(No Model.)

# E. C. HEYDENREICH.

## PLUG CUTTER.

No. 475,559. Patented May 24, 1892.

Fig. 1.

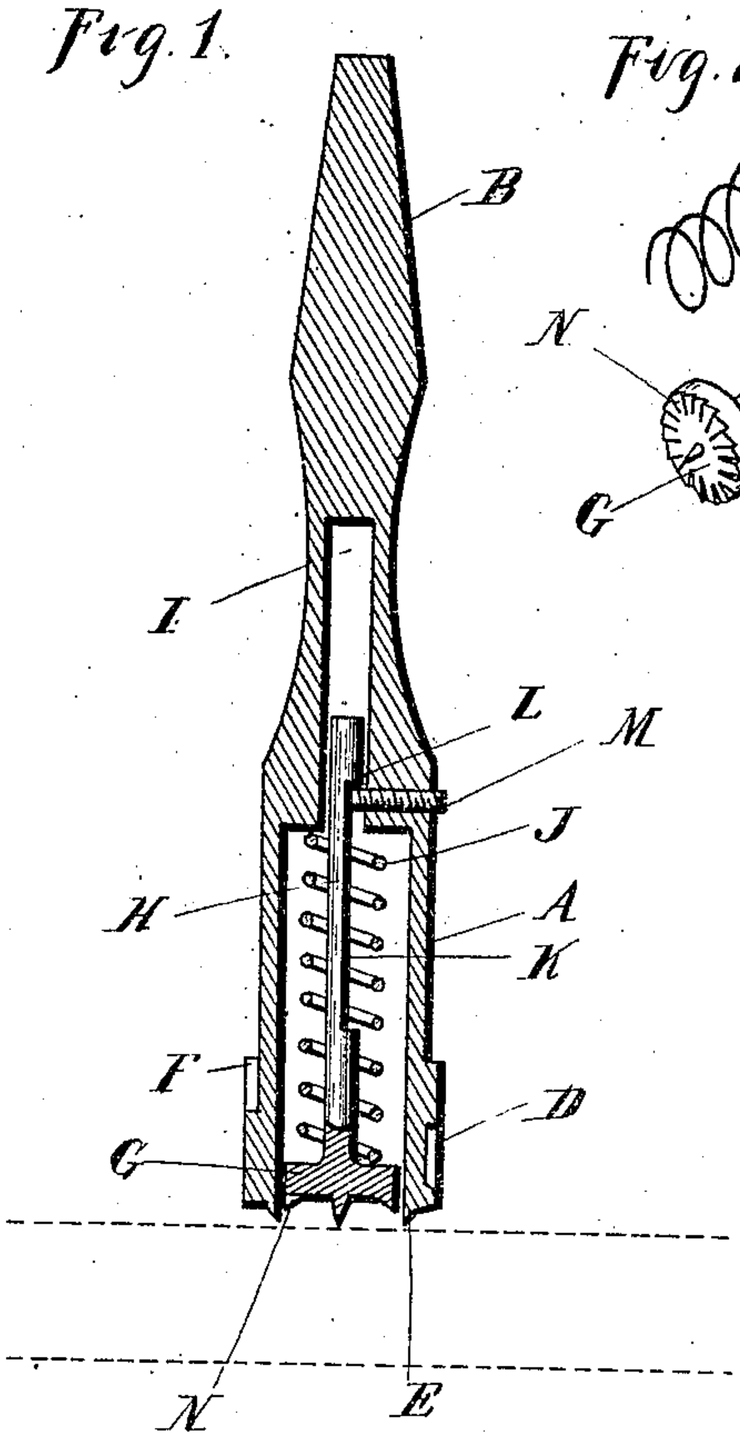


Fig. 2.

