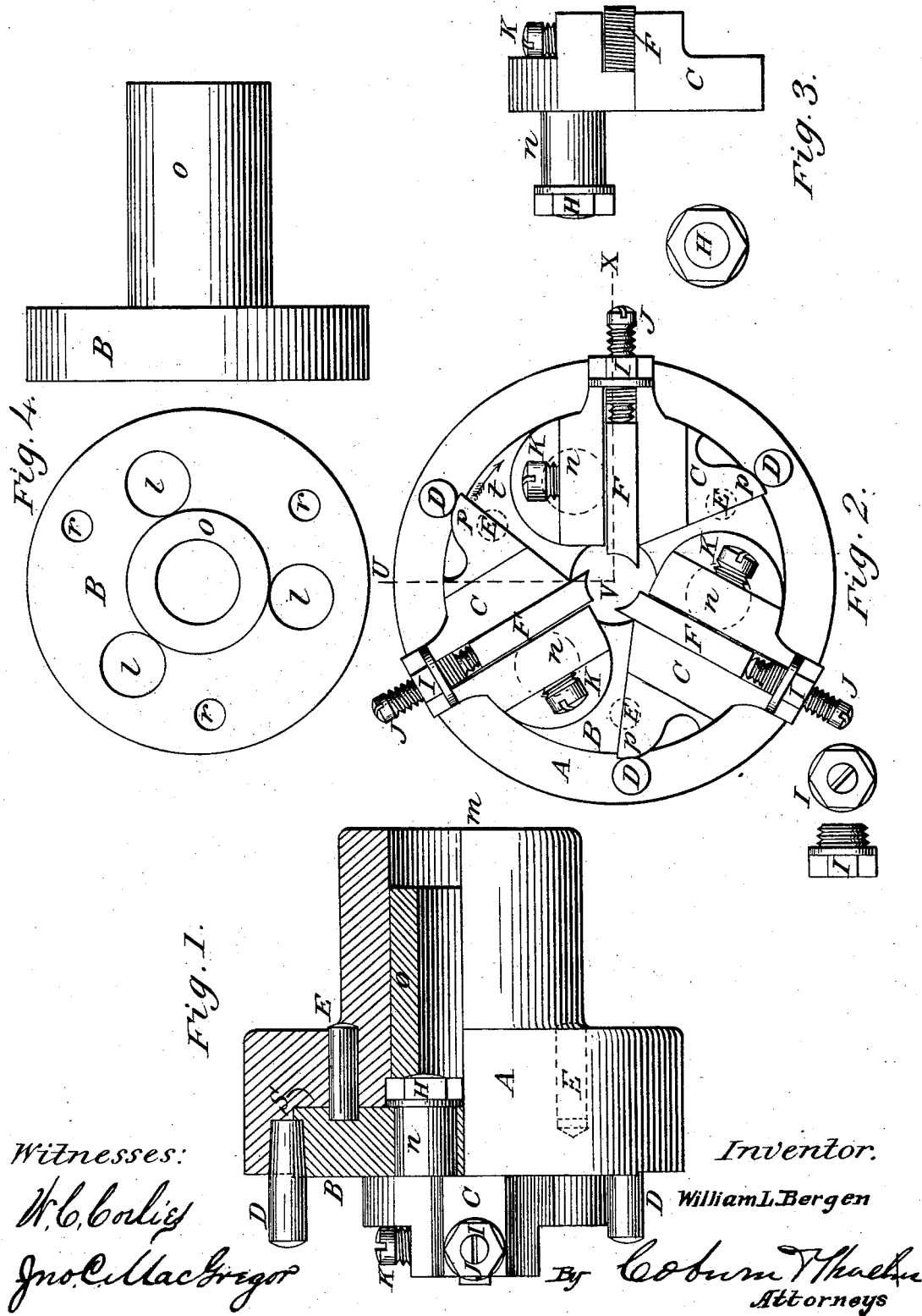


(No Model.)

W. L. BERGEN.  
SCREW CUTTING DEVICE.

No. 244,427.

Patented July 19, 1881.



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM L. BERGEN, OF BATAVIA, ILLINOIS.

