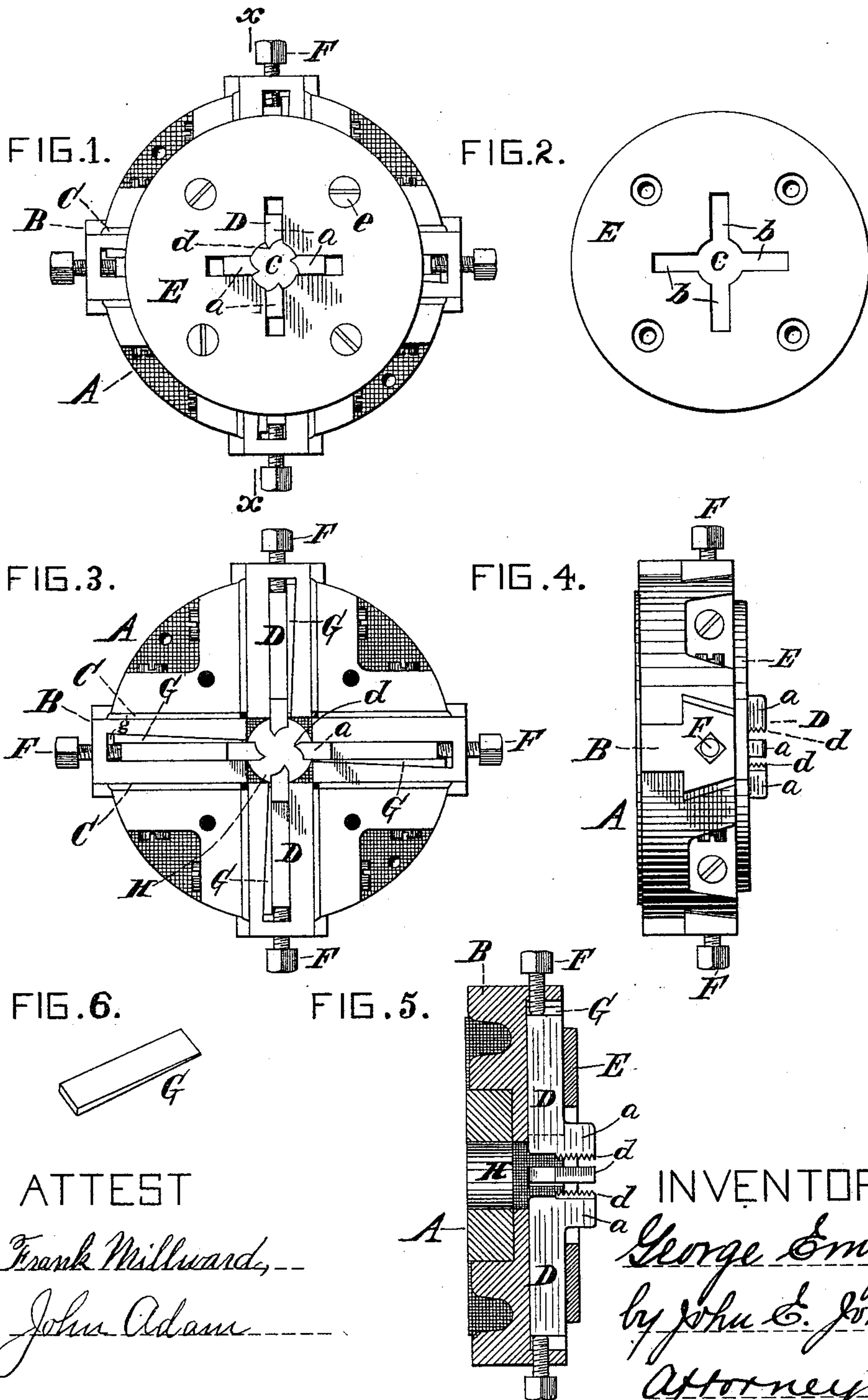


(No Model.)

G. EMIG.
SCREW CUTTING DIE.

No. 368,462.

Patented Aug. 16, 1887.



UNITED STATES PATENT OFFICE.

GEORGE EMIG, OF CINCINNATI, OHIO.

SCREW-CUTTING DIE.

SPECIFICATION forming part of Letters Patent No. 368,462, dated August 16, 1887.

Application filed March 11, 1887. Serial No. 230,485. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EMIG, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Screw-Cutting Dies, of which the following is a specification.

