

(No Model.)

T. O. SMITH.
ATTACHMENT FOR BRACE BITS.

No. 488,701.

Patented Dec. 27, 1892.

Fig. 2

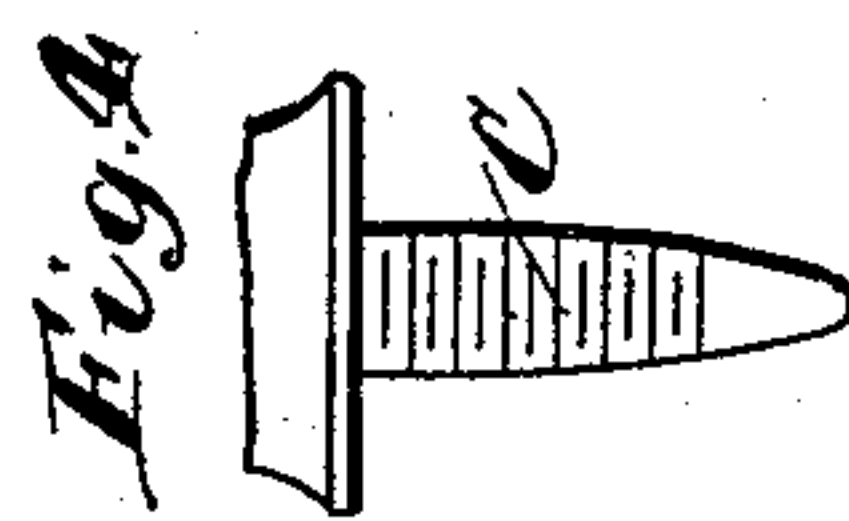
