

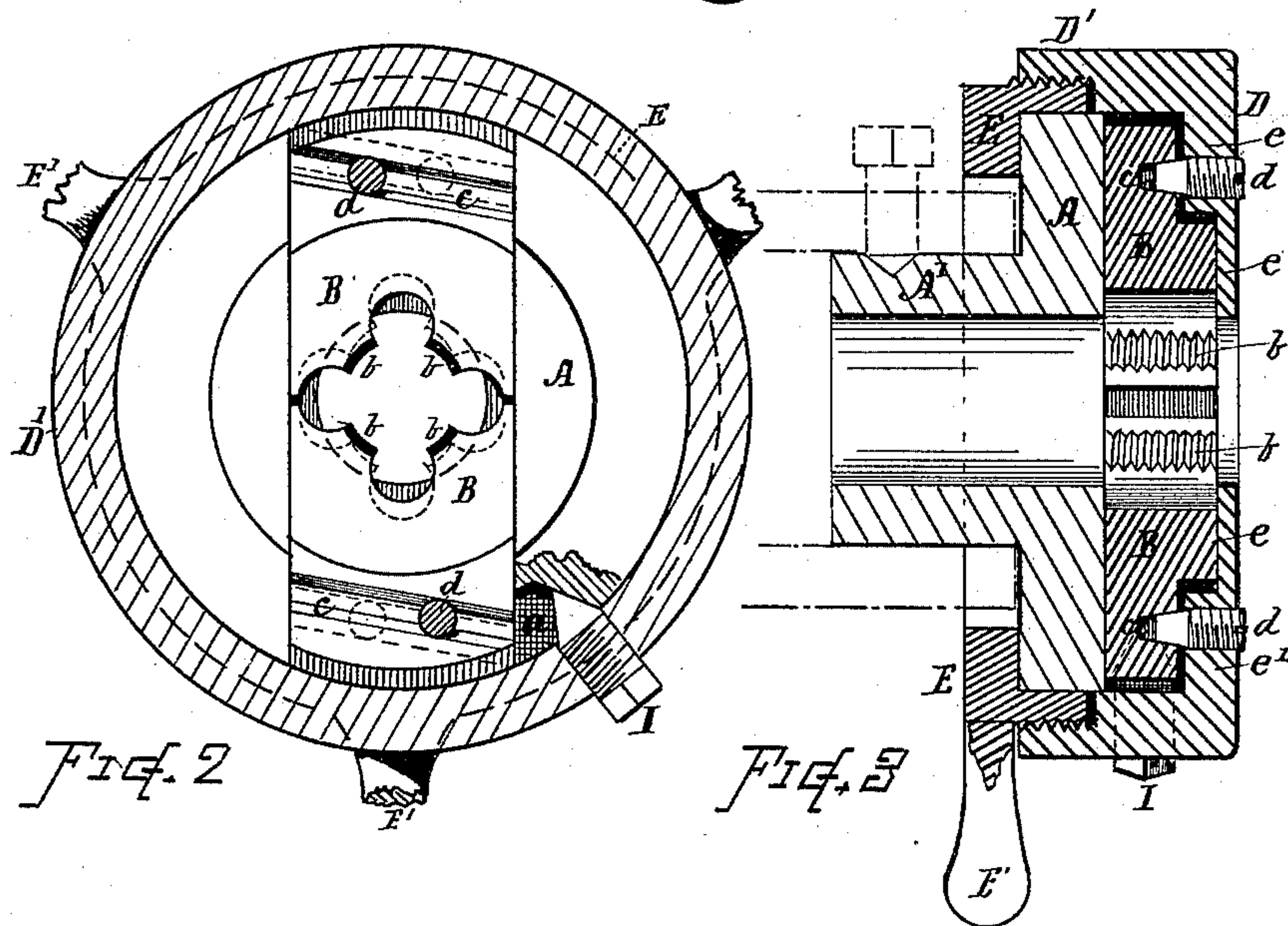
