

(No Model.)

F. HOERLE, Jr.
SCREW TAP.

No. 428,490.

Patented May 20, 1890.

Fig. 1.



Fig. 2.

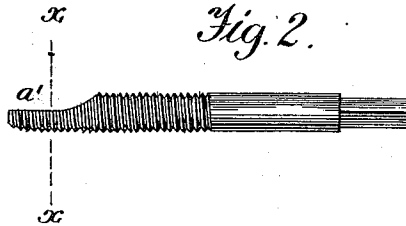


Fig. 3.



Fig. 4.

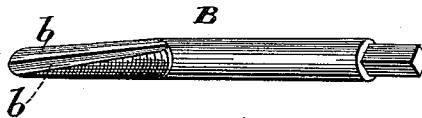


Fig. 5.



Witnesses.
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SCREW-TAP.

SPECIFICATION forming part of Letters Patent No. 428,490, dated May 20, 1890.

Application filed March 22, 1890. Serial No. 344,964. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK HOERLE, Jr., a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Taps for Cutting Threads; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 The special object of my invention is to make a tap for cutting threads with a single cutting-edge, which will not break from the necessary strain to which it is subjected, which will not collect chips, and which may
20 be employed as a plug-tap.

Figure 1 of the drawings is an elevation showing one form of tap; Fig. 2, a similar view showing another form of tap, and Fig. 3 a cross-section on the dotted line xx of Fig. 2. Fig. 4 is an elevation showing the form of tap which I have discovered by many experiments to combine the qualifications which are the object of my invention. Fig. 5 is a cross-section of Fig. 4.

30 In the drawings, A represents the tap shown in Fig. 1 of the drawings, and which has the nipple a at the point with the diametrical cut a' . The nipple is found in practice to leave a space for the collection of cuttings or chips
35 and prevents the tap from being used as a plug-tap; hence it fails in these two respects to make a desirable tap. I next dispensed

with the nipple and retained the diametrical plane of cut, but found on trial that this lacked the necessary strength to bear the incidental strain without great liability to break. I also tried milling toward the central flat surface on a spiral and found it to make a good cutting-tap; but it was, however, expensive to manufacture, and withal not
45 endowed with the strength which I required. Finally, after experimenting at various times from June, 1889, to the present date, I discovered that the tap B (shown in Fig. 4 of the drawings) best fulfills all requirements. 50 The tap B works with but one cutting-edge, has no nipple at the end to collect chips or to prevent it from being used as a plug-tap, and resists every strain. The strength, durability, and lasting quality come from the peculiar
55 manner in which I have made the excisions $b b$ in oblique planes whose meeting edges form an angle or convexity above the axis of the tap.

Having thus described all that is necessary to a full understanding of my invention, what I claim as new, and desire to protect by Letters Patent, is—

A tap for cutting threads, cut away on two planes $b b$, rising from opposite lines across
65 the threads until they meet in a sharp convexity or ridge over the axis, substantially as shown and described.

In testimony whereof I have affixed my signature in presence of two witnesses.

FREDERICK HOERLE, JR.

Witnesses:

GEO. W. LANZ,
EDWARD HAUCH.