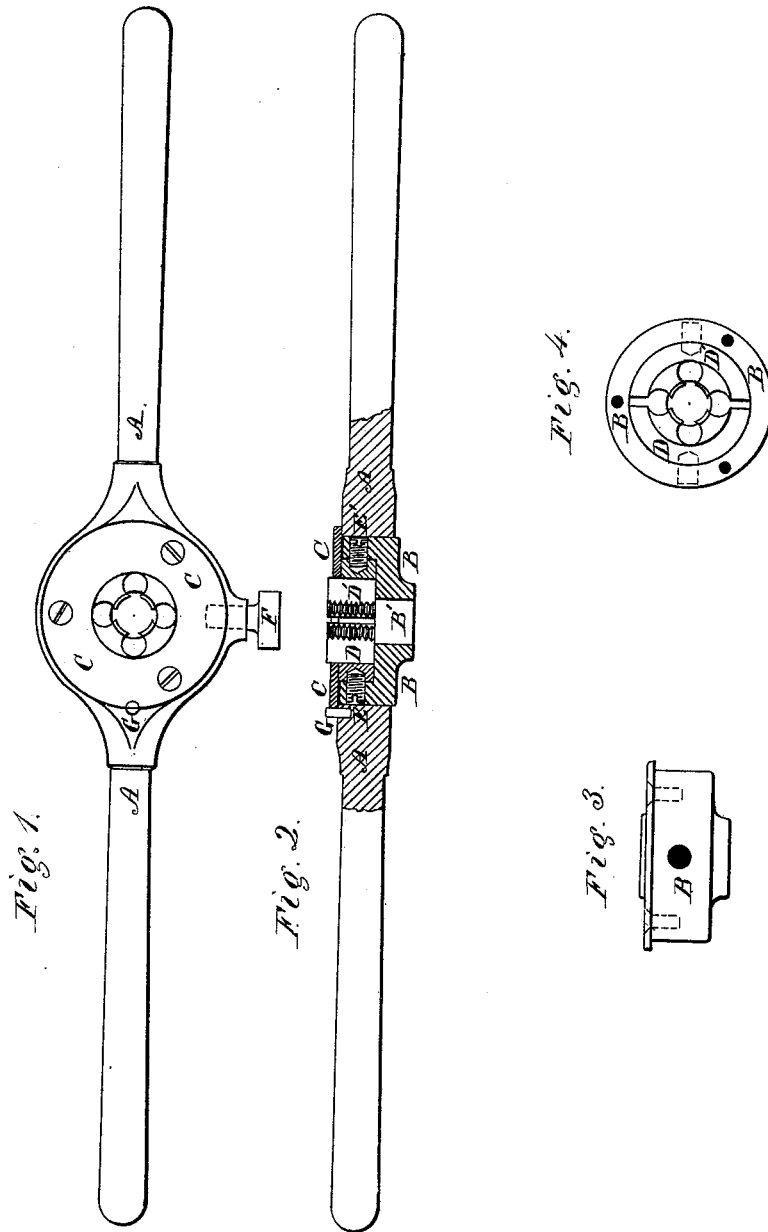


M. C. JOHNSON.
SCREW-CUTTING DIES

No. 195,713.

Patented Oct. 2, 1877.



Witnesses.

Wilmot Boston
John L. Peters

Inventor.

M. Carlyle Johnson
By Theo. G. Ellis, Attorney

UNITED STATES PATENT OFFICE.

M. CARLYLE JOHNSON, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM N. WOODRUFF, OF SAME PLACE.

IMPROVEMENT IN SCREW-CUTTING DIES.

Specification forming part of Letters Patent No. **195,713**, dated October 2, 1877; application filed June 21, 1877.

To all whom it may concern:

Be it known that I, M. CARLYLE JOHNSON, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Screw-Cutting Dies; and I 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 drawing, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to dies for cutting screw-threads, more especially such as are held in die-stocks for use by hand; but parts of my invention are equally applicable to dies that can be used in machines without being attached to the ordinary die-stock.

My invention has for its object a simple and more effectual manner of securing the detachable cutters into the collet which holds them when in use, and also a better method of holding the collet in the die-stock.

My invention consists in the peculiar construction and arrangement of the several parts, that will be hereinafter described.

In the accompanying drawing, Figure 1 shows a top view of my improved dies inserted in the die-stock. Fig. 2 shows a longitudinal section through the middle of the die-stock, showing also the parts of the cutters beyond the section through the middle. Fig. 3 is a side view of the collet containing the cutters removed from the die-stock. Fig. 4 shows a top view of the collet and contained cutters, with the top plate removed so as to show the interior parts.

A is the die-stock, which is furnished with a circular opening for a cylindrical collet, B.

The collet B has a cylindrical recess in its upper part for containing the cutters D and D', and an opening, B'', through the bottom for the passage of the bolt upon which a screw-thread is to be cut.

C is a plate or cover upon the top of the collet B, secured to it by means of screws, as shown in Figs. 1, 3, and 4. This cover extends over the central cylindrical opening in the collet B, and rests upon the outer portion of the

cutters D and D'. It also extends beyond the outer circumference of the collet, and rests upon the top surface of the die-stock when the parts are in position for use.

D and D' are the cutters, or parts which form the thread upon the bolt. Their exterior is of a semicircular form, and fits into the recess in the upper part of the collet B. The central portion of these cutters extends upward through the opening in the middle of the cover C, so as to reach a short distance beyond its upper surface, for the purpose of cutting a thread close down to a shoulder or enlargement of the bar, and the outer or rear portion is clipped under the inner edge of the cover, for the purpose of holding them firmly in place. The height of this rear portion of the cutters is made a little greater than the depth of the recess in the collet, so that the cover shall bear upon the cutters and leave a small space between the cover and the collet. When the cover is forced down by means of its screws, the cutters are firmly clamped in place.

To adjust the cutters to an exact position to allow for wear, or for any cause to vary the diameter of the screw cut, they are provided with the adjusting-screws E and E'. These turn in threads in the outer shell of the collet B, and enter suitable recesses in the backs of the cutters, so as to press them inward when desired.

The position of the cutters can be adjusted at any time by slightly loosening the screws which hold down the cover C, and then turning the screws E E'. The cover can then be again screwed down and the cutters clamped in their new position.

F is a thumb-screw for securing the collet and its attached parts into the die-stock. It passes through a hollow thread in the die-stock and enters a recess in the collet. The inner end of F, which is intended to hold the collet from turning when in use, as well as to secure it in the die-stock, is preferably made without a screw-thread, and of a slightly taper form, so as to entirely prevent any lateral movement.

The cover C is provided with a nick, which fits upon a pin, G, in the die-stock when the collet is in the exact position for the end of

the screw F to fit into its recess. This serves as a gage to put the parts readily together when for any reason the dies are removed from the die-stock.

By means of my invention several sets of cutters of different threads can be used in the same collet, and several different collets can be used in the same die-stock, and all can be readily and easily interchanged and replaced when desired.

What I claim as my invention is—

1. The combination of the collet B, the cover C, the cutters D D', and the adjusting-

screws E E', when constructed and arranged substantially as and for the purpose herein described.

2. The combination of the covering-plate C, the cutters D D', and the collet B with the die-stock A, and a suitable mechanism for adjusting and securing the collet in the die-stock, substantially as herein described.

M. CARLYLE JOHNSON.

Witnesses:

THEO. G. ELLIS,
WILMOT HORTON.