

(No Model.)

D. G. LANGLANDS & O. E. MOULTON.

REAMER HEAD FOR TAPS.

No. 395,909.

Patented Jan. 8, 1889.

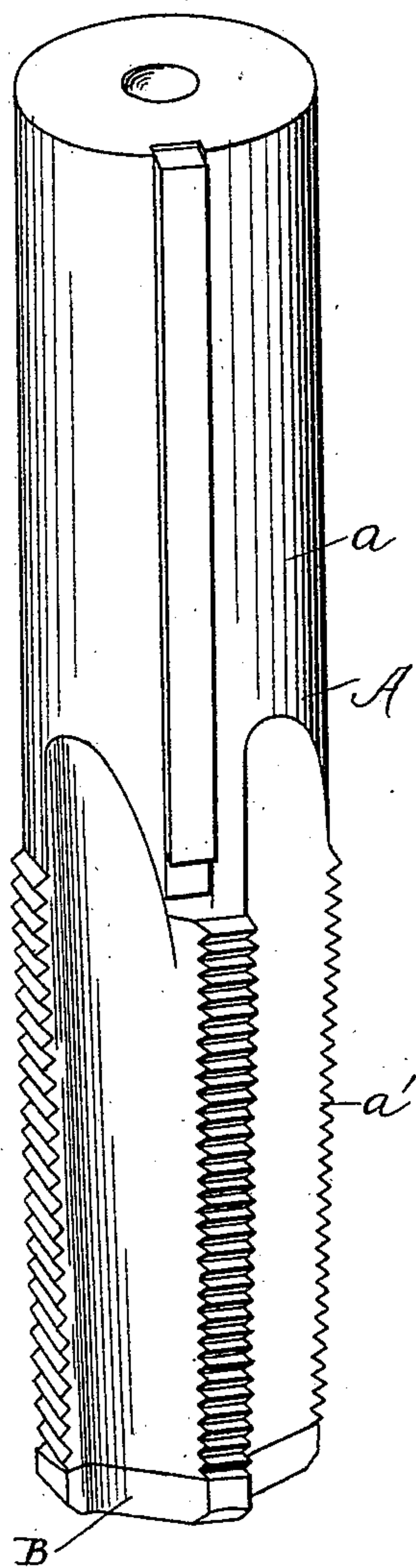


Fig. 1.

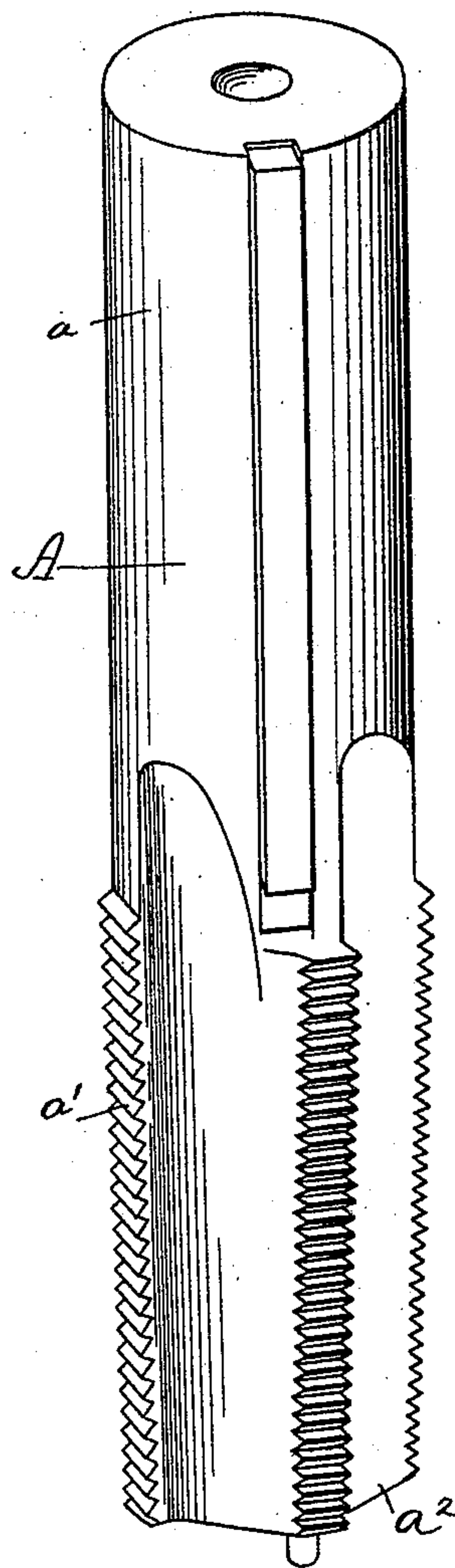


Fig. 2.

