

(No Model.)

H. D. BARNES.
SCREW PLATE.

No. 369,158.

Patented Aug. 30, 1887.

Fig. 1.

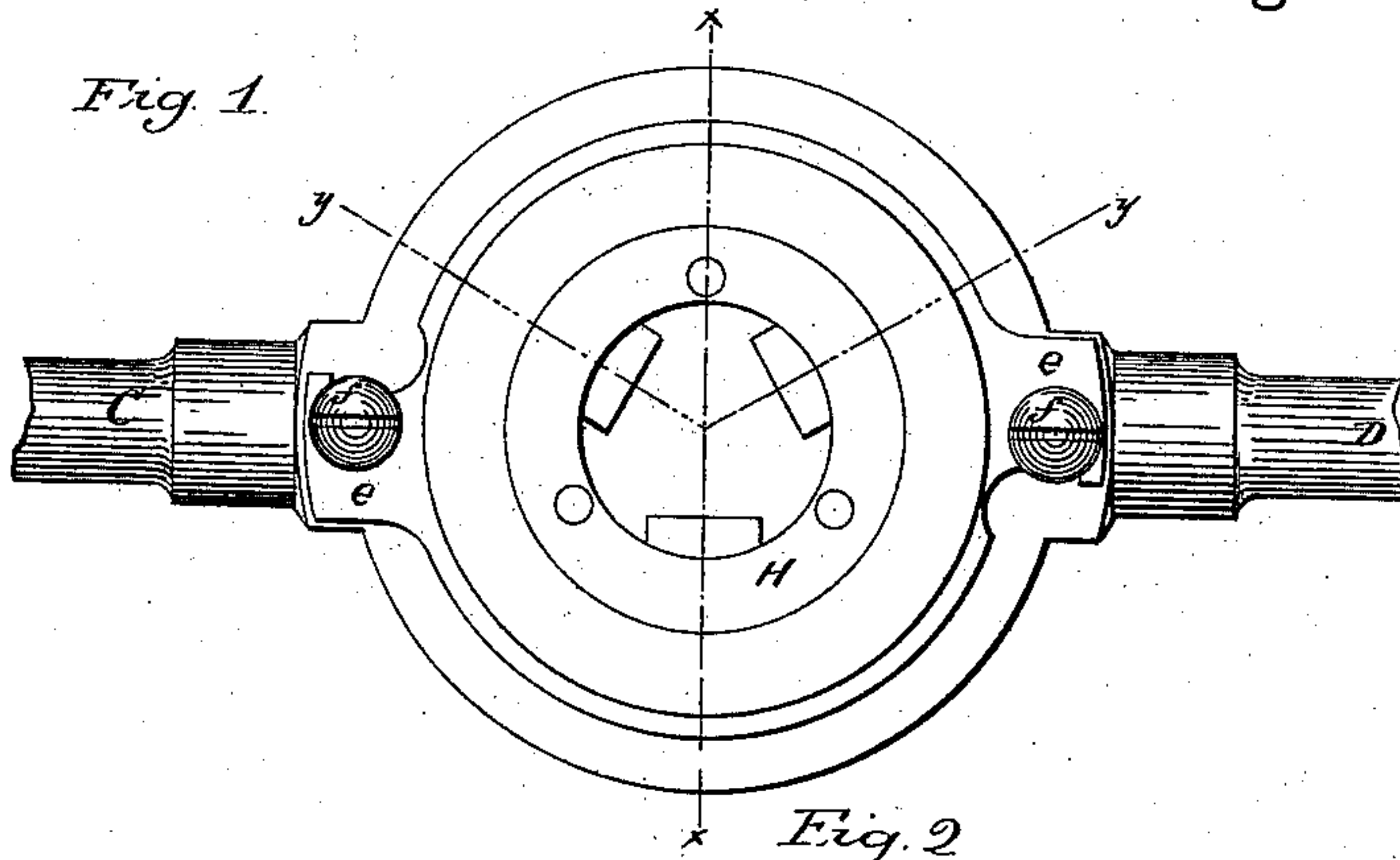


Fig. 2.