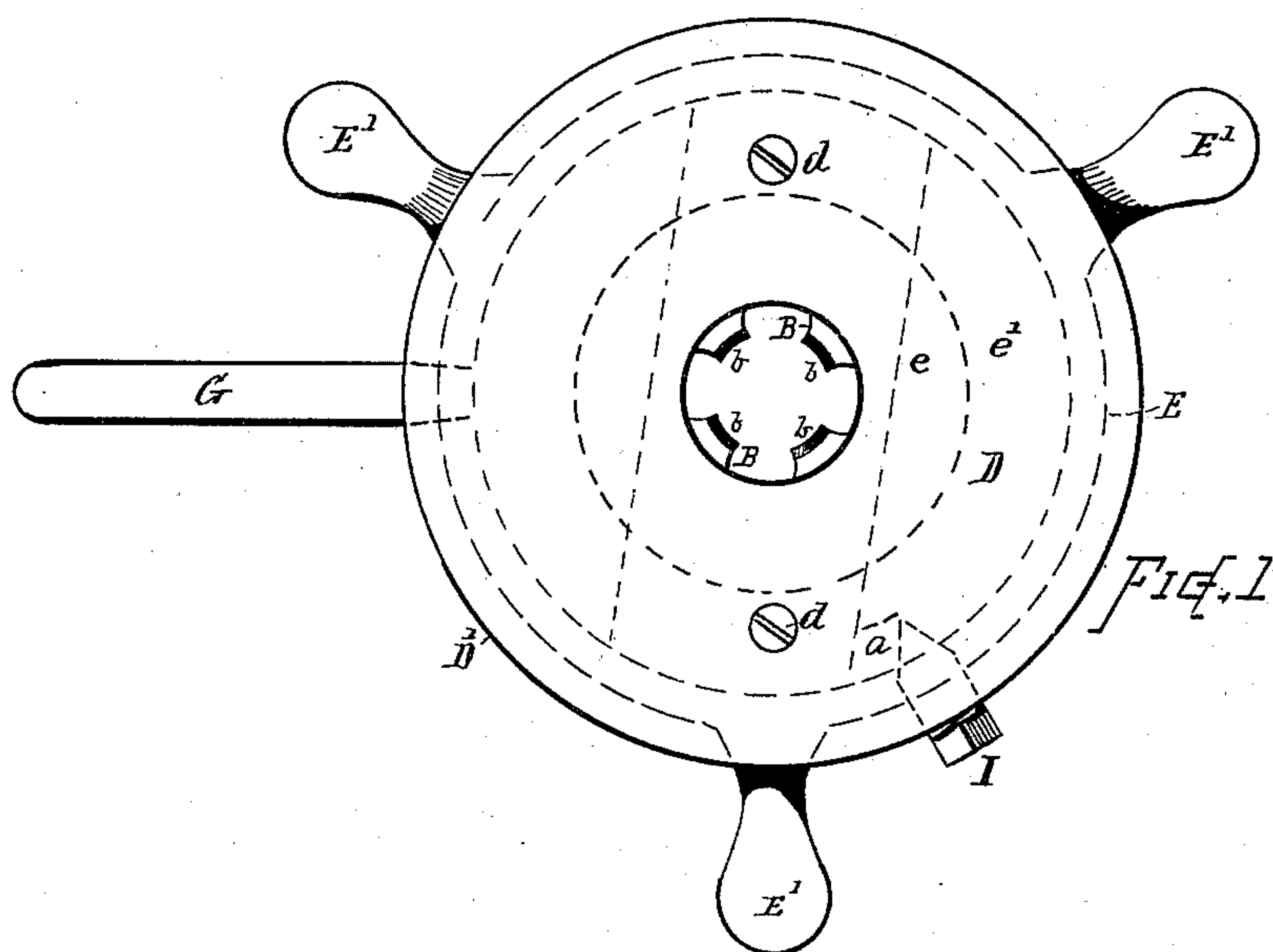
(No Model.)

