

T. H. Palmer,

Countersink.

No. 112,176.

Patented Feb. 28. 1871.

Fig. 1.

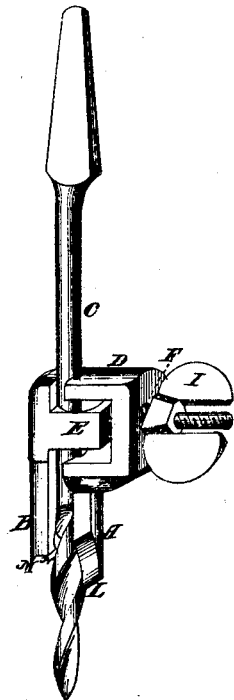


Fig. 2.

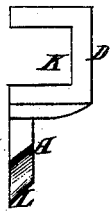


Fig. 3.

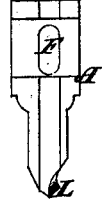


Fig. 4.

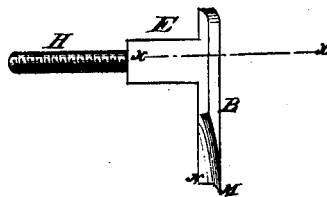


Fig. 5.

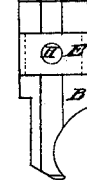
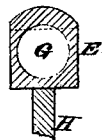


Fig. 6.



WITNESSES.
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United States Patent Office.

FRANK H. PALMER, OF FOXCROFT, MAINE.

Letters Patent No. 112,176, dated February 28, 1871.

IMPROVEMENT IN COUNTERSINKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, FRANK H. PALMER, of Foxcroft, in the county of Piscataquis and State of Maine, have invented a new and improved Countersinking and Reaming Attachment to Boring Instruments; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to devices for or modes of fastening a reamer and countersink to a boring-bit, so that either may be readily used without the removal of the other from the borer.

I will first describe my invention in connection with all that is necessary to a full understanding thereof, and then clearly point it out in the claim.

Figure 1 is an elevation of a bit, and perspective view of my improved attachments applied to it;

Figure 2 is a side view of my improved countersink;

Figure 3 is a side view of the same, taken perpendicular to that of fig. 2;

Figure 4 is a side view of the reamer;

Figure 5 is another side view of the same; and

Figure 6 is a horizontal section of fig. 4.

Similar letters of reference indicate corresponding parts.

I propose to attach a countersinking tool, A, and a reaming tool, B, to the shank of a boring tool, C, by clamping them thereon, in a manner to admit of adjusting them along the tool, also with reference to each other, and to hold them so that, when the tool has entered the wood or other substance bored the required distance, the holes will be countersunk or reamed, as the case may be; and for this purpose I provide the tools A B with a slight groove along the face, which fits against the shank of the tool C, and one of them I provide with the bridge D, and the other with the lug E, the said bridge having a slotted or elongated hole, F, and the lug E, a large hole in the longitudinal direction of the tool B; also the

screw-threaded shank H, which passes through the hole F, when the two tools are placed against the shank of the tool C, on opposite sides, the said tool passing through the hole G and the lug E, being placed in the space between the ends and the top of the bridge D.

A thumb-nut, I, is then secured on the stud or shank H, and clamps the whole together, confining the tools to the shank of tool C, at any required point along the same, according to the depth of the hole to be bored and countersunk or reamed.

The space at K under the bridge D, which is provided for the reception of the lug E, is made considerably wider than the thickness of the said lug, to admit of adjusting the two tools along the shank of tool C, so that one may be used without the other; for instance, if the countersink A is to be used, the tool B will be raised relatively to the other till the lug E will come against the wall of bridge D at the upper end of space K; but if the reamer is to be used, then the lug will be brought against or near to the lower wall of the said space.

The points of the tools A B may be of any form best calculated for the work required of them.

In this instance the countersink is provided with the oblique concave bit, shown at L, and the reamer has a vertical lip, M, at the outer corner of a horizontal cutter, N, as shown at figs. 1 and 4.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The apertured lug E, having threaded shank H, and the slotted bridge D, combined as described, with a thumb-nut, I, to fasten the counter B and reamer A to the boring-bit, so that either tool will come into action according as the lug E is at the upper or lower side of the bridge D.

FRANK H. PALMER.

Witnesses:

AUGUSTUS G. LEBROKE,
HORACE F. GRANT.