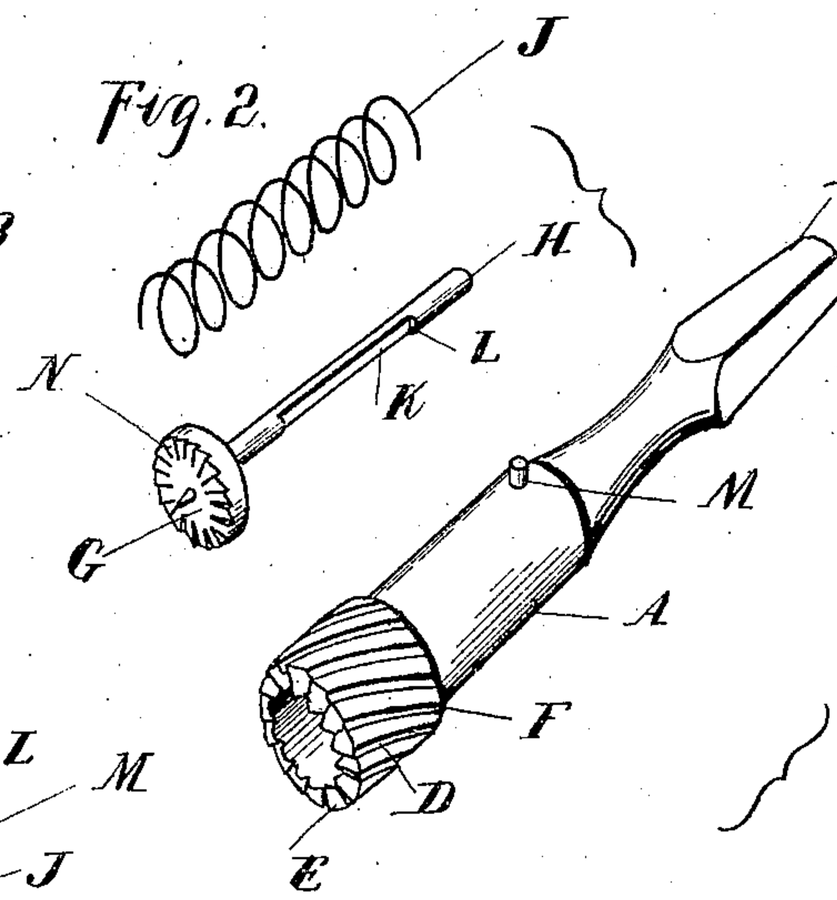


Fig. 3.

Witnesses
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# UNITED STATES PATENT OFFICE.

ERNST C. HEYDENREICH, OF MOUNT CLEMENS, MICHIGAN.

## PLUG-CUTTER.

SPECIFICATION forming part of Letters Patent No. 475,559, dated May 24, 1892.

Application filed January 22, 1891. Serial No. 378,734. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST C. HEYDENREICH, a citizen of the United States, residing at Mount Clemens, in the county of Macomb and State of Michigan, have invented certain new and useful Improvements in Plug-Cutters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in plug-cutters; and the invention consists in the peculiar construction of a tool designed to cut a circular hole, to form a plug, and to furnish the plug for use in filling countersinks, &c., in fine wood-work, all as more fully hereinafter described.

In the drawings, Figure 1 is a vertical central section of the tool. Fig. 2 shows in perspective the parts of the tool detached, and Fig. 3 shows a finished plug.

A is the body of the tool, having a squared shank B, adapted to fit in an ordinary brace. The body is in the form of a cylinder and is provided at its lower end with an enlarged head provided on the outside with spiral grooves D, forming passages for the exit of the sawdust and chips, and on the lower edge with cutting-teeth E. The edges F of the grooves D may be cutting-edges also, if desired. Within the body is a head G, sliding therein and guided against the sides of the casing.

H is a stem secured to the head and extending into an aperture I, extending into the shank. A spring J bears with one end against the upper end of the cylindrical chamber and at its lower end against the upper face of the head G. The stem H is cut away upon one side, forming a flat face K, with shoulders L at each end.

M is a set-screw passing through the body of the tool and entering the aperture I, bearing against the face K, preventing the stem from turning. The upper shoulder L acts as a stop to the downward movement of the stem and its head. The head is provided with triangular teeth N, arranged around the lower face.

The parts being thus constructed, their operation is as follows: In fine wood-work, where the fastening-screws are countersunk, plugs are driven in such countersink. My tool, being one any carpenter can conveniently carry in his chest, can be used with a brace to cut a plug from any small piece of wood to match the material into which it is to be driven. The tool being rotated, the teeth E cut a cylindrical hole leaving a central plug, which is free to enter the aperture, pushing inwardly the head G against the tension of the spring, the teeth N meanwhile cutting off the corners of the plug, as shown in Fig. 3. The plug may be readily entered into the countersink, inserting that end which is trimmed down, and the grain of the wood may be made to match with the body of the piece, so that it will be almost impossible to locate the plugs.

In my pending application, Serial No. 416,355, filed December 28, 1891, I have shown, described, and claimed a spring-supported cutter arranged within the head, which is in some respects analogous to the present invention.

What I claim as my invention is—

1. In a plug-cutter, the combination, with the body having an enlarged head formed with a series of longitudinally-inclined grooves on its outer face, a hollow center, and cutting-teeth on its lower edge, of a sliding head within the head, having a series of teeth on its outer face, a stem supporting said sliding head, and a spring surrounding the stem within the body, substantially as described.

2. In a plug-cutter, the combination, with a hollow body having a series of spiral grooves on its lower end and a series of teeth on the lower edge of the groove portion, of a sliding head within the body formed with a series of radial teeth on its outer face, a stem supporting the sliding head, and a spring for normally forcing the head out, substantially as described.

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

ERNST C. HEYDENREICH.

Witnesses:

M. B. O'DOGHERTY,

N. L. LINDOP.