

(No Model.)

T. L. SMITH.
SCREW CUTTING DIE.

No. 399,707.

Patented Mar. 19, 1889.

Fig. 1.

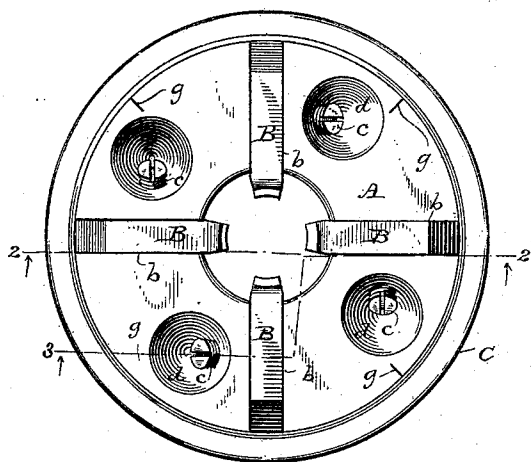


Fig. 5.

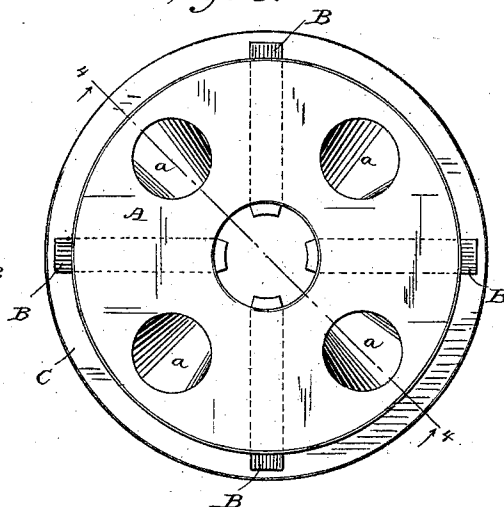


Fig. 2.

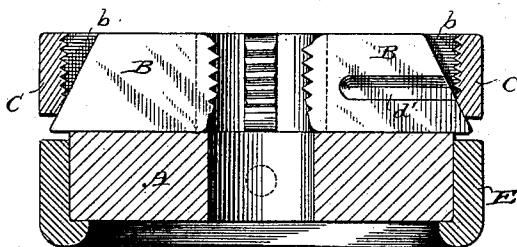


Fig. 6.

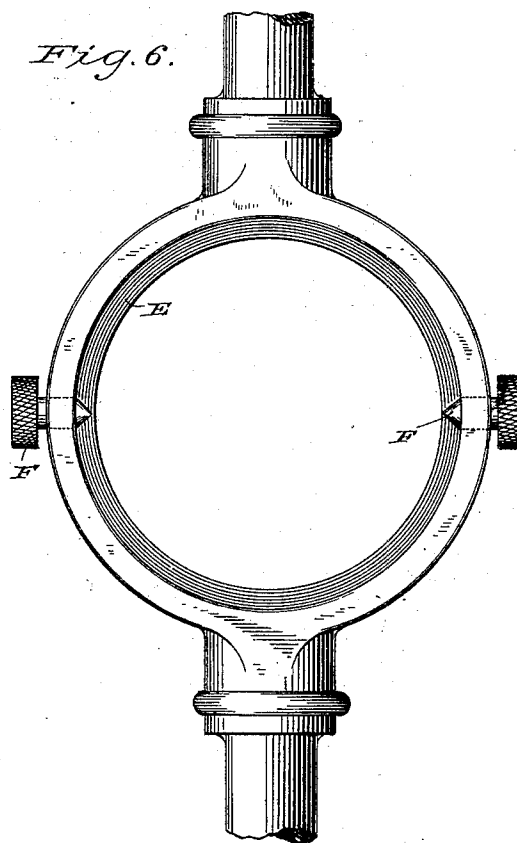


Fig. 3.

