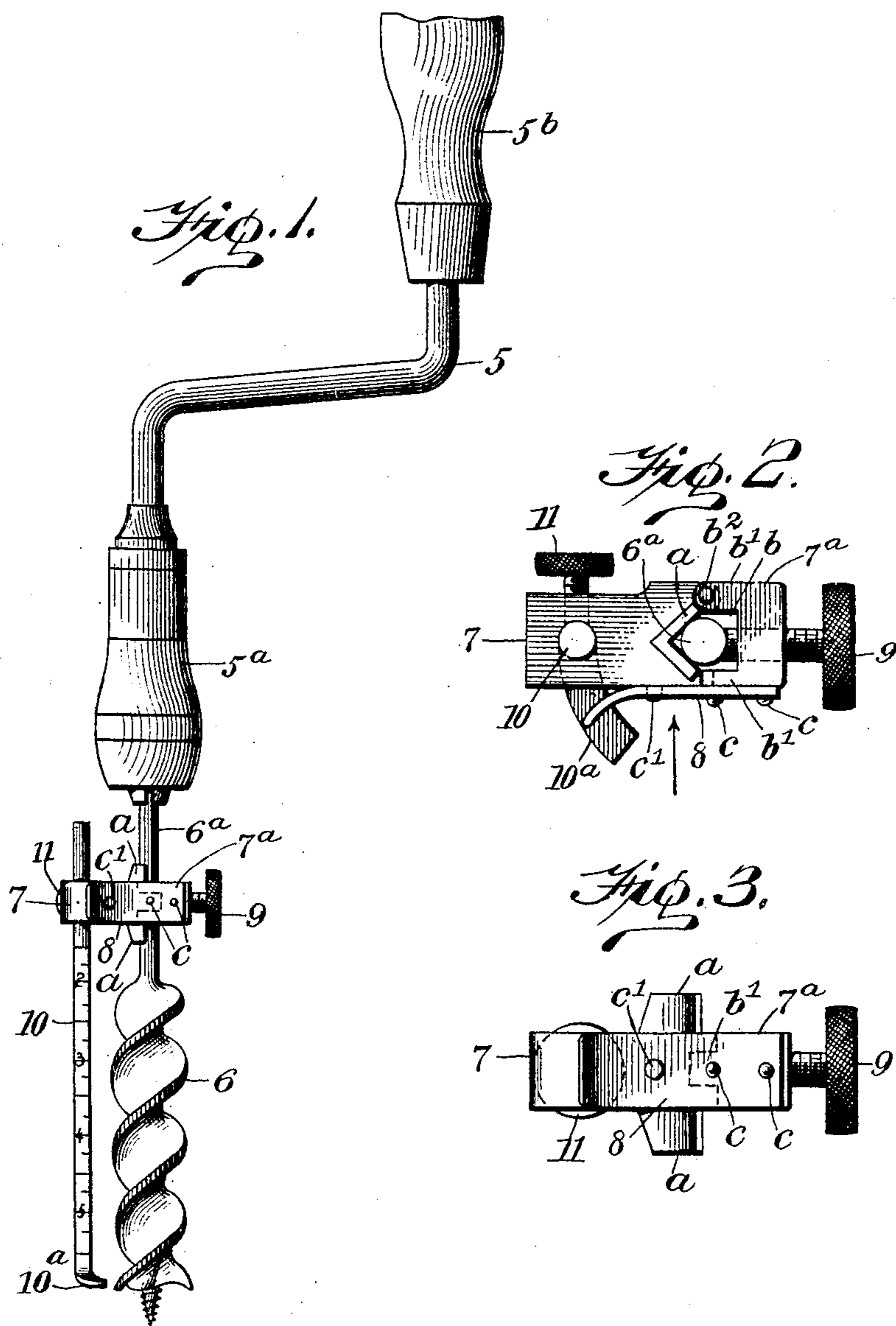


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E. J. TIEDE.
DEPTH GAGE FOR BRACE BITS.
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WITNESSES:

H. G. Dieterich
Wm. P. Patton

INVENTOR

Edward J. Tiede

BY

Wm. P. Patton
ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD JOHN TIEDE, OF BUFFALO, NEW YORK.

