub and cutters a single screw-sleeve which is threaded to engage the hub and has a beveled mouth which supports the correspondingly-beveled rear ends of the cutters and affords a means for their adjustment.

My improvement also consists in constructing the die so that the chips will be readily discharged therefrom during the operation of threading.

Referring to the drawings, Figure 1 represents a front view of my improved die. Fig. 2 shows a section of the same on line *x x*, and Fig. 3 represents a side view of the hub with the cutters mounted therein.

A is the hollow die-hub, which is provided with a female screw-thread, *a*, as shown in Fig. 2, to enable it to be attached to a revolving spindle. The face A′ of the hub is centrally perforated, and is provided with radial grooves of a dovetail or equivalent shape to receive and hold against displacement in a direction lengthwise of the die-hub the cutters B, which may be two or more in number and are of a shape to fit said grooves. As shown in Figs. 2 and 3, the main portion of the exterior of the hub is threaded and is engaged by a surrounding sleeve, C. The mouth *c* of this sleeve is beveled, as shown in Fig. 2, and the rear ends of the cutters are also beveled to fit said mouth. From the fact that the cutters are held in the dovetail grooves in the face of the die-hub against lateral displacement and have broad bearings upon the sleeve C to prevent radial displacement, the die has all the advantages of one that is solid.

The cutters B are simultaneously adjusted to produce a thread of the desired gage by a movement of the sleeve C. As this sleeve is moved forward by rotation on the hub A the inner ends of the cutters are brought nearer together, and when the sleeve is moved rearward the cutters may be separated. A means is thus provided whereby any gage within certain limits may be secured and maintained.

For conveniently moving the sleeve C it is preferably provided with one or more cavities, *c′*, Fig. 2, for the reception of a lever to aid in turning the sleeve; and to prevent the sleeve from being accidentally turned it is provided with a set-screw, D, which bears upon a plug, *d*, fitted to engage the hub A, as shown in Fig. 2.

For the purpose of receiving the chips and dirt which would tend to clog the die the hub is provided with an interior chamber, E, from which discharge-ducts *e e* lead outward.

From the foregoing description it will be understood that my improved die is practically solid, since the cutters are rigidly held against displacement when performing their office. It will also be seen that it possesses advantages over a solid die in that the cutters can be adjusted to gage as they wear away and new cutters can be substituted at comparatively small expense. The die can also be arranged to thread blanks of different diameters within certain limits. By mounting the cutters in grooves on the end or face of the die-hub, as shown, the blanks can be threaded close up under the head, which is very desirable in certain classes of screws. And, finally, the chips and dirt which would tend to clog the die are discharged clear of the cutters, thereby allowing the die to produce superior results.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A threading-die composed of a threaded hub having radial grooves, constructed as described, on its face or extreme end, cutters mounted in said grooves and retained therein against movement lengthwise of the hub, and a single screw-sleeve which engages the threaded portion of the hub and has a beveled mouth which engages the beveled rear ends of the cutters, substantially as set forth.

2. As an improved article of manufacture, a threading-die having an interior chamber and ducts leading outward therefrom, whereby the chips, &c., which would tend to clog the die may be discharged, substantially as set forth.

3. As an improved article of manufacture, a threading-die composed of a chambered hub having dovetail grooves in its face for the reception of cutters, cutters mounted in said grooves, a sleeve mounted on said hub and adapted to adjust and hold the cutters to gage, means for securing said sleeve in position, and ducts leading outward from the chamber in the hub, substantially as and for the purposes specified.

CHARLES D. ROGERS.

Witnesses:
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