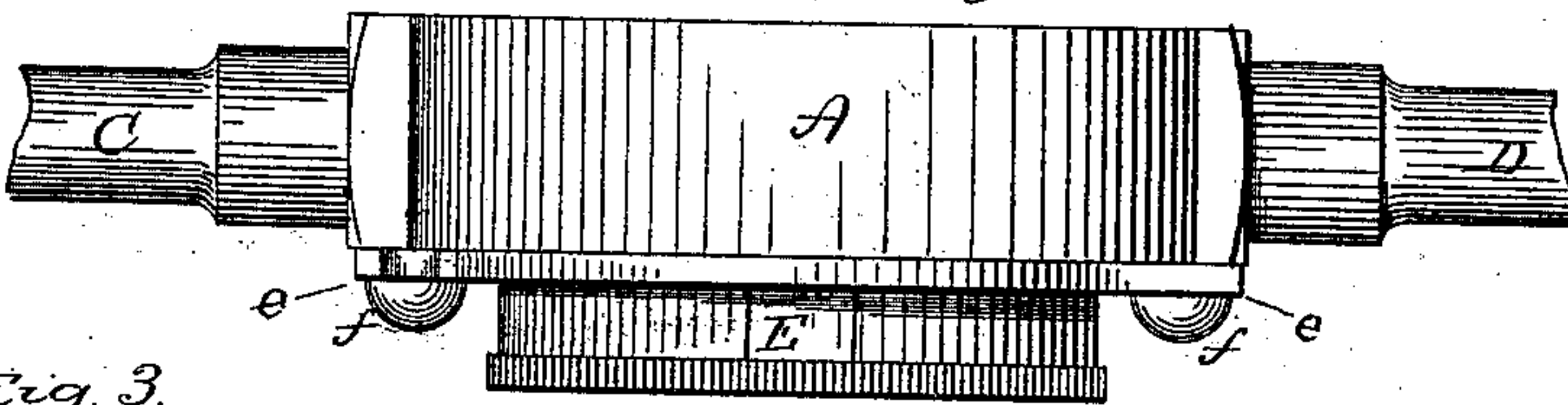


Fig. 3.

