

(No Model.)

C. L. BUTLER.
SCREW CUTTING DIE.

No. 477,293.

Patented June 21, 1892.

Fig. 1.

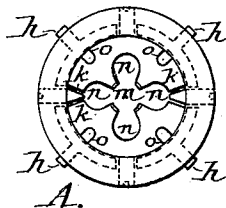


Fig. 2.

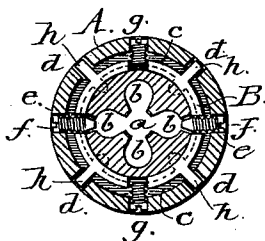


Fig. 3.

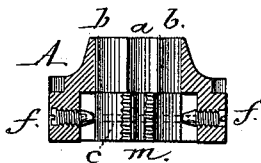
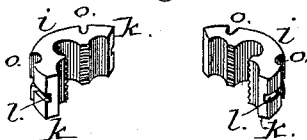


Fig. 4.



Witnesses:
E. W. Dunn Jr.
J. M. Copenhaver.

Inventor:
Calvin L. Butler.
per E. W. Dunn
att'y.

UNITED STATES PATENT OFFICE.

CALVIN L. BUTLER, OF GREENFIELD, MASSACHUSETTS.

SCREW-CUTTING DIE.

SPECIFICATION forming part of Letters Patent No. 477,293, dated June 21, 1892.

Application filed March 8, 1892. Serial No. 424,183. (No model.)

To all whom it may concern:

Be it known that I, CALVIN L. BUTLER, a citizen of the United States, residing at Greenfield, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Screw-Cutting Dies; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in screw-cutting dies.

It consists, essentially, of a die formed in two parts placed together in a suitable holder. Said two parts where they meet are splayed at their outer lines of contact to form opposite V-shaped openings between said parts and the rim of the holder to receive the conical ends of screws which may be driven through said holder radially to wedge the said parts of the die immovably to the rim of the holder and against lateral or rotary movement. The die is provided with an annular groove, located centrally as to its depth, into which are fitted several feathers provided with outwardly-projecting studs, which pass through openings in the rim of the holder. The die-holder has an annular groove corresponding with the groove of the die and immediately opposite it when said die is in place for work. The several feathers mentioned fit into both grooves and they are adjusted to place from the outside of the rim of the holder. Four screws are run into the rim of the die-holder, two of which have conically-pointed ends and the other two have flat ends which bear against the outer surface of the die when they are driven inward. The die-holder is of the usual form with the exception that it has the groove previously mentioned cut from the inner surface of its rim.

In the drawings illustrating my invention, Figure 1 is an elevation or face of the die and holder. Fig. 2 is a section of the die and holder taken in a plane which cuts through the annular grooves of the same. Fig. 3 is a section of the die and holder taken in a plane at right angles to the plane of section of Fig. 2. Fig. 4 is a perspective view of the two parts of the die.

Similar reference-letters of the drawings indicate like parts in all of the figures.

Referring to the drawings, A is the holder for the die, provided with a central opening *a*, lateral openings *b*, groove *c*, and four holes *d* in its rim to receive the studs of the feathers to be mentioned, and screw-threaded openings *e* for the four screws *f f g g*.

B are the feathers, provided with studs *h*. The die is composed of parts *i i*, each splayed at points *k*. *l* is the annular groove in the die, and *c* the corresponding groove in the rim of the holder. *m* is the screw-threaded opening, corresponding with the opening *a* of the holder, and lateral openings *n* correspond with the openings *b* of the holder.

Small openings *o* are formed in the die from its face to a depth sufficient to reach the feathers, so that by means of a pointed instrument the release of the die from the hold of the feathers may be effected when it is desirable to take the die from its holder.

In fixing the die for service the feathers are first placed in the annular groove of the holder with their studs extending through the holes in the rim provided to receive them. The two parts of the die *i i* are now placed in the holder and the four screws *f f g g* driven inward. The conical ends of the screws *f f* take into the opposite V-shaped openings of the dies and wedge the two parts of the die against the screws *g g*. The feathers B are now adjusted to place in the groove of the die to hold it against axial movement. The feathers interposed in grooves between the holder and the die and serving to hold the die to place in the said holder against axial movement are impinged upon by the inner surface of the wall of the usual die-stock, and thus held rigidly to proper engagement.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a screw-cutting die-holder provided with an annular groove formed outward from within, and holes radiating outward through said groove, as described, and the die in parts with grooves corresponding with the groove of the holder, of feathers provided with studs adapted to engage the grooves of the holder and die and

extend through openings of said holder, as and for the purpose set forth.

2. The combination, with a holder for a screw-cutting die having a cylindrical wall
5 perforated radially with alternating plain and screw-threaded holes and provided with an annular groove cut from within outward, of the screw-cutting die formed in parts having
10 splayed angles, each part provided with a groove corresponding with the groove of the holder, feathers with studs fitting into the

grooves of the die and holder and unscrew-threaded holes of the latter, the conical screws, and flat-pointed screws, all arranged substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CALVIN L. BUTLER.

Witnesses:

JAMES S. GRINNELL,
WM. H. ALLEN.