W. F. WALKER.

DEVICE FOR THREADING BOLTS.

No. 299,299.

Patented May 27, 1884.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM F. WALKER, OF WORCESTER, MASSACHUSETTS.

DEVICE FOR THREADING BOLTS.

SPECIFICATION forming part of Letters Patent No. 299,299, dated May 27, 1884.

Application filed January 4, 1884. (No model)

To all whom it may concern:

Be it known that I, WILLIAM F. WALKER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Bolt-Cutting Die-Chucks; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my present invention is to provide a simple and efficient opening and closing bolt-cutting die-chuck which can be manufactured at comparatively small expense, and which is adapted for ordinary blacksmith's bolt-work, as well as for other classes of bolt-cutting; and my invention consists in a chuck and die mechanism constructed and operating, as illustrated in the drawings, and hereinafter more fully described.

Figure 1 is a front view of my improved bolt-cutting die-chuck. Fig. 2 is a transverse sectional view at the back of the face-plate, showing the arrangement of the dies for opening and closing and the adjustable stop devices; and Fig. 3 is a longitudinal section through the plates and dies.

In the drawings, A designates the body or head piece of the chuck, provided with a suitable hollow hub or extension, A', for connecting it with the hollow arbor of the bolt-threading machine when in use.

B B indicate the cutters or dies for cutting the screw-threads upon the bolt or rod, which is fed into the central opening of the chuck in the usual manner. Said dies B are fitted into suitable recesses or grooves formed in the face of the part A perpendicular to the axis, so that the dies can move in radial direction for opening and closing their jaws or cutting parts b upon the bolt. The dies B are provided near their rear ends with inclined slots or grooves c, for engaging with studs d d, which are fixed in the face-plate D, and by means of which said dies are opened and closed when plate D is given a slight rotative action about the body A. The face-plate D is made quite

thin at the central part, e, where it rests upon the front of the dies B, while it is re-enforced or made with a thicker annular portion at e', for sustaining the studs d d, thus giving a strong, firm support for said studs, while permitting the dies to come well forward toward the front surface of the chuck. The studs d d are in the present instance screw-threaded in the plate, so as to be readily adjusted or removed, if desired. The plate D is also provided with an annular rim or flange, D', that surrounds the head-piece A, in the manner indicated. Said rim D' is screw-threaded at its rear part to receive a correspondingly-threaded flanged ring, E, which can be screwed down upon the back of the head-piece A, so as to draw the head and face-plate together, and thereby clamp the dies B firmly in position between the bottom of the guiding-groove in said head and the inner surface of the face-plate D. The flange of the ring E rests against the back of the head-piece, and said ring is provided with suitable handles, E', to facilitate the operation of turning it when clamping and unclamping the dies. The face-plate D is provided with openings to receive a handle or lever, G, by means of which said face-plate can be moved or rotated for opening and closing the dies by the action of the studs d in the inclined grooves c. A conical-pointed screw-stud, I, is arranged in the face-plate rim D', which stud enters a recess, a, in the head A, and serves as a stop for the plate when the dies are closed or in proper working position. By turning said screw-stud in or out, the conical point is adjusted to strike the end of the recess a by a longer or shorter movement of the face-plate, thus regulating the extent of the opening and closing action of the dies in a very fine and perfect manner, so that accuracy in the cutting of threads of uniform diameter is attained.

The studs d d are preferably made with conoidal points, and the sides of the grooves or slots c beveled or slanted, so that by adjusting the studs any looseness or backlash between the dies and their operating parts can be taken up.

The dies B can be changed for different sizes by unscrewing the ring E and removing

the face-plate D from the head A, thereby leaving the dies free to be lifted from the grooves or guiding-recesses. For small-sized dies the guiding-grooves can be reduced by
 5 placing a strip or strips of metal within said grooves alongside the dies, thus obviating the necessity of making the dies with as large a body as those for cutting larger bolts, and to a proportional extent reducing the cost of such
 10 dies.

In the operation of my improved chuck the dies are closed by turning the plate forward until the stud I strikes the end of its recess *a*, and the ring E is then screwed up to clamp
 15 the dies firmly in position against the face-plate. The rod is entered at the axial opening, the machine started, and the thread cut for any required distance. The machine is then stopped, the ring turned back sufficient
 20 to loosen the clamp of the dies, and then, by inserting the lever G and turning back the face-plate, the dies are opened or separated, so that the bolt-thread is released from the jaws of the dies without the necessity of running
 25 them back over the screw-thread which has been formed on the bolt.

I am aware that bolt-cutting chucks having opening and closing dies have heretofore been employed; but, so far as I have knowl-
 30 edge, such devices are all comparatively expensive for manufacture, and are essentially different in construction and operation from the mechanism herein described and claimed.

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

1. The combination of the die-supporting head, the radially-moving dies having inclined slots in their surface, a face-plate provided with studs which enter said slots, adapted for moving the dies by rotative action of said
 40 plate, and a screw-threaded ring for clamping said dies at positions of adjustment between the head and plate, substantially as set forth.

2. The combination of the head-piece A, the dies B, guided and supported in said head, the
 45 face-plate D, having studs *d d* engaging with inclined slots in said dies, and the ring E, screw-threaded to said face-plate and bearing against said head-piece, substantially as and for the purpose set forth.

3. A conically-pointed screw-stud, as I, in combination with the dies and die-supporting head, having a recess, as *a*, and the rotative face-plate D, substantially as and for the pur-
 50 pose set forth.

4. The combination, with the head A and dies B and die-operating studs *d d*, of a face-plate having a thin central portion, *e*, and annular re-enforce or thicker portion *e'*, sub-
 55 stantially as and for the purpose stated.

Witness my hand this 31st day of December, A. D. 1883.

WILLIAM F. WALKER.

Witnesses:

CHAS. H. BURLEIGH,
 GEO. M. REED.