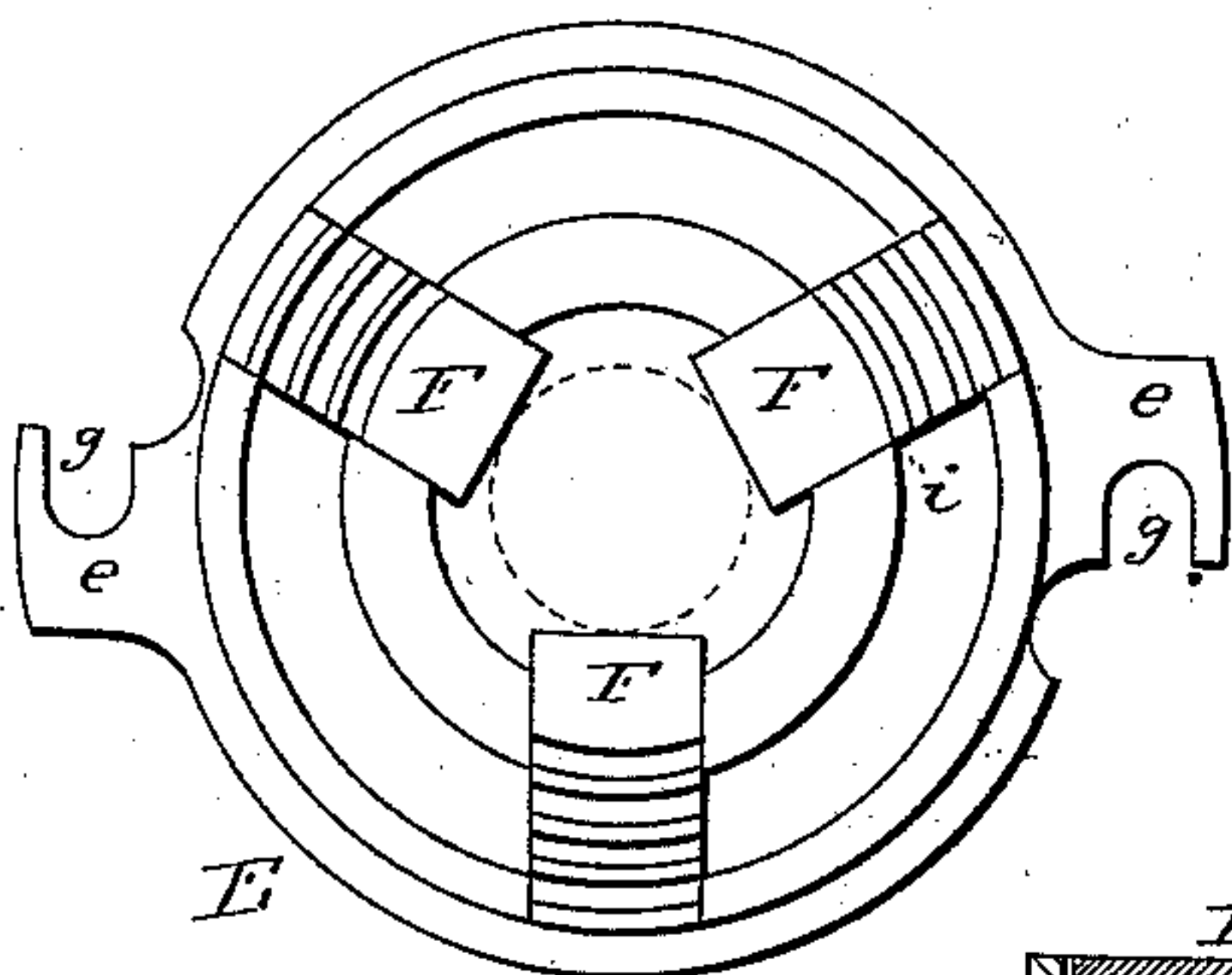


Fig. 4.

