J. J. GRANT, N. SAWYER & F. N. GARDNER.

Screw-Cutting Dies.

No. 204,028. Patented May 21, 1878.

Fig. 1.

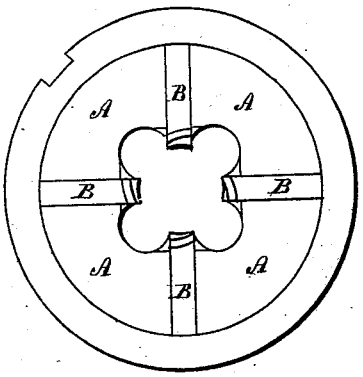


Fig. 2.

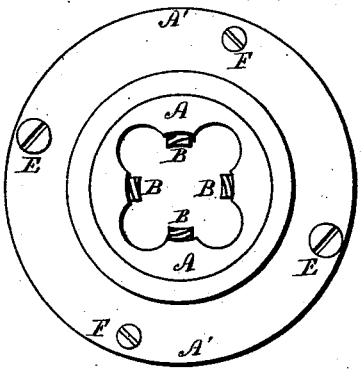
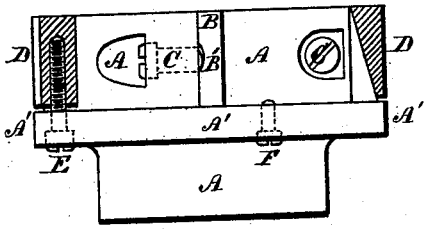


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN J. GRANT, NELSON SAWYER, AND FREDERICK N. GARDNER, OF HARTFORD, CONNECTICUT, ASSIGNORS TO THE PRATT & WHITNEY COMPANY, OF SAME PLACE.

IMPROVEMENT IN SCREW-CUTTING DIES.

Specification forming part of Letters Patent No. **204,028**, dated May 21, 1878; application filed April 13, 1878.

To all whom it may concern:

Be it known that we, JOHN J. GRANT, NELSON SAWYER, and FREDERICK N. GARDNER, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Screw-Cutting Dies; and we do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

Our improvements relate to that class of screw-cutting dies which are intended to be used in a die-stock, and which are furnished with adjustable or removable cutters or chasers.

The object of our invention is to furnish a simpler, stronger, and more easily constructed die than has heretofore been in use.

Our invention consists in the construction, arrangement, and combination of the several parts, as will be hereinafter described.

In the accompanying drawing, Figure 1 is a top view of our improved die. Fig. 2 is a bottom view of the same. Fig. 3 is a side view, with a part of the collet or ring which adjusts the chasers cut away, so as to show the interior parts.

A is the body of the die. B B B B are the cutters or chasers. These fit into slots in the body A, extending from the outside through to the central opening, through which passes the bolt upon which the thread is to be cut. The slots extend downward as far as the flange A′ of the body. The rear end of the chasers is made inclined, as shown upon the right of Fig. 3.

C C, &c., are set-screws in the body of the die, the ends of which rest in the grooves or channels B′ upon the sides of the chasers B. The points of the screws bear upon the lower side of the groove, and hold each chaser down to its bearing upon the bottom of the slot in which it fits.

D is a ring or collet, fitting upon the cylindrical portion of the body A, which lies above the flange A′. It is furnished with inclined grooves opposite the ends of the chasers B, into which the ends of the chasers fit, in such a manner that when the ring is forced downward the chasers are forced inward toward the center of the die. This incline is shown upon the right of Fig. 3, where the ring D is cut through, and shown in section opposite the end of one of the chasers B.

E E are screws passing through the flange A′ of the body, and into a hollow thread in the ring D. These are for the purpose of drawing and holding the ring down toward the flange. One of these screws is shown upon the left of Fig. 3, where the ring is cut through, and shown in section where the screw enters it.

F F are set-screws, turning in threads in the flange A′ and resting against the bottom of the ring D, so as to hold it in the proper position when drawn down by the screws E. The screws E and F form an adjusting mechanism, by which the ring D is raised or lowered, so as to place the cutting-edges of the chasers at the proper distance from the center of the die.

The chasers are intended to fit somewhat tightly in their slots, or to be held from moving easily by means of the set-screws C. The ring D is then turned down by means of the adjusting-screws E F until the inclined ends press the chasers inward to their proper positions. The operation of cutting a thread presses the rear ends of the chasers forcibly outward, where they are held firmly by the ring D. If it is desired to move the chasers slightly outward, the ring D can be raised the required amount by means of the adjusting-screws E and F.

What we claim as our invention is—

The combination of the ring D, the chasers B, with their inclined rear ends fitting into grooves in the ring, the set-screws C, and the adjusting-screws E and F with the body A, substantially as herein described.

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