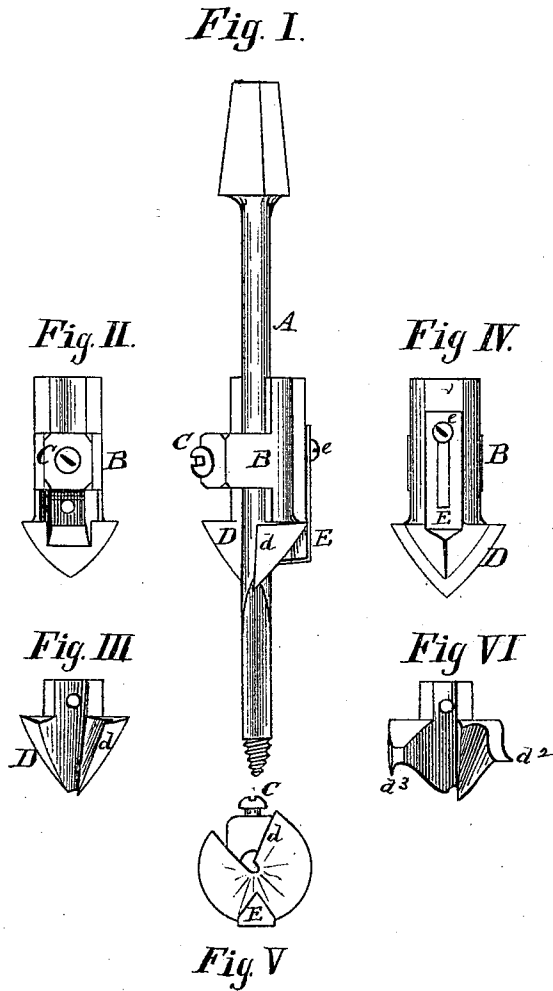


W. H. LAUGHLIN.
COUNTERSINKS.

No. 178,448.

Patented June 6, 1876.



Witnesses.

A. P. Tibbitts
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UNITED STATES PATENT OFFICE.

WILLIAM H. LAUGHLIN, OF HINCKLEY, OHIO.

IMPROVEMENT IN COUNTERSINKS.

Specification forming part of Letters Patent No. 178,448, dated June 6, 1876; application filed September 11, 1875.

To all whom it may concern:

Be it known that I, WILLIAM H. LAUGHLIN, of Hinckley, in the county of Medina and State of Ohio, have invented a Countersink, of which the following is a specification:

This invention relates to a device to be attached to a gimlet or auger-bit, whereby the countersink for a screw or bolt head may be cut at the same time and by the one operation of boring with the bit. It consists of a sleeve to be slipped onto the bit, and secured in the desired position thereon by a set-screw, and which is provided at its lower end with a detachable cutting-lip, as hereinafter described. The device is also provided with an adjustable stop, to provide for cutting the countersink to any required depth.

To enable others to fully understand my invention, I proceed to describe the same in detail with the aid of the accompanying drawing, in which—

Figure 1 represents a bit having my improved countersink attached. Fig. 2 is a detached view of the sleeve with the cutting-lip detached. Fig. 3 is the detached lip. Fig. 4 is a reverse side view of the aforesaid sleeve and cutting-lip, showing the adjustable stop. Fig. 5 is an end view of the same. Fig. 6 represents a modified construction of the cutting-lip designed for cutting a plug-seat, together with the countersink.

A, Fig. 1, is a bit, which may be of the ordinary construction. B is a sleeve, having a longitudinal opening through it large enough to accommodate different-sized bits, and is partly cut away on one side, leaving a portion at the central part, in which is placed a set-screw, C, for securing the device to the bit. The lower part of sleeve B has a cone-shaped projection, in which is formed a seat to receive a cone-shaped countersink-cutter, D. (Seen in detached view, Fig. 3.) The cutter D has a cutting-lip, *d*, which passes down to a point, so as to come into contact with the

bit, whether the same be a large or small sized bit. The cavity in the said cutter D is not made round, but is angular, and reaches in under the point of the lip *d*, the object of which is that the said lip shall properly center with the various-sized bits to which it may be attached, thus adapting the device to be used with various-sized bits.

In Fig. 6 I have shown a modified construction of the cutter, which has a countersink-cutting lip, terminating in a horizontal lifting-lip, *d*², the opposite side having a downwardly-projecting cutting-lip; *d*³. This cutter is designed for cutting a plug-seat together with the countersink.

On one side of the sleeve is attached an adjustable stop, E, consisting of a slotted plate having a shoulder and projection, the point of which rests in a small groove in the side of the cone. Said plate is secured in place by a set-screw, *e*. This stop may be adjusted to allow the countersink to be cut any required depth, or turned up out of the way if not required for use.

This is a perfect device for cutting countersinks for screws or bolt-heads, and is very economical, from the fact that it is readily adapted to different-sized bits.

This device may be constructed in one piece instead of having the cutting-lips detachable, if desired, but it is preferable to make lips detachable on the score of economy.

Having described my invention, I claim—

The herein-described countersink-cutting device, consisting of the sleeve B, provided with the detachable cutter D, set-screw C, and stop E, combined and arranged to operate with the boring-bit A, substantially in the manner set forth.

WM. H. LAUGHLIN.

Witnesses:

GEO. W. TIBBITS,
H. B. TIBBITS.