



# United States Patent Office.

MOSES MAGOON PETTES, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 110,494, dated December 27, 1870.

## IMPROVEMENT IN COUNTERSINKS.

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

To all persons to whom these presents shall come:

Be it known that I, MOSES MAGOON PETTES, of Worcester, in the county of Worcester and State of Massachusetts, have invented a certain new and useful improved Countersink; and that the following is a full and exact description of the same, reference being had to the accompanying drawing.

The present invention consists of a novel-constructed countersink, adapted for attachment to and detachment from the shank of a boring bit.

In the accompanying drawing my improved countersink is illustrated.

Figure 1 is a side view of a countersink attachment, showing it as applied to a shank, and illustrating the several parts of this invention.

Figure 2, a transverse section in plane of line  $x x$  through countersink attachment.

Figure 3, a cross-section in plane of line  $y y$ , fig. 1, with the countersink attachment removed.

Figure 4, a side view of a gimlet with a countersink applied to its shank.

A in the drawing represents my improved countersink.

B, the stock of the countersink, with its body, C, tubular in shape, and provided on one side with parallel projecting ear-pieces  $a a$ .

D, a knife-blade placed in dovetail grooves  $b$  of the ear-pieces  $a$ , extending between the two and in a direction at an acute angle to the axis of the body C toward its lower end E.

This blade, at its lower end  $d$ , is sharpened, and, by means of a set-screw, F, screwing into the ear-pieces  $a$ , the blade can be firmly fastened and bound in and between the ear-pieces  $a$ .

G, a set-screw inserted in one side of body C, for securing the same to and over the shank or stem of a bit or other boring-tool.

With a countersink constructed as above described applied to the shank of a bit or other boring-tool, as, for instance, a gimlet, (see fig. 4.) and, by its set-screw, G, fastened in position, and its knife-blade, D, properly adjusted, the bore produced by the gimlet, when it has reached a depth for the cutting-blade D to act, will be countersunk.

The blade D, by loosening the set-screw F holding it in position, can be adjusted for bit-shanks of greater or lesser diameter.

It is also susceptible of attachment and detachment at pleasure for sharpening its cutting-edge or the insertion of a new blade.

H, a guard or lip applied by its slot  $f$ , over the set-screw F, to the body C. This guard H projects beyond the plane of the body C, and by it the amount of countersink to be produced by the cutting-blade can be regulated or adjusted—that is, made either more or less in depth.

This guard H is also advantageous as a means of regulating the depth to which the bit or gimlet can bore.

In fig. 1 the countersink A is shown as applied to a stem or shank, L, which is to be suitably constructed at one end, I, to be secured in a bit-stock, and at the other is constructed with a head, K.

This head K is generally of a conical shape, but has its sides at  $g$  and  $h$  partially cut away so as to form, with the inclination of the countersink knife-blade D, a throat,  $m$ , between its cutting-edge and the edge of corner  $n$  of the head, producing a complete countersink-bit in itself, for use in holes previously bored.

The cutting-blade D, for insertion and removal as described, may be applied and arranged at an angle of inclination directly on a bit-shank, &c., in lieu of through the medium of the stock B.

Having thus described my improved countersink, What I claim, and desire to secure by Letters Patent, is—

The improved countersink A, constructed of body C, having ear-pieces  $a a$ , knife-blade D, set-screws F G, and adjustable guard or lip H, substantially as described and for the purpose set forth.

The above specification of my invention signed by me this 2d day of July, 1870.

M. M. PETTES.

Witnesses:

EDWIN W. BROWN,  
ALBERT W. BROWN.