(No Model.)

K. MISCHKE.

SCREW CUTTING TOOL.

No. 417,574. Patented Dec. 17, 1889.

Fig. 1.

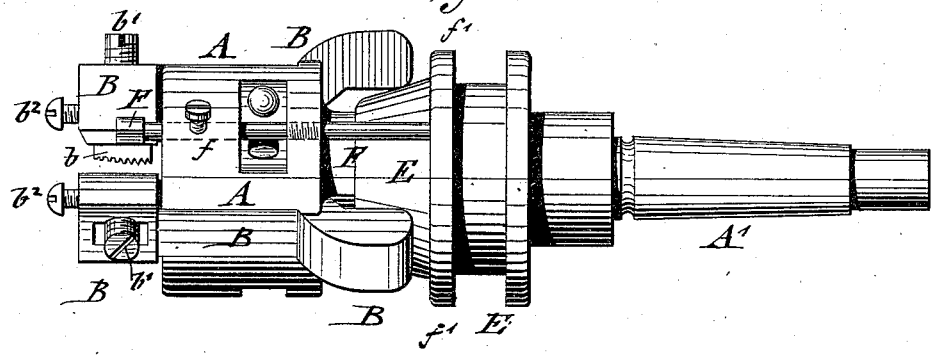


Fig. 2.

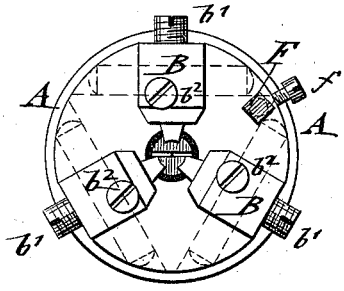
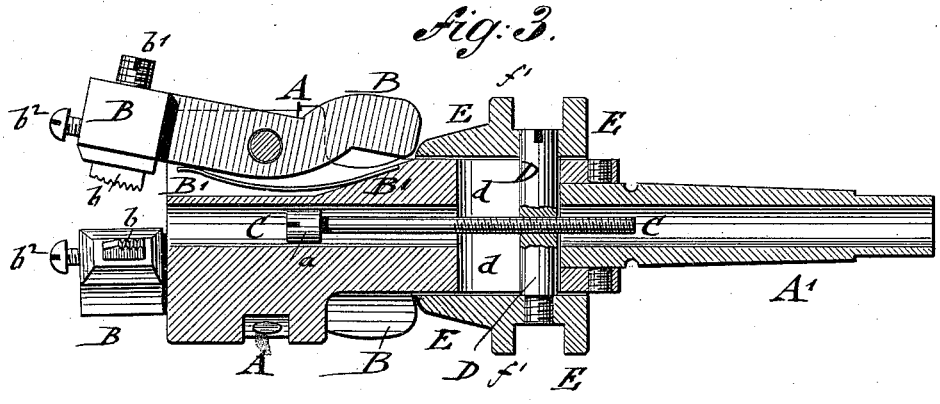


Fig. 3.



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SCREW-CUTTING TOOL.

SPECIFICATION forming part of Letters Patent No. 417,574, dated December 17, 1889.

Application filed February 28, 1889. Serial No. 301,553. (No model.)

To all whom it may concern:

Be it known that I, KARL MISCHKE, of the city, county, and State of New York, a citizen of the German Empire, have invented certain new and useful Improvements in Screw-Cutting Tools, of which the following is a specification.

This invention relates to an improved screw-cutting tool which is automatically stopped whenever the required length of thread is cut and released from the threaded article, so as to permit the removal of the same without necessitating the return of the threading device; and the invention consists of a tool for cutting screw-threads which comprises a tubular main piece or stock, fulcrumed and spring-actuated levers which carry the screw-cutting dies, and an interior screw-bolt that is connected by a cross-head to a shiftable sleeve on the exterior of the tubular stock, said sleeve being provided with a beveled front part that engages the rear ends of the die-levers, so as to release the same whenever the sleeve is shifted by the contact of the article to be threaded with the interior shifting screw.

