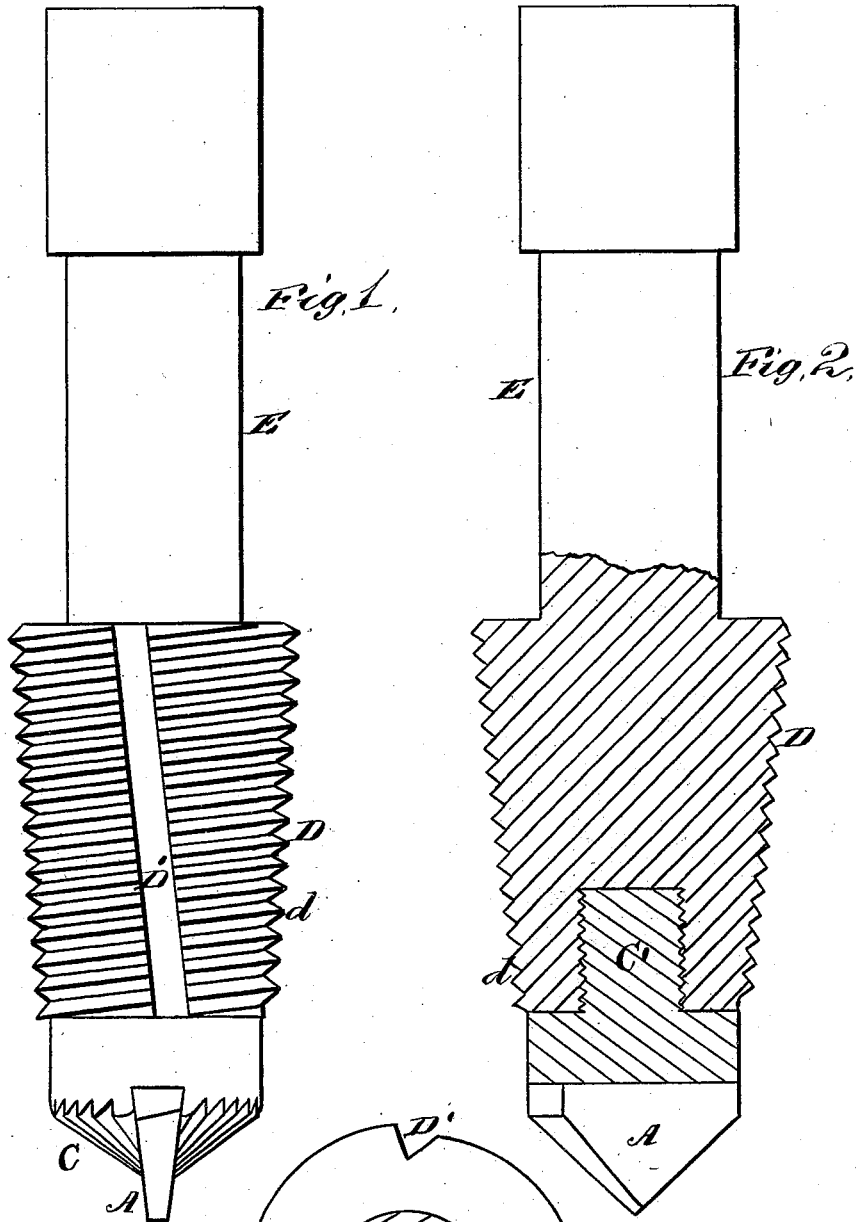


C. PETERSON & A. DUNNEBAKE.

COMBINED DRILL, REAMER AND TAP.

No. 188,405.

Patented March 13, 1877.



WITNESSES
E. H. Bates Fig. 3,
Robert Covatt

INVENTORS:
Charles Peterson,
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ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES PETERSON AND ANTON DUNNEBAKE, OF DETROIT, MICHIGAN.

IMPROVEMENT IN COMBINED DRILL, REAMER, AND TAP.

Specification forming part of Letters Patent No. **188,405**, dated March 13, 1877; application filed February 3, 1877.

To all whom it may concern:

Be it known that we, CHARLES PETERSON and ANTON DUNNEBAKE, of Detroit, in the county of Wayne and State of Michigan, have invented a new and valuable Improvement in Drill, Reamer, and Tap Combined; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a front view of our drill and reamer combined, and Fig. 2 is a central vertical sectional view thereof. Fig. 3 is a transverse sectional view of the same.

This invention consists in the combination of a drill, reamer, and tap in a single drill, for machinists' use, substantially as hereinafter described.

In the annexed drawings, A designates an ordinary drill bit or blade, which is dovetailed into the bottom of an ordinary tapering fluted reamer, C. Said reamer has a screw-threaded shank, C', whereby it is secured in a corresponding threaded socket in the lower end of

a tapering tap, D. Said tap has the usual spiral cutting or threading ridges *d d* and oblique grooves *D'*, crossing the same at right angles. It is formed upon or rigidly secured upon a stock or shank, E.

By means of this combined tool a hole can be readily drilled, enlarged, and screw-tapped at a single operation, no change of tools being required. The several parts may be readily separated and cleansed. The reamer and tap may be used without the drill-bit, or the tap may be used alone.

What we claim as new, and desire to secure by Letters Patent, is—

The improved tool consisting of the drill A, the tapering fluted reamer C, and the tap D, the several parts connected substantially in the manner as described, and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

CHARLES PETERSON.
ANTON DUNNEBAKE.

Witnesses:

AUGUST KUENZEL,
S. P. MARSH.