My invention relates to the class of screw-cutting dies shown and described in the Letters Patent of the United States granted to me December 3, 1872, No. 133,574, and is especially adapted thereto, although from the following description it will be seen that it is as well adapted to other similar constructions of chucks and heads.

My invention consists in providing, in combination with a chuck, peculiarly-shaped dies or screw-chasers and a fastening or face plate for said dies, the cutting-edge of each of said dies being constructed on a foot projecting laterally from its inner end, and said foot extending outwardly through radial slots in said face-plate beyond the face thereof, whereby screw-threads may be cut on bolts clear up to their heads when desired; and my invention also consists in providing, in combination with each cutting-die and its mounting slide or holder, a thin tapered smooth-faced plate or wedge, which fits intermediate one side of the die and the adjoining correspondingly-tapered smooth-faced inner wall of its socket or groove in the slide, whereby the said die is firmly held in its set position and due allowance made for any imperfections or variations in the thickness of the steel used in the body of the die.

In the accompanying drawings, Figure 1 is an elevation of the face of the screw-cutter embodying my invention; Fig. 2, a similar view of the detachable face-plate used for holding the dies firmly in place; Fig. 3, a similar view to Fig. 1, with the plate shown in Fig. 2 removed; Fig. 4, a side elevation of the device shown in Fig. 1; Fig. 5, a vertical sectional elevation taken on line *xx* of Fig. 1, showing the dies in elevation; and Fig. 6, a detail perspective view of the smooth-faced wedge designed to hold the die firmly against longitudinal movement and permitting the ready removal thereof when necessary.

A represents the chuck or case, provided

with dovetail slides or jaws B and gibs C, like unto those shown in the aforesaid Letters Patent and designed to be attached to a revolving head in any desirable manner.

D represents the dies or chasers set radially in the slides B of the chuck and held from accidental withdrawal by means of the fastening-plate E, detachably secured to the face of the chuck by screws *e*. Each of the dies is provided with a cutting-edge, *d*, constructed on a lateral extension or foot, *a*.

b represents slots in the face-plate E, made radiating from its usual central opening, *c*, and designed to receive the cutting-feet *a* of said dies and permit them to further extend beyond the face of said plate, so that a thread may be cut on a bolt up to its head before the jaws open or the cutting operation is otherwise discontinued. Slots *b* are made deep enough or of such length as to permit a proper longitudinal adjustment of the dies, and at the same time sustain the said cutting-feet, as well, also, the whole die, firmly during the entire operation of chasing screws, thereby resulting in the production of more perfect and true threads thereon.

F represents the usual radial set-screws for the dies, entering the outer ends of slides B, to abut the rear ends of said dies.

G represents thin, smooth-faced, and slightly-tapered plates or wedges lying in the grooves or sockets *g* of the slides B, one being intermediate one side only of each die and the adjoining inner wall of its said socket. The said inner wall of the die-socket is made smooth-faced and tapering to correspond with the face and shape of the wedge, as clearly shown in Fig. 3, and each wedge is placed on that side of the die which is opposite to that upon whose inner end the cutting edge or threads *d* are made. The smooth-faced wedge is also placed in position with its head outward and point inward, so that it will not interfere with the proper setting of the die. When the dies have been set as desired, the wedges are driven inwardly, so that they hold said dies firmly against any further longitudinal movement in either direction. To readily remove or reset the dies the wedges are simply driven backward by a slight blow or tap on their points, thereby freeing said dies without striking or

pressing on their cutting ends, which would otherwise injure them.

It will be seen that as the dies wear away in use and by regrinding, the wedges will hold 5 them firmly in place until they become quite short, which is an important feature by way of economy in the use and fitting of metal.

H represents the customary central hole or guide in the chuck for the entrance of the 10 shank of the bolt while being threaded.

I claim—

In a device for cutting or chasing screw-threads on bolts, &c., the combination of a 15 chuck or case, A, jaws B, set in radial grooves or ways therein, dies D, having outwardly-projecting cutter-feet *a*, radially-slotted fast-

ening or face plate E *b c*, for holding said dies to said jaws and receiving and firmly sustaining said cutter-feet, smooth-faced wedges or die set-plates G, and the chambers or sockets 20 *g*, each having one tapered wall for the accommodation of said dies and wedges, the whole being constructed, arranged, and adapted to operate substantially in the manner and for the purpose specified. 25

In testimony of which invention I have hereunto set my hand.

GEORGE EMIG.

Witnesses:

JOHN E. JONES,
JOHN ADAM.