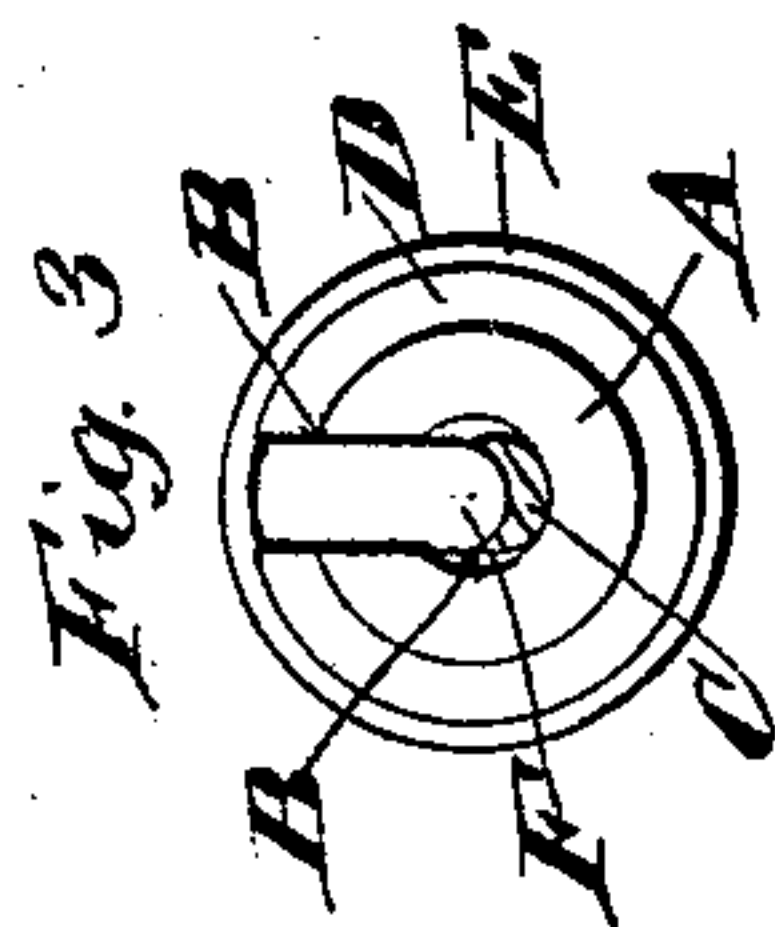
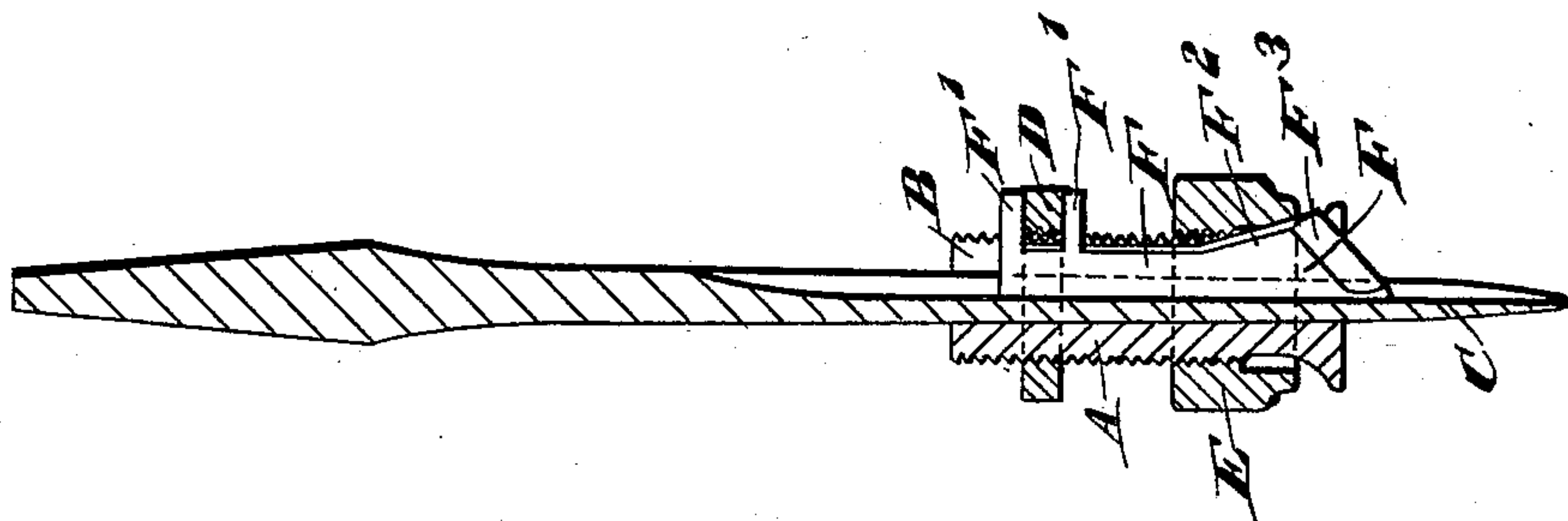
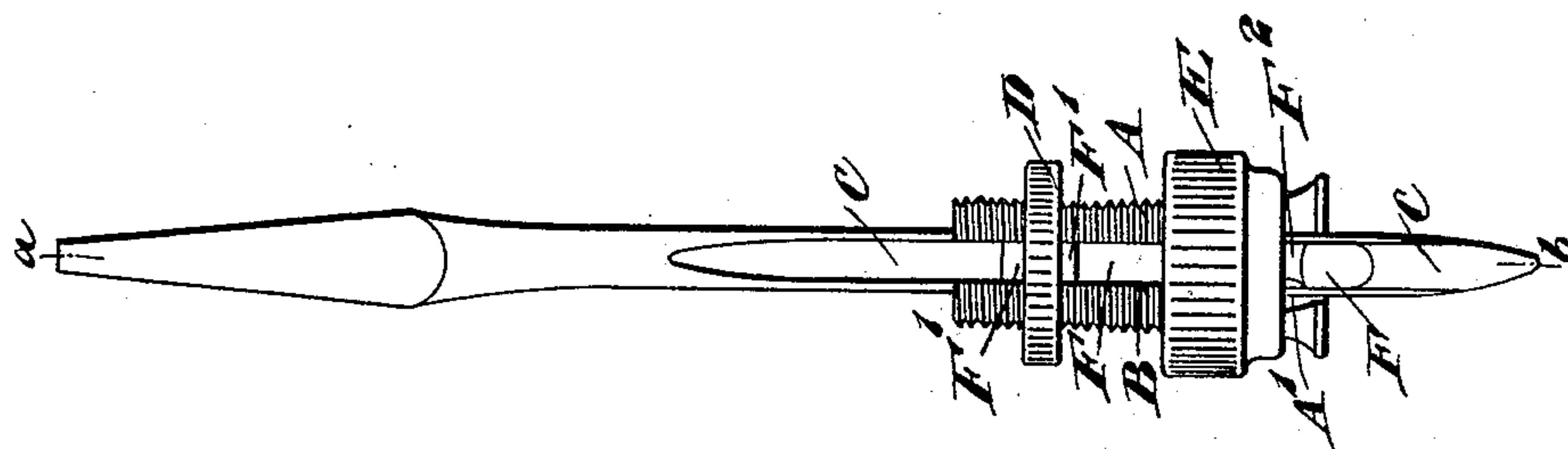


Fig. 1.



