(No Model.)

J. A. BECHER.

SCREW CUTTING DIE HEAD.

No. 389,433. Patented Sept. 11, 1888.

Fig. 1.

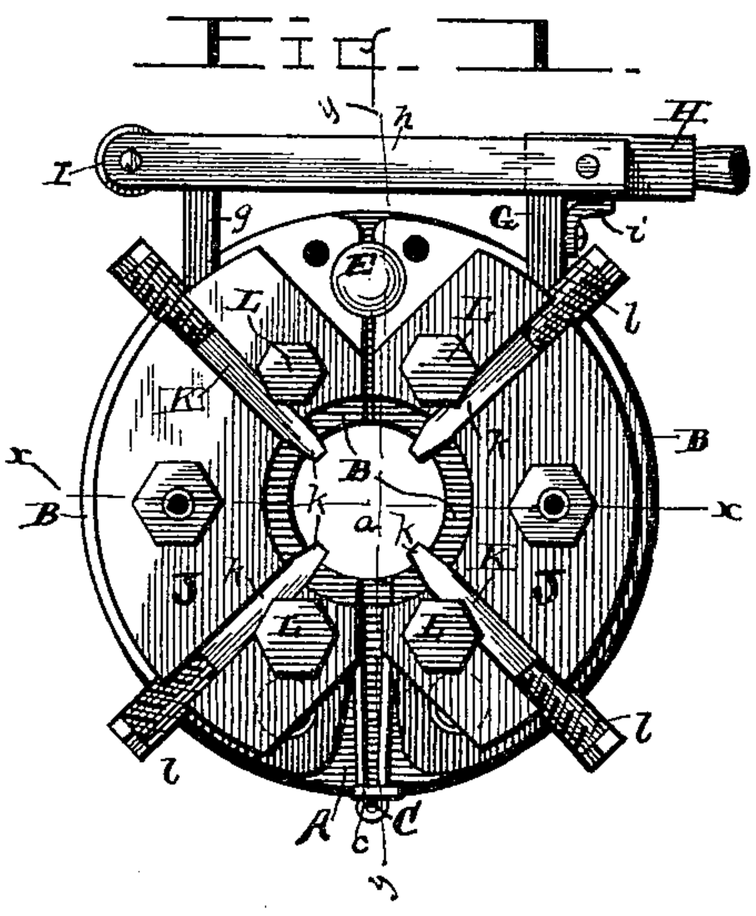


Fig. 2.

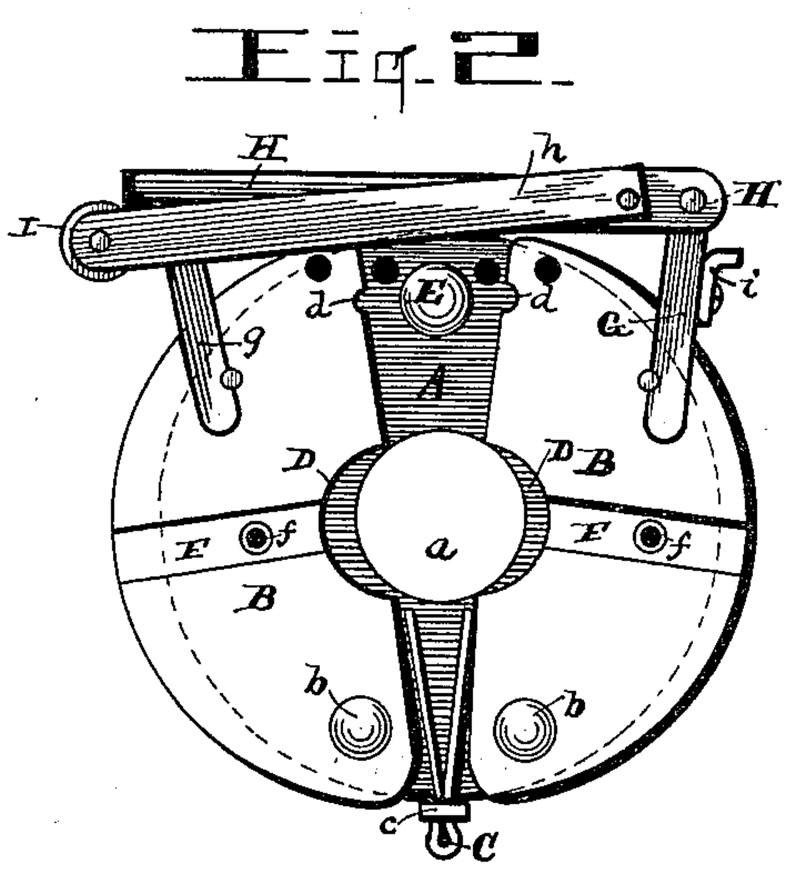


Fig. 3.