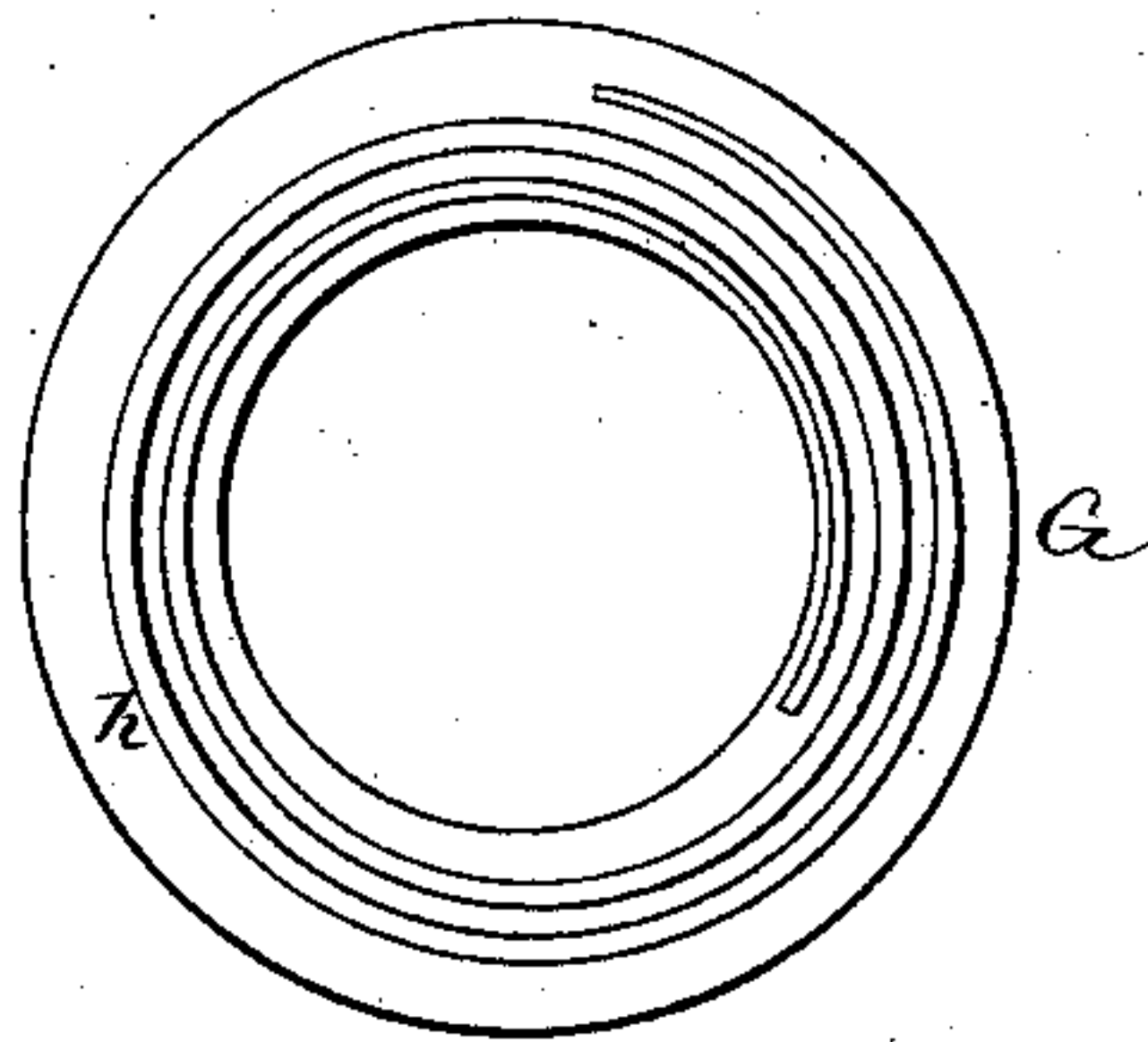


Fig. 5.