In the accompanying drawings, Figure 1 represents a side elevation of my improved screw-cutting tool. Fig. 2 is an end view, and Fig. 3 a vertical longitudinal section, of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the tubular main part or stock of my improved screw-cutting tool, which stock is provided at the rear end with a slightly-tapering extension A′, of smaller diameter, by which latter it is inserted into one of the centers of a lathe. To lugs at the front part of the stock A are fulcrumed spring-actuated levers B B, which carry at their front ends in suitable transverse openings the screw-cutting dies *b b*, which are adjusted to the proper size of shank to be threaded and fed forward when worn by adjusting-screws *b′* and screwed firmly in position by clamp-screws b^2.

At the interior of the tubular stock A is arranged a shifting screw C, which passes through a threaded hole of a transverse cross-piece D, that is guided in a slot *d* of the stock A, and secured at the outer ends to a circumferentially-grooved sleeve E, that is shifted forward or backward on the stock A either by hand or by means of a forked lever applied to the grooved part of the sleeve E, as desired. The front end of the shifting screw C is provided with a nicked head *a*, that is engaged by a suitable screw-driver inserted into the tubular stock A, so as to adjust thereby the shifting screw for the required length of screw-thread in the cross-piece D. The front part of the sleeve E is conically beveled and forms contact with the rear ends of the die-levers B when the sleeve E is moved forward on the stock, as shown in Fig. 1. In this position the dies *b b* are in a position to cut into the shank fed to the same, so as to produce a screw-thread thereon. As the shank is fed forward into the tubular stock A by the action of the cutting-dies the end of the shank finally abuts against the head of the shifting screw C and produces the backwardly-shifting motion of the sleeve E, so that the beveled front end of the same releases the rear ends of the die-levers and permits the front ends of the same to be moved in an outward direction by the action of springs B′, which are interposed between the tubular stock A and the levers B. The dies clear thereby the threaded shank and permit the removal of the same without turning the screw-cutting tool in an opposite direction for removing it from said shank.

By adjusting the shifting screw C in the stock any length of thread may be cut on the shanks of rods, hooks, or other articles, the cutting action of the dies being automatically interrupted whenever the proper length of thread is cut, as at that moment the shifting screw is pushed backward and the sleeve shifted, the die-levers released, and the dies moved away from the shank.

For adjusting the cutting-dies for threading different sizes of shanks without requiring the resetting of the cutting-dies in the front ends of the die-levers a longitudinal rod F is secured by a clamp-screw *f*, or otherwise, in the front part of the stock at a point immediately between two of the die-levers B, said rod being capable of longitudinal adjustment in said stock, so that its rear end may be set closer to or farther away from the cir-

cumferential flange of the sliding sleeve E. The sliding sleeve E abuts by its circumferential flange f' against the rod F, which controls the forward shifting motion of the sliding sleeve E, and permits the setting of the cutting-dies to different sizes of shanks to be threaded. The rear ends of the die-levers pass to a smaller or larger distance over the conical front end of the sleeve E, and set thereby the cutting-dies more or less close together, as required.

The automatical stop action is accomplished by the interior shifting screw C in the same manner as before described, whatever be the position of the stop-rod F in the stock.

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

1. The combination of a tubular stock, spring-actuated die-levers fulcrumed to said stock and provided with adjustable cutting-dies at their front ends, a sliding sleeve placed on said stock and provided with a tapering front end, an adjustable shifting screw located at the interior of the stock, and a cross-piece connecting the shifting screw with said sleeve, said cross-piece being guided in a transverse slot of the stock, substantially as set forth.

2. The combination, with a tubular stock, fulcrumed and spring-actuated die-levers having dies at their front ends, a sliding sleeve located on the rear part of the stock and provided with a conically-tapering front end, a shifting screw in said stock connected to said sliding sleeve, and an adjustable stop-rod passing longitudinally through the stock, so as to control the length of shifting motion of the sleeve, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

KARL MISCHKE.

Witnesses:
PAUL GOEPEL,
MARTIN PETRY.