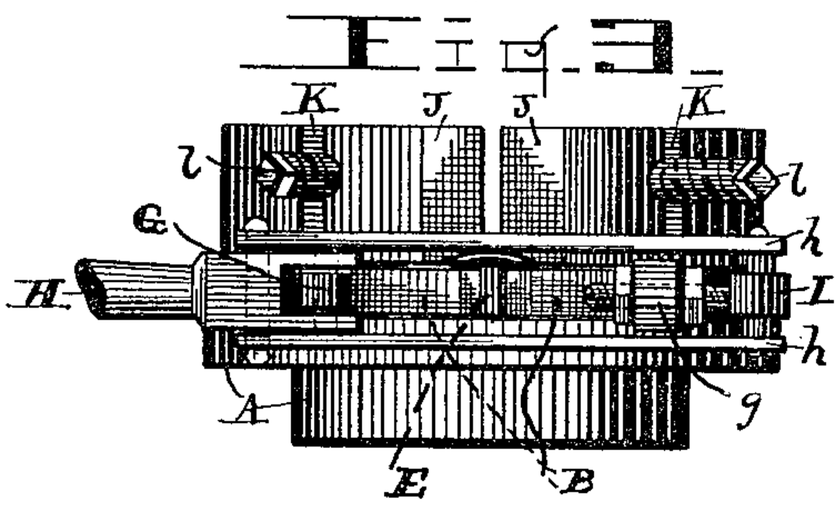


Fig. 4.

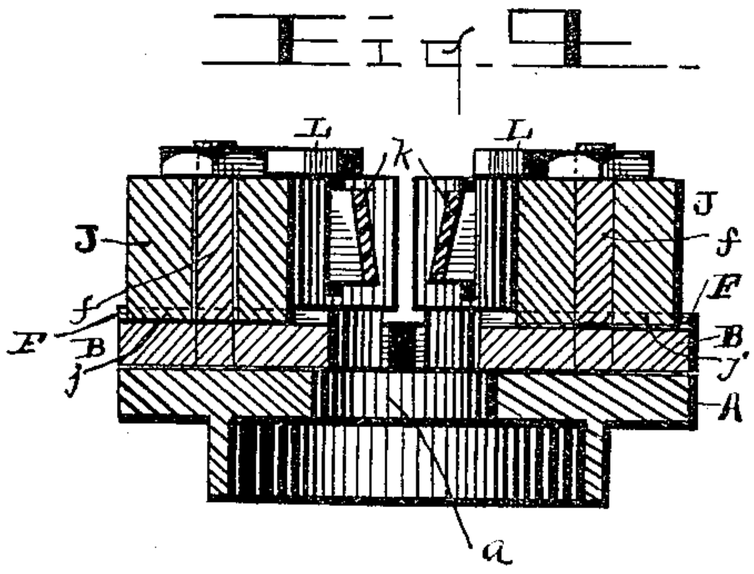
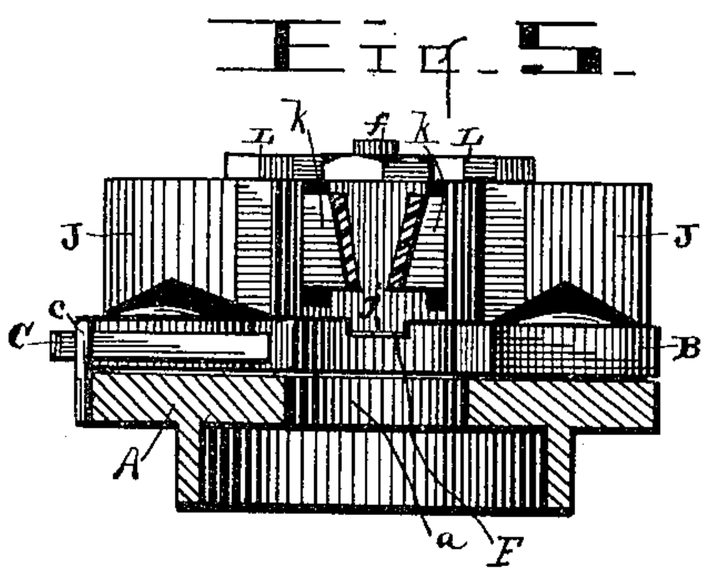


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES A. BECHER, OF MISHAWAKA, INDIANA.

SCREW-CUTTING DIE-HEAD.

SPECIFICATION forming part of Letters Patent No. 389,433, dated September 11, 1888.

Application filed April 7, 1888. Serial No. 269,964. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. BECHER, of Mishawaka, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Screw-Threading Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a face view of the die-stock closed. Fig. 2 is a similar view of the same open, the cutter-blocks being removed. Fig. 3 is a side view. Fig. 4 is a cross section of the same on line *x x*, Fig. 1. Fig. 5 is a cross sectional view on line *y y*, Fig. 1.