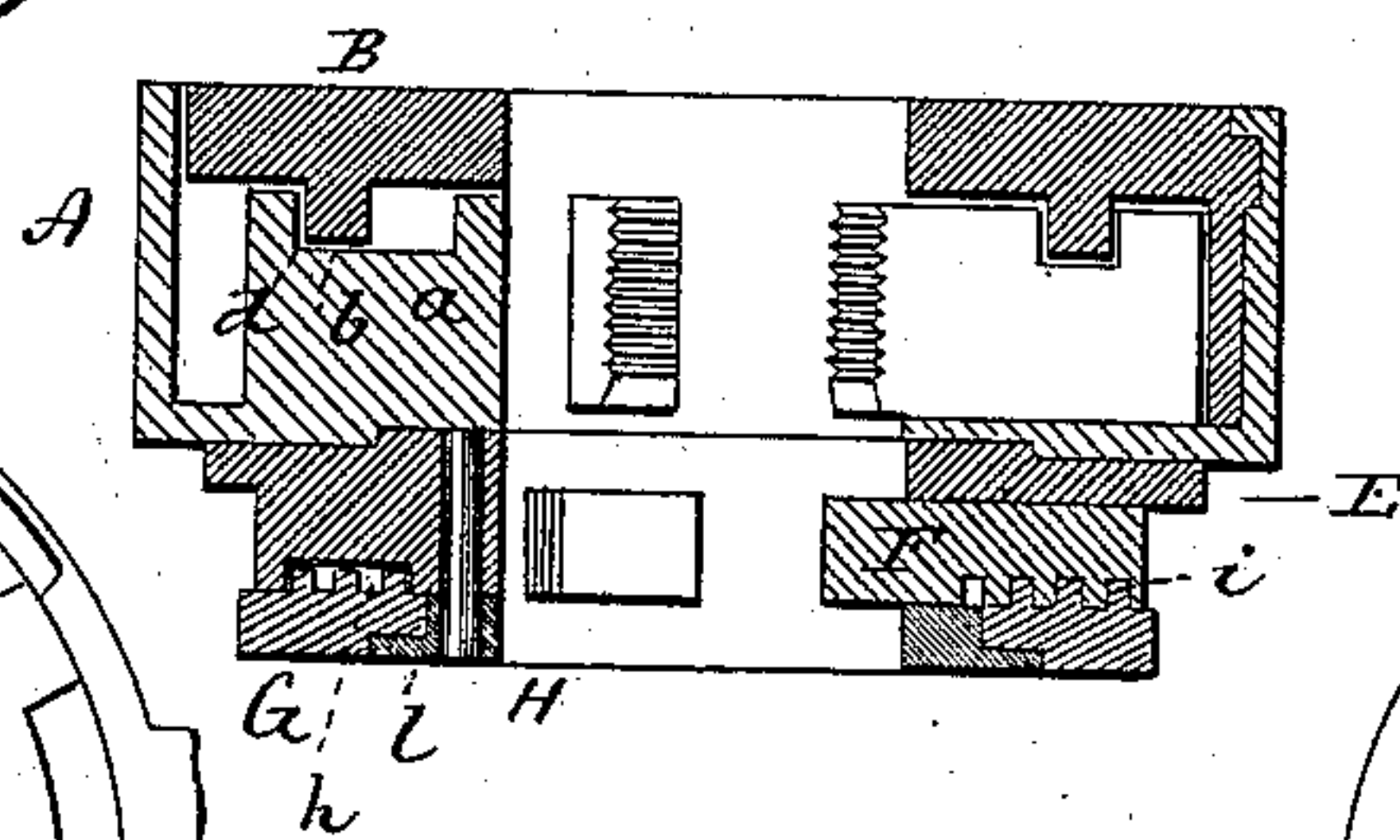


Fig. 7.