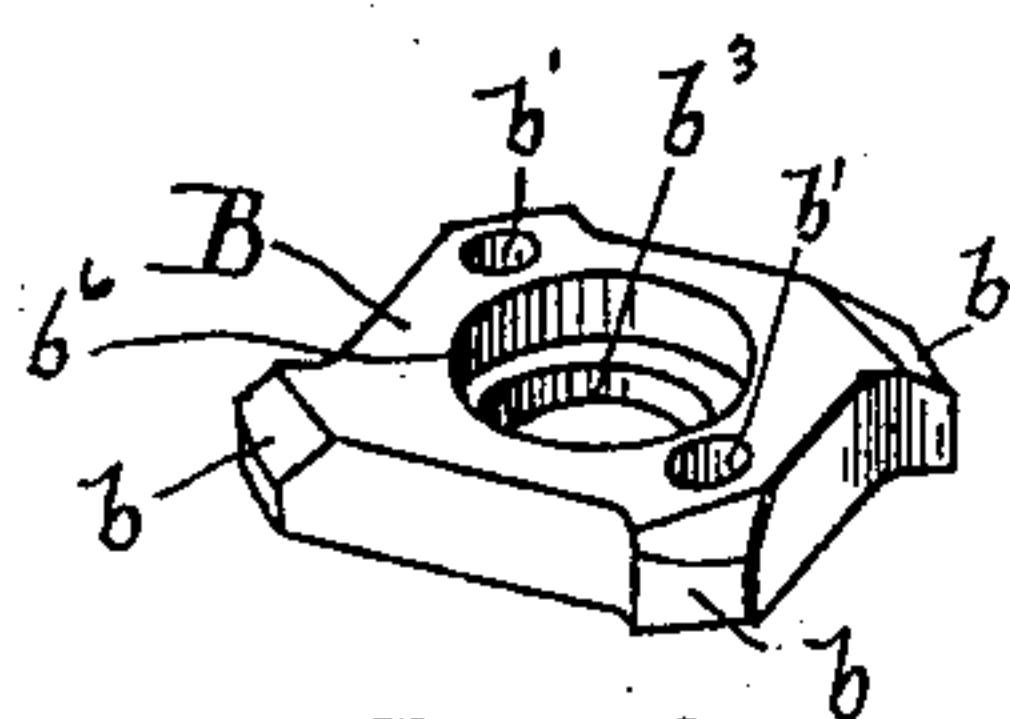


Fig. 4.

