(No Model.)

# E. E. DOE.

## COMBINED SCRATCH AND BIT GAGE.

No. 413,178. Patented Oct. 22, 1889.

Fig. 1.

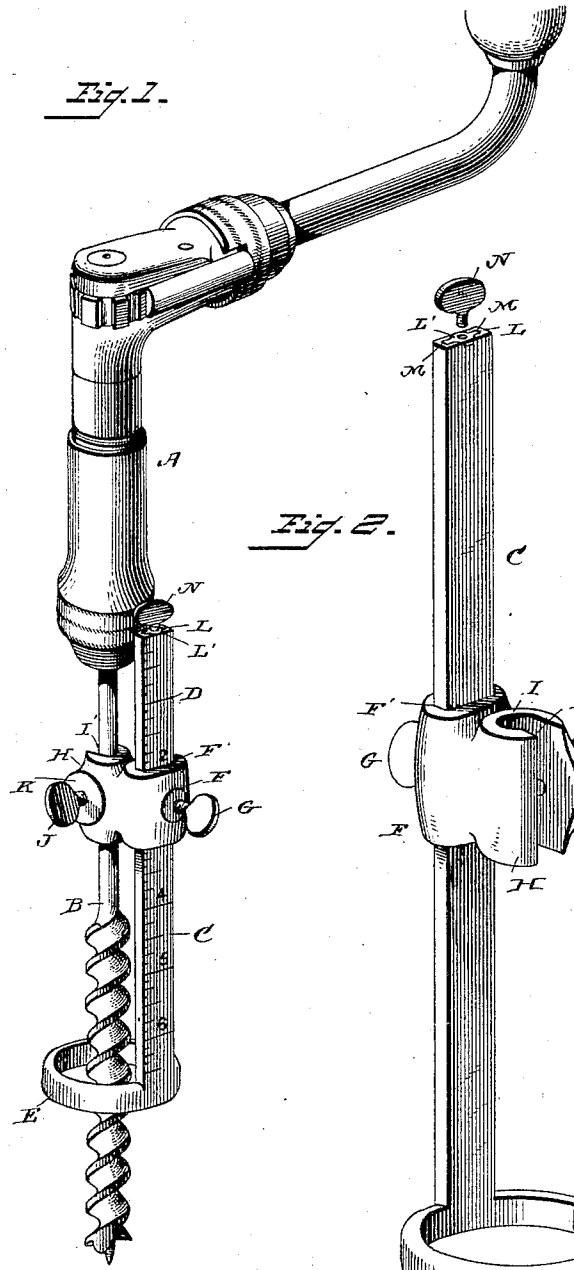


Fig. 2.




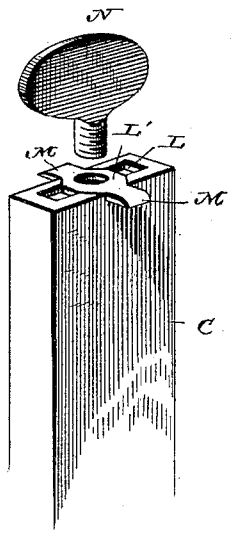


Fig. 3.

Witnesses
Wm. J. Speidel
V. L. Mason

Inventor
Elmer E. Doe

By his Attorney
Franklin H. Hough

# UNITED STATES PATENT OFFICE.

ELMER ELLSWORTH DOE, OF MOUNT TOM, MASSACHUSETTS.

## COMBINED SCRATCH AND BIT GAGE.

SPECIFICATION forming part of Letters Patent No. 413,178, dated October 22, 1889.

Application filed March 9, 1889. Serial No. 302,649. (No model.)

*To all whom it may concern:*

Be it known that I, ELMER ELLSWORTH DOE, a citizen of the United States, residing at Mount Tom, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in a Combined Bit and Scratch Gage; 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in gages for carpenters' use; and it has for its object to provide a simple, reliable, and at the same time inexpensive device of this character, which, while being especially intended for use in connection with bits and other boring-tools, is adapted when used in such connection to regulate the depth of the hole to be bored. The device may at the same time, when desired, be readily removed from the bit to which it is attached and used as an ordinary carpenter's scratch-gage.

To these ends and to such others as the invention may pertain the same consists in the peculiar combinations and in the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters referring to like parts throughout the several views, and in which drawings—

Figure 1 is a perspective view of a bit and stock with my improved form of adjustable gage attached. Fig. 2 is a like view of the gage detached from the bit. Fig. 3 is an enlarged detail, more particularly hereinafter referred to.

Reference now being had to the details of the drawings by letter, A designates a bit-stock; and B represents a bit of ordinary construction, which is shown as attached to the stock in the usual manner.

C is a strip of metal provided upon one of its faces with a graduated scale D and carrying at its lower end the ring E.

F is a casting provided with a vertical opening F′ for the reception of the strip C, and is made adjustable upon said strip by means of the set-screw G, tapped through the rear face of the casting and adapted to bear against the face of the strip, as shown. The casting F upon the side opposite that provided with the set-screw G is formed with the lug or extension H, which extension is provided with the vertical slot I, the inner end of which slot is rounded as shown, while upon the side of the slot opposite said rounded portion an opening I′ of a width somewhat less than the diameter of the rounded portion of the slot is provided.

J is a set-screw passed through a screw-threaded opening in the enlarged portion K upon one side of the vertical slot I, and this screw serves when in place to retain the bit within the slot, as will be readily understood.

The free end of the strip C is provided with a recess L, within which is seated the metallic piece L′, provided upon two of its opposite sides with the sharpened arms or cutting-edges M. This metallic piece is secured to the end of the strip C by means of a set-screw N, passed centrally through the same into the end of the strip, and is adapted for use when the tool or device is to be used as a scratch-gage by simply releasing the set-screw N and turning the piece L′ so as to cause one of the arms or edges M to project beyond face of the strip, and then locking the piece in position by resetting the screw N.

The operation of the device is simple, and in connection with the foregoing description will be readily understood. As an illustration of its use as a bit-gage, we will suppose, for instance, that it is desired to prevent the bit from cutting to a greater depth than two inches. The lower or cutting end of the bit is passed downwardly through the ring E and the shaft of the bit is secured in the vertical slot I by means of the set-screw J. The set-screw G is then loosened and the casting is moved along the strip C until the two-inch mark upon the graduated scale is reached, when by tightening the set-screw G the casting is again locked to the strip, and the tip

of the cutting end of the bit will project the desired two inches beyond the ring E.

It will be seen that when the device is used for a marking or scratch gage, as described, the casting F serves as a guide to regulate the distance of the scratch or mark from the edge of the board or timber operated upon.

Having thus described my invention, what I claim as new is—

The combination, with the bit and the strip C, formed with recess L at one end, ring E at the other end, and provided with the scale, as shown, of the casting F, adjustable on said strip and adapted to hold said strip to the bit and the piece L′ at one end of said strip and formed with sharpened edges, and the set-screw N, passed through said piece L′ into the strip C, substantially as and for the purpose specified.

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

ELMER ELLSWORTH DOE.

Witnesses:
GEO. L. METCALF,
OLIVER WALKER.