

F. E. WELLS.
Screw-Threading Die.

No. 161,311.

Patented March 23, 1875.

Fig. 1.

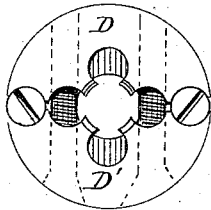


Fig. 2.

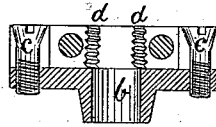


Fig. 4.

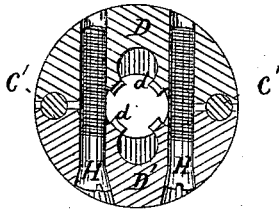


Fig. 3.

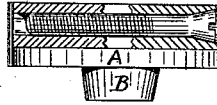


Fig. 5.

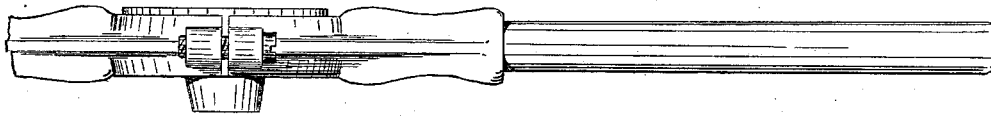
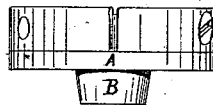


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERIC E. WELLS, OF GREENFIELD, MASSACHUSETTS, ASSIGNOR TO THE WILEY AND RUSSELL MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN SCREW-THREADING DIES.

Specification forming part of Letters Patent No. **161,311**, dated March 23, 1875; application filed December 11, 1874.

To all whom it may concern:

Be it known that I, FREDERIC E. WELLS, of Greenfield, county of Franklin and State of Massachusetts, have invented certain Improvements in Screw-Thread-Cutting Dies.

The following description, taken in connection with the accompanying plate of drawings hereinafter referred to, forms a full and exact specification, wherein are set forth the nature and principles of the invention, by which the same may be distinguished from others of a similar class, together with such parts thereof as are claimed as new and are desired to be secured by Letters Patent of the United States.

My invention relates to that class of dies which are used for cutting screw-threads; and the nature thereof consists primarily in adjusting and holding firmly in position two pieces of hardened steel, forming together a female screw for cutting threads, by means of screws located entirely within the material of which the said pieces of hardened steel are composed.

It also consists in certain novel combinations of parts hereinafter described.

In the accompanying plate of drawings, in which corresponding parts are designated by similar letters, Figure 1 is a plan of the dies. Fig. 2 is a transverse vertical section of the same at the dotted line *xx*, Fig. 1. Fig. 3 is a transverse vertical section of the same at the dotted line *yy*, Fig. 1. Fig. 4 is a horizontal section of the same at the line *rr*, Fig. 2. Fig. 5 is a side view of the dies and stock. Fig. 6 represents the exterior of the dies and holder.

The holder *A* is of cylindrical or other proper form on its exterior surface, and is provided with a projection, *B*, which is cast solid therewith and constitutes a guide for the bolts. The cylindrical aperture *b*, extending through the stock *A* and projection *B*, allows the passage of the uncut bolt or pipe to the die. *D* *D'* designate two pieces of hardened steel or dies having cutting parts *d*, which together form a female screw for cutting threads. The dies are secured to the holder by means of

the screws *c*, the heads of which taper in an inward direction. The said screws fit accurately in recesses *c'*, of corresponding form, cut for their reception in the said dies, and screw into the holder *A*.

The cutting parts are made to approach each other by means of the screws *H*, which pass through cylindrical apertures, of a size corresponding thereto, cut in the die *D'*.

To adjust the dies in such a manner as to enable screws of different sizes to be cut, or to compensate for wear of the cutting-edges, the conical-headed screws *cc* are screwed either farther into the stock to separate the dies, or from the stock, to allow the set-screws *H* to force them toward each other. The set-screws *H* are screwed up to hold the dies in any position to which they are adjusted by the screws *cc*.

Although the screws *cc* are preferably used; they are not indispensable to the proper adjustment of the dies. A piece of metal of any suitable size or shape might be substituted for them, for the purpose of keeping the dies apart. In this case the distance of the cutting parts from each other would be determined by the thickness of the piece of metal or other suitable substance placed between them.

Having described my invention, I will indicate in the following clauses what I claim and desire to secure by Letters Patent of the United States—that is to say—

1. The improved die-plate, consisting of the sectional die-plate *D D'*, the tap-screws *c*, and the binding-screws *H*, all constructed and combined substantially as described and shown.

2. The combination, with the improved die-plate consisting of the sectional die-plates *D D'*, the tap-screws *c*, and the binding-screws *H*, of the holder *A*, substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand and seal this 8th day of December, 1874.

FREDERIC E. WELLS. [L. S.]

Witnesses:

WENDELL T. DAVIS,
JOHN R. GATES.