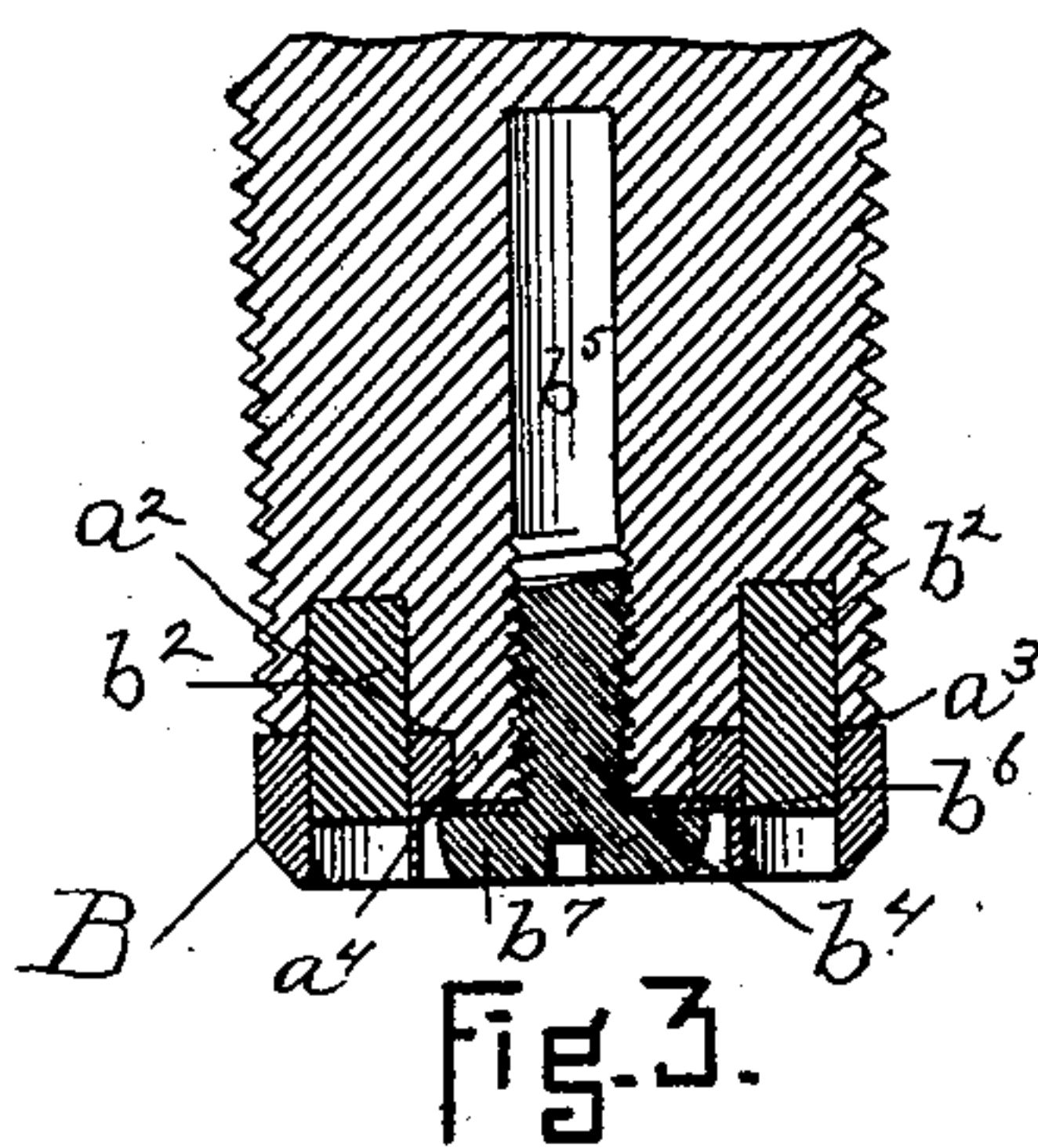
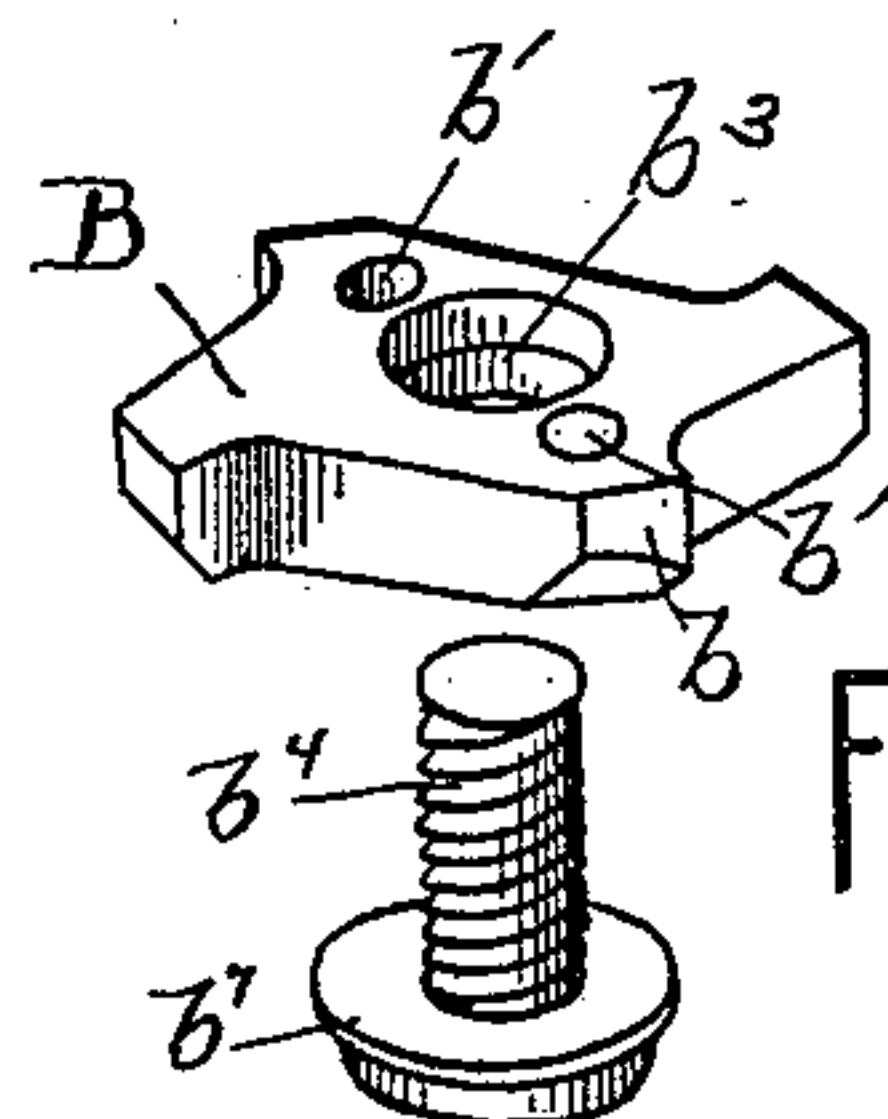