DEPTH-GAGE FOR BRACE-BITS.

No. 803,939.

Specification of Letters Patent.

Patented Nov. 7, 1905.

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To all whom it may concern:

Be it known that I, EDWARD JOHN TIEDE, a citizen of the United States, and a resident of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Depth-Gage for Brace-Bits, of which the following is a full, clear, and exact description.

The object of this invention is to provide a novel simple attachment for the boring-bit of a hand-operated brace which is very compact, inexpensive, is readily placed upon and removed from the shanks of boring-bits of different diameters, is longitudinally adjustable thereon for accurately gaging the depth the bit is to bore, and that may be rapidly produced by ordinary tools and methods of manufacture in any quantity desired.

The invention consists in the novel construction and combination of parts, as is herein after described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view in part of a hand-brace for woodworkers' use, a boring-bit in the chuck of the brace, and the improved adjustable gage mounted upon the shank of the bit. Fig. 2 is an enlarged detached plan view of the depth-gage; and Fig. 3 is a side view of the same seen in direction of the arrow in Fig. 2.

In the drawings, 5 represents the normally lower portion of a woodworker's hand-brace, having the usual bit-holding chuck 5^a secured on the lower end of the body thereof. The bit 6 is of the auger variety, the shank 6^a of which is detachably secured on the lower end of the brace 5 by its central engagement within the chuck 5^a, whereby the bit is held axially aligned with the chuck and head of the brace (not shown) for rotation by the sleeve-like handle 5^b, as usual.

The improved depth-gage comprises the following details: The main portion of the device consists of a clamp formed of two sections 7 7^a, that together engage the shank 6^a of the boring-bit and are secured detachably thereupon, as best shown in Fig. 2. The clamp-section 7 is formed of a metal block, preferably having parallel and flat top and bottom faces, with the exception that two angularly bent or formed jaws *aa* project oppositely from each other at one end of said section, wherein a V-shaped notch is cut, the sides of which

align with the corresponding faces of the jaws. The other clamp-section 7^a is shorter than the section 7 and is essentially rectangular on three sides, the remaining side having a rectangular notch *b* therein, forming two limbs *b'* thereon. The clamp-sections 7 7^a have equal width and thickness, and one limb *b'* of the block 7^a, produced by the notch *b*, is formed with a hinge-leaf that projects centrally from its end and is introduced and pivoted at *b*² between two spaced leaves on the corresponding end of the clamp-section 7, thus adapting the clamp-section 7^a to rock laterally and open the passage formed between said clamp-sections by the notches in the adjacent ends thereof. A spring latch-plate 8, consisting of a resilient metal strip, is secured by rivets *c* on the side of the section 7^a opposite the hinge-joint *b*², and the portion of said latch-plate which laps upon the clamp-section 7 is bent outward at its free end to afford means for its manipulation. Said lapped portion also is perforated at a suitable point for a latching engagement with a stud *c'*, projecting from the clamp-section 7, said latch-plate when so engaged holding the clamp-sections closed.

Preferably at the center of the notch *b* the body of the clamp-section 7^a is longitudinally perforated and internally threaded for the reception of a set-screw 9, which is adapted to engage at its inner end with the shank 6^a of the auger-bit when the shank is placed in the opening between the clamp-sections and the sections are swung together, so that the latch-plate is locked upon the stud *c'*. It will be seen that the pressure of the screw 9 will force the shank 6^a into close contact with the jaws *aa* and secure the two-part body of the clamp 7 7^a extended laterally from the bit-shank 6^a at right angles therewith, this engagement of the clamp and bit-shank being clearly shown in Fig. 2.

Near the outer end and transverse center of the clamp-section 7 a vertical perforation is formed therein, and in said perforation is slidably inserted the upper portion of a gage-bar