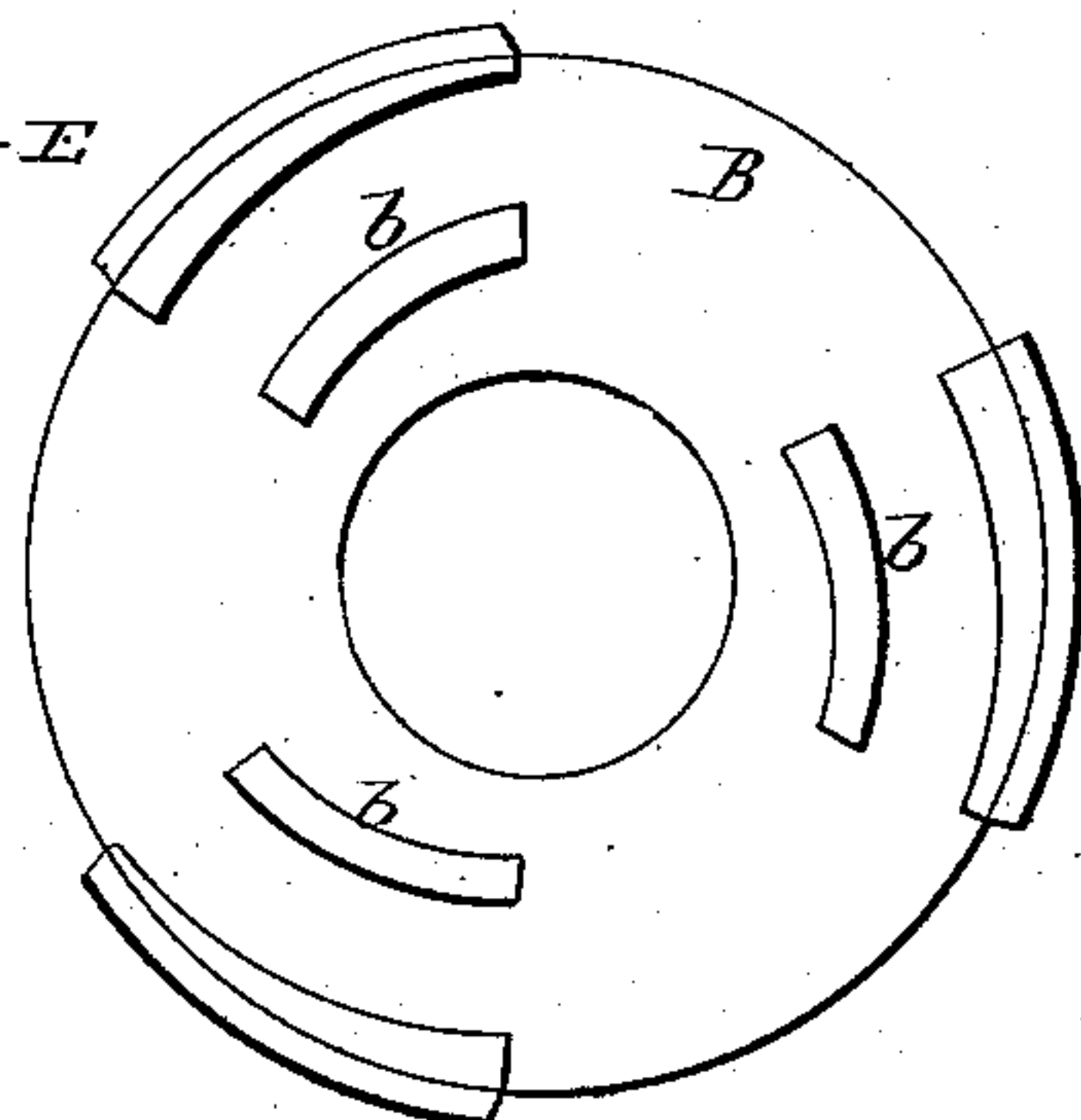
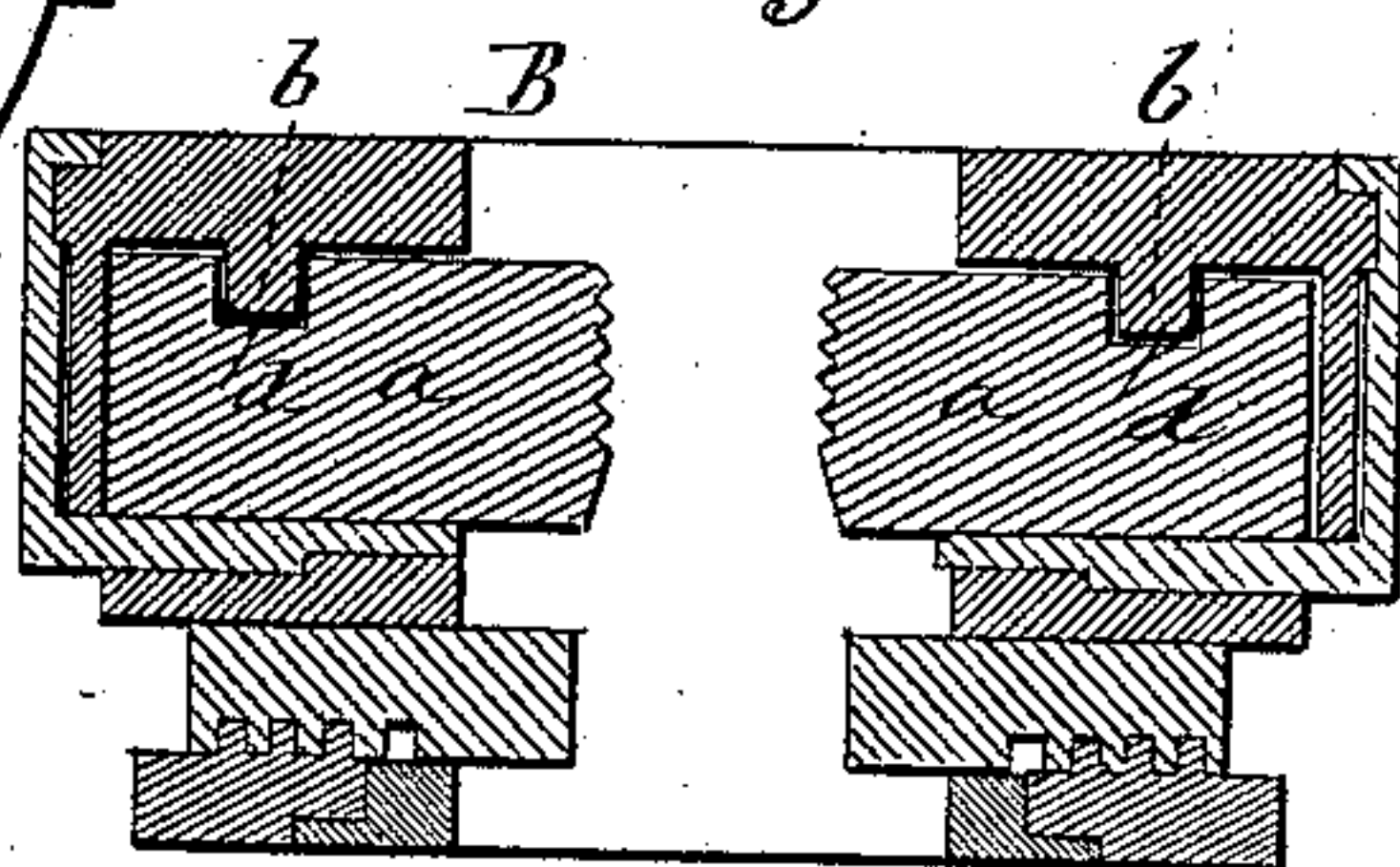