## SCREW-CUTTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 244,427, dated July 19, 1881.

Application filed December 13, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. BERGEN, of Batavia, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Screw-Cutting Devices; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In developing the manufacture of screw-cutting dies it appeared essential that the dies should open at a given point and the screw be withdrawn from the dies without reversing the operation by which the screw is cut, and also that the opening of the dies should transpire at a given point, that all the screws may be cut precisely alike, and it is important that this be done by the use of simple mechanisms substantial in their construction and operating with accuracy and precision, in order to cut the threads of set-screws and other small screws which require accuracy and uniformity in their threads.

The novelty of my invention consists in the construction of the sleeve-plate and the chaser-holders and the mechanisms by which they are operated in connection with each other and the die-head.

In the accompanying drawings, Figure 1 represents a side elevation of the die-head and the parts which embrace my invention, with the portion, except the pins D and E, indicated by the dotted lines *u v x*, Fig. 2, cut away to show the interior construction; Fig. 2, a front view of the same; Fig. 3, a front-end view of one of the chaser-holders detached, and Fig. 4 the front and side view of the sleeve-plate detached.

The same letters of reference refer to the corresponding parts in the different figures.

In the accompanying drawings, A represents the die-head, which is intended to be used in connection with lathe and screw machines having turret or other tail stocks. It should be made of steel.

B is a sleeve-plate, which fits accurately into the die-head A, resting upon the shoulder S, as clearly shown in Fig. 1, the part O of the said sleeve-plate extending back into the die-head.

C indicate the chaser-holders, and they are pivoted to the sleeve-plate B by means of the pivot-pins *n*, which are rigidly attached to the chaser-holders C and pass through the holes *l* in the sleeve-plate B, and are held in place by the nuts H, as clearly shown in Fig. 1.

E are dowel-pins set in the die-head A, which project above the shoulder S and fit into the small holes *r* in the sleeve-plate B to keep it from turning in the die-head when it fits closely down upon the shoulder S.

F are the chasers, fitting closely in grooves in the chaser-holders, as clearly shown in Fig. 2.

I are hollow screws, made in the shape shown and screwed to a shoulder in the chaser-holders.

J are set-screws, which pass entirely through the hollow screws I and set the chasers F to the desired position.

K are also set-screws, that are set against the sides of the chasers F.

D are hardened-steel pins, set firmly in the die-head and projecting beyond its face, as shown, where the projecting cams P of the chaser-holders C rest against them and hold the chasers securely and firmly in place to cut the screw-thread. The projecting cams P of the chaser-holders C are of such shape that if the sleeve-plate B is turned in the die-head A in the direction indicated by the arrow *t*, Fig. 2, the chaser-holders may be turned back on their pivots *n* and open the dies so that the screw can be removed or the die-head drawn back over the screw-threads cut.

It will be observed that the sleeve-plate B can be turned in the die-head A only when it is drawn out from the shoulder S sufficiently far to clear the dowel-pins E, which is done when the check-screw of the tail-stock stops the die-head. The sleeve-plate is drawn forward and the moment it passes the dowel-pins E it turns and the chaser-holders open by turning on their pivot-pins *n*.

Springs may be used, if necessary, to turn the chaser-holders on their pivots.

In cutting small screws there is danger of injuring the thread when the chasers retrace the thread to remove the screw, and there is also danger of dulling or otherwise injuring the cutting-edges of the chasers.

It will be observed that the special constructions of the various parts of my invention may

be varied without changing the results, so far  
as opening and closing the chaser-holders and  
chasers and admitting of a quick removal of  
the screw after it is cut without injury to the  
chasers or screw-thread is concerned; but the  
above construction is a cheap and substantial  
form of construction, with few operating parts.

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

1. The combination of the chaser-holders C,  
provided with cams P, the pins D, the sleeve-  
plate B, dowel-pins E, and die-head A, for the  
purpose of holding the chaser-holders closed  
and admitting of their opening, substantially  
as specified.

2. The dowel-pins E, in combination with  
the die-head A, sleeve-plate B, and pivoted  
chaser-holders C, substantially as specified and  
shown.

3. The die-head A, provided with a shoulder,  
S, and dowel-pins E, the sleeve-plate B, fitting  
accurately in the die-head, the chaser-holders  
C, pivoted to the sleeve-plate B, provided with  
a cam, P, and the pins D, substantially as speci-  
fied and shown.

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Witnesses:

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