Witnesses
James Miller
Albert Edward Ellison

Inventor
Theophilus Osborn Smith
by his Attorney
George Henry Rayner.

UNITED STATES PATENT OFFICE.

THEOPHILUS OSBORN SMITH, OF OXFORD, ENGLAND.

ATTACHMENT FOR BRACE-BITS.

SPECIFICATION forming part of Letters Patent No. 488,701, dated December 27, 1892.

Application filed December 30, 1891. Serial No. 416,609. (No model.)

To all whom it may concern:

Be it known that I, THEOPHILUS OSBORN SMITH, boat and yacht builder, of Phoenix Barge, Medley, Oxford, England, a subject of the Queen of Great Britain and Ireland, have invented an Improved Adjustable Attachment to Brace-Bits for Use in Boring and Countersinking Holes for the Reception of Screws, of which the following is a specification.

My invention relates to an improved attachment to bits for use in boring and countersinking holes in hard wood and other substances, for the reception of screws, consisting of an adjustable cylindrical stop or gage, of the peculiar construction hereinafter shown and described which can be rigidly attached to the bit at any desired point, the object of my invention being to provide a means for boring and countersinking accurately to any predetermined depth.

My improved attachment for bits is illustrated in the accompanying drawings in which Figure 1 is a front elevation of one form of my attachment and bit. Fig. 2 is a section taken on the line *a, b* of Fig. 1. Fig. 3 is a sectional plan and Fig. 4 is a detail view of part of the gage.

Similar letters refer to similar parts throughout the several views.

Referring to Figs. 1, 2 and 3, A is the gage having a groove B of the form shown in Fig. 3. cut in it longitudinally from end to end. At the bottom of this groove the bit C rests, being rigidly held in this position by the mechanism hereinafter described. The gage A has a screw thread cut on it, traversing the greater part of its length, on which turn the nuts D and E.

In the groove B and resting upon the bit C, the upper surface of which is concave, is the counter-sinking blade F, having at its upper end two projections F', and at its lower end an inclined part F². The lower part of the gage A is cut away at A', Fig. 1, in order to form a clearance space for the cuttings and shavings thrown off by the blade.

When the attachment is to be fixed to the bit, the nut E is screwed on nearly to the end of the thread, the counter sinking blade is

placed in the groove B, the projections F' being placed one on each side of the nut D, and the bit slipped under the blade, projecting beyond the end of the gage to a distance corresponding to the depth of the hole required. The nut D is then turned until the counter-sinking blade is in proper position, and the nut E screwed down upon the inclined part F² of the blade F, forcing the inner side of the blade against the concave surface of the bit, the blade being rounded to fit the bit. The bit, counter-sinking blade and gage are thus held securely together, and the amount of counter-sinking can be varied according to the size of the screw head.

The counter-sinking blade may be made straight in vertical section, but I prefer to form it curved as at F³, Fig. 2, so as to present the cutting edge more directly in opposition to the material to be cut as the bit turns.

In order that the length of the hole can be gaged without having to measure the length of the projecting part of the bit, I may cut lines on the convex surface of the bit, marking off inches or parts of an inch, as shown in Fig. 4.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim as my invention and desire to secure by Letters Patent is:—

1. In an attachment for brace-bits the combination of the gage A with the counter-sinking blade F and the two nuts D and E which adjust the blades and fix the attachment on the bit, substantially as set forth.

2. In an attachment for brace-bits, the combination of the counter-sinking blade F, sliding in a groove in the gage A, and adapted to rest on the concave surface of the bit, with the adjusting and fixing nuts D and E substantially as shown and for the purpose specified.

In witness whereof I have hereunto set my hand in presence of two witnesses.

THEOPHILUS OSBORN SMITH.

In presence of—

JAMES MILLER,

ALBERT EDWARD ELLEN.