Fig. 8.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY D. BARNES, OF NEW HAVEN, CONNECTICUT.

SCREW-PLATE.

SPECIFICATION forming part of Letters Patent No. 369,158, dated August 30, 1887.

Application filed May 4, 1885. Serial No. 164,302. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. BARNES, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Screw-Plates; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, an under side view of a screw-plate, showing the guide attached; Fig. 2, a side view of the same; Fig. 3, the guide plate with the disk removed, showing the radial guides; Fig. 4, an under side view of the disk, showing the spiral ribs for operating the guides; Fig. 5, a central section through the die-plate and guide-plate on line *xx* of Fig. 1; Fig. 6, an inside view of the screw-cutting plate, the disk removed; Fig. 7, an inside view of the disk, showing the spiral cams or ribs; Fig. 8, a section on line *yy* of Fig. 1.

This invention relates to an improvement in plates for hand-cutting screws—that is to say, plates which carry dies for cutting the thread, the plate provided with handles by which the workman may turn the plate to cut the thread upon a rod or bolt.

In applying a plate to a rod or bolt to cut a screw-thread thereon it is difficult for the workman to hold the plate in a plane at exactly right angles to the axis of the screw to be cut, and if not so held, then the thread will be at an angle to the axis, and the bearing-face of the nut applied to that thread must stand at a corresponding angle to the thread.

The object of my invention is the construction of an adjustable guide adapted to be removably attached to a screw-plate, so as to serve as a guide to locate the screw-cutting dies in proper relation to the body of the bolt on which the thread is to be cut; and it consists in the construction, as more fully hereinafter described, and particularly recited in the claims.

In illustrating my invention I show it as applied to a screw-plate of my own invention, and for which Letters Patent of the United States were granted to me September 9, 1879, No. 219,379.

The plate A is of circular form and has ar-

anged therein several screw-cutting dies, *a*. (Here represented as three.) These dies are arranged radially and so as to be moved radially from or toward the center, and they are so moved by a disk, B, which covers one side of the plate and has upon its inner face cam-like ribs *b*, which work into corresponding grooves, *d*, in the back of the dies, and so that by turning the plate B the dies are moved out and in, according to the direction in which the disk B is turned. From the plate handles C D extend, respectively, to the right and left, and by which the plate may be rotated in cutting the screw.