This invention is an improved die-stock for cutting screw-threads on bolts; and its objects are to provide a stock with removable cutter-bearing blocks having adjustable cutters, and to mount these blocks so that they can be thrown into working position or opened to permit the immediate withdrawal of the bolt or rod after it is threaded.

Referring to the drawings by letter, A A is a base-plate or disk having a central opening, *a*, and which is to be secured on the hollow stub of a bolt-threading machine.

B B are similar opposite semicircular plates pivoted on disk A by bolts *b b*, as shown.

C is a key-spring lying between the pivoted ends of plates B, and retained by a stud, *c*, on disk A, as shown. This spring acts to separate the plates.

D D are similar semicircular recesses in the adjoining edges of plates B, coinciding with opening *a* of the disk when the plates are closed; and *d d* are smaller recesses in the plates, which engage with a headed stud, E, projecting from the disk A, and true the plates, while the head of the stud will keep the plates in close contact with the disk when closed.

F F are grooves on the outer surfaces of plates B, extending from recesses D at right angles to the meeting-line of said plates, and *f f* are screw-threaded studs rising from said grooves, and hereinafter referred to.

G *g* are eye-lugs secured to plates B at the free ends thereof and projecting laterally therefrom. The eye of lug G is at right angles to the eye of lug *g*, as shown, and to this lug is pivoted the bifurcated head of a handle or lever, H.

h h are link-bars pivotally connected to lever H, and to the ends of a T-coupling, I, the screw-threaded stem of which is passed through the eye of lug *g* and provided with adjusting and securing nuts, as shown. The length of bars *h* is such that when lever H is thrown outward, as shown in Fig. 1, the plates B will be forcibly closed, and when thrown inward, as in Fig. 2, the plates are separated. *i* designates an adjustable stop secured to lug G in position to properly limit the throw of lever H when the die is closed.

J J are similar cutter-bearing blocks corresponding in contour but smaller than plates B, and are kept in position thereon by flanges *j* on their under sides, which engage in grooves F of the plates and by the studs *f f*, which project through proper openings in blocks J and are engaged by proper nuts, which firmly lock the blocks on the plates. Each block J has two or more deep slots, K, formed on lines radiating from the opening *a* when the die is closed.

k k are the cutters placed in slots K and retained therein laterally by the projecting heads of screws L, secured in the faces of blocks J, as shown.

l are adjusting screws engaged in threaded recesses in the walls of slots K, exterior to the cutters, and by which the latter can be adjusted, as is evident.

The operation is evident from the foregoing, and it will be observed that after a bolt or rod has been threaded the cutters can be thrown apart and the bolt removed without necessitating "backing" thereof. By removing blocks J and substituting other blocks having sets of different-pitch thread-cutters, the one die-stock can be employed in cutting many different threads, and the cutters being adjustable in the blocks the same pitch of thread may be cut on varying sizes of rods, &c.

Having described my invention, I claim—

1. The combination of the base-disk and the plates pivoted thereon, with the radially-slotted cutter-blocks mounted on said plates, substantially as described, and having adjustable cutters mounted in said slots, and the lever

and link connections for throwing said cutter-blocks into or out of working position, substantially as and for the purpose described.

2. The combination of the base-disk and the plates pivotally mounted thereon, with the removable cutter-bearing blocks mounted on said plates, having adjustable cutters, and devices, substantially as described, for shifting said plates to throw the cutters into or out of working position, substantially as specified.

3. The combination of the base-disk, the pivoted spring-controlled plates thereon, and the blocks carrying adjustable cutters mounted, substantially as described, on said plates, with the eye-lugs projecting laterally from said plates, the lever pivoted to one lug, the adjustable coupling connected to the other lug, and the link-bars between said lever and coupling, all constructed and arranged to operate substantially in the manner and for the purpose described.

4. The combination, with the base-disk, the spring-controlled plates pivoted thereon, having grooves and threaded studs, with the flanged cutter-bearing blocks secured on said plate, having radial slots, the adjustable cutters in said slots, the retaining and adjusting screws for said cutters, and the shifting devices for said plates, all constructed and arranged to operate substantially in the manner and for the purpose described.

5. The combination of the base-disk having a central opening, the semicircular plates pivoted thereon, the spring controlling said plates, and the headed studs for truing the same, with the removable cutter-bearing blocks secured on said plates, the adjustable cutters in said blocks, and the eye-lugs, lever, coupling, and connecting-links for throwing the plates into or out of position, and the stop for said lever, all constructed and arranged to operate substantially in the manner as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES A. BECHER.

Witnesses:
JAMES DUSHANE,
JEANIE ANDERSON.