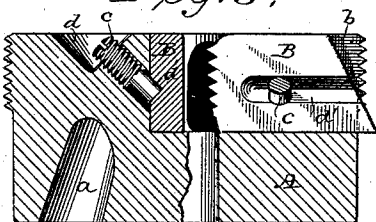
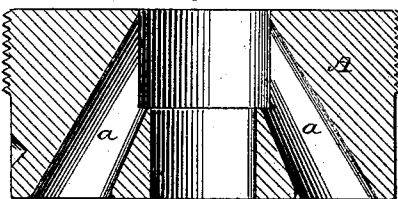


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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SCREW-CUTTING DIE.

SPECIFICATION forming part of Letters Patent No. 399,707, dated March 19, 1889.

Application filed August 30, 1887. Serial No. 248,240. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. SMITH, of Reedsburg, in the county of Sauk, and in the State of Wisconsin, have invented certain
5 new and useful Improvements in Screw-Cutting Dies; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to that class of screw-cutting dies having adjustable and renewable
10 chasers, and has for its object to furnish an improved die of that class in which the chasers are removably held in place by means of screws located within the adjusting-ring and
15 set oblique to the side of the chaser, whereby said screws are accessible from the front of the tool and without moving the adjusting-ring, as hereinafter more fully set forth.

In the drawings accompanying and forming a part of this specification, Figure 1 is a
20 front view of a screw-cutting die embodying my improvements. Fig. 2 is a section on line 2 2, Fig. 1. Fig. 3 is a section on line 3 3, Fig. 1. Fig. 4 is a section on line 4 4, Fig. 5. Fig. 5 is a view of the back side of the tool. Fig. 6 is a plan view of a die-stock for
25 holding my improved die.

Similar reference-characters indicate the same parts in the several figures of the drawings.
30

The body of the die or the "collet," which carries the series of chasers, is designated by A, and is usually bored, as shown, to permit the passage through it of the bolt to be threaded. The chasers B are carried in a
35 series of slots, *b*, substantially radially disposed in the front of said collet A, and are provided each with a longitudinal groove *d'* in one side thereof. Inclined set-screws *c* are
40 fitted into inclined holes formed in the collet A, within the chaser-adjusting ring C, and accessible from the face or front of the die, as shown in Figs. 1 and 3. The said groove *d'* is preferably V-shaped, so that the set-
45 screw may be flat-pointed, as shown, and bear against one side thereof, as shown in Fig. 3. The chasers are adjusted by the ring C, which fits a thread formed on the collet, as shown in Figs. 2, 3, and 4. Screwing said
50 ring farther into the collet (the thread thereof being right-handed) serves to force the chasers inwardly, under the pressure of the set-

screws, while to turn the ring oppositely permits the chasers to be forced outwardly by the piece being threaded, or by other means. 55
The ring C should be provided with well-known means (not shown) for temporarily fixing the same firmly on the collet. By this means, and by loosening the screws *c*, the
60 chasers may be taken out, reground, and replaced, without disturbing the adjustment. Where large numbers of pieces are to be uniformly threaded, this feature becomes very important, and it is for this class of
65 work that the present improvement is especially designed and used.

The die may be used by inserting it within the holder E of the die-stock and securing it by the screws F, or it may be held in an
70 ordinary screw or bolt machine. I usually form passages *a* in the collet A, for the purpose of permitting the readier escape of chips.

The operation of cutting a thread is carried out in the usual manner, the chasers being first set to the required position radially
75 of the collet by the means described or by other well-known devices therefor, not shown herein, but shown in prior Letters Patent.

Having now fully described my invention, what I claim is—
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1. The combination, in a screw-cutting die of the class specified, of the collet having radially-disposed chaser-receiving slots, chasers in said slots, each having a groove
85 longitudinally on one side thereof, and set-screws set obliquely in said die-body and bearing against the chasers in said grooves, said screws being accessible from the face of the die, all substantially as described.

2. The combination, in a screw-cutting die, 90 of the die-body A, chasers B, having the V-shaped groove *d'*, and the set-screws *c*, bearing against the rear face of said groove, all arranged and operating substantially as shown and described.
95

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

THOMAS L. SMITH.

Witnesses:

H. G. UNDERWOOD,
N. E. OLIPHANT.