Upon the under side of the plate A is a circular plate, E. This plate is constructed with radially-projecting ears *e* diametrically opposite each other, and adapted to be secured to the principal plate by screws *f* or otherwise. As here represented, the ears are constructed with a slot, *g*, opening from opposite sides, and so that when the screw-heads are raised slightly the ears may be passed beneath the heads, the slots passing under the body of the respective screws, and then upon the screws being set they will hold the plate E to the principal plate A.

In the plate E several radial guides, F, are arranged, (here represented as three,) and are so arranged as to be moved radially within the plate toward or from the center in similar manner to the dies in the screw-cutting plate.

Upon the plate E a disk, G, is applied, having upon its inner surface spiral ribs *h*, more or less in number, and the corresponding surface of the guides F is constructed with grooves *i*, corresponding to the said spiral ribs, and so that the ribs of the plate will set into the grooves on the guides, as seen in Fig. 5.

The disk G is arranged to be rotated upon the plate E, and is held in its position by a ring, H, at the center, having a flange, *l*, extending onto the surface of the disk G, as seen in Fig. 5, the ring H firmly secured to the plate E by rivets, as shown, or otherwise, but yet so as to leave the disk G free for rotation. The opening through the ring should be substantially equal to that through the die-plate.

When the disk G is set in place, the guides must stand equidistant from the center; then as the disk G is rotated in one direction or the other the guides F will simultaneously be

moved inward or outward, according to the direction of the rotation of the disk.

In use the workman sets the plate over the end of the bolt to be cut until the guides F are 5 below its end. Then he turns the disk G to bring the guides F to an easy bearing upon the surface of the bolt, as seen in Fig. 3, broken lines indicating the bolt. The depth of the guides gives sufficient bearing to bring the 10 plate into a plane at right angles to the axis of the bolt. Then the workman proceeds in the usual manner for using the plate—that is, having set his dies to the proper position, he rotates the plate about the bolt to cause the cutting-edge of the dies to cut the thread upon 15 the surface of the bolt, because of the guides F properly locating the plate with relation to the bolt the thread will be cut so that the face of the nut must stand at exactly right angles 20 to the axis of the bolt. In other words, the thread will be cut with the same accuracy with relation to the axis of the bolt as if it were cut in a screw-cutting machine.

I have illustrated my invention as applied 25 to a die-plate of peculiar construction; but it will be understood that the guide-plate may be applied to die-plates of various constructions with equal advantage. The guide-plate may therefore be made as an article of manufacture independent of the screw-plate. 30

I claim—

1. The combination of the plate E, constructed with radially-projecting ears *e* diametrically opposite each other, the said ears 35 each constructed with an open slot, *g*, guides F, arranged in said plate free for radial movement, the disk G, arranged upon said plate free for rotation, constructed upon its under surface with spiral ribs *h*, adapted to work in 40 corresponding grooves in said guides F, and whereby said guides, under the rotation of said

plate, are moved radially, and the ring H, substantially as and for the purpose described.

2. The combination, with a die-plate, of a removable adjustable guiding attachment consisting of a frame adapted to be removably attached to the die-plate, guiding-jaws mounted in the said frame, and devices carried by the same for operating them, substantially as set forth. 45 50

3. The combination, with a die-plate, of a removable adjustable guiding attachment consisting of a frame adapted to be removably attached to the die-plate, guiding-jaws mounted in the said frame, and a rotary scroll-plate 55 carried by the same for operating them, substantially as set forth.

4. The combination, with a die-plate, of a removable adjustable guiding attachment consisting of an annular frame adapted to be removably secured to the die-plate and provided 60 with a flange and recess, as shown, grooved guiding-jaws radially mounted in the said frame, and a plate provided with a scroll entering the recess in the frame and engaging 65 with the jaws mounted therein, and having notches or a groove receiving screws located in the flange of the frame and securing the plate thereto, substantially as set forth.

5. The combination, with a die-plate having 70 the lower face of its case countersunk, of an adjustable guiding attachment consisting of a frame carrying jaws and means for operating them, and devices for detachably securing the said attachment to the die-plate, into the 75 countersink of which the attachment enters, substantially as set forth.

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Witnesses:

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