Fig. 3.



WITNESSES.  
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# UNITED STATES PATENT OFFICE.

DANIEL G. LANGLANDS AND OTIS E. MOULTON, OF DOVER, NEW HAMPSHIRE,  
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## REAMER-HEAD FOR TAPS.

SPECIFICATION forming part of Letters Patent No. 395,909, dated January 8, 1889.

Application filed November 7, 1887. Serial No. 254,573. (No model.)

*To all whom it may concern:*

Be it known that we, DANIEL G. LANGLANDS and OTIS E. MOULTON, both of Dover, in the county of Strafford and State of New Hampshire, both citizens of the United States; have invented a new and useful Improvement in Taps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

Our invention relates to a tap of special construction having a boring or drilling tool or cutter removably secured to its lower end in a particular manner.

In the drawings, Figure 1 represents a view in perspective of a tool having the features of our invention. Fig. 2 is a view, also in perspective, showing the supplemental cutter removed. Fig. 3 is a vertical central section of the lower part of the tool with the supplemental cutter in place. Fig. 4 is a bottom view, in perspective, of the independent cutter.

Referring to the drawings, A represents the tool. It comprises a shank,  $a$ , adapted to be secured to a spindle, and having the thread or other cutters  $a'$ . Its lower end,  $a^2$ , is provided with a square surface,  $a^3$ , and a central projection,  $a^4$ . This surface and the edge of the projection form a seat for the supplemental or additional cutter B. This cutter has the teeth or cutting projections  $b$  and the dowel-holes  $b'$ , which fit the dowel-pins  $b^2$ , extending

from the end of the tap-section of the tool. It also has the hole  $b^3$ , which fits upon the projection  $a^4$ , and it is locked in place to the end of the section  $a$  by means of the dowel-pins, and a screw,  $b^4$ , which screws into the threaded hole  $b^5$  in the section  $a$  of the tool. The cutter B has in its under surface the countersink or recess  $b^6$ , of sufficient size to receive the head  $b^7$  of the screw.

We are aware that it is not broadly new to removably secure a cutter or other tool to a tap, and we do not, therefore, wish to be understood as claiming such a device, broadly.

Having thus fully described our invention, we claim and desire to secure by Letters Patent of the United States—

The combination, with the tap A, having at its lower end the central stud or projection,  $a^4$ , the dowel-pins  $b^2$ , and the threaded hole  $b^5$ , of the independent cutting, drilling, or boring tool B, having holes  $b'$  for the reception of the said dowel-pins, the central opening or hole,  $b^3$ , fitting on the said projection  $a^4$ , and the countersink or recess  $b^6$  in its lower face, and the screw  $b^4$ , the head of which fits in the said countersink or recess, substantially as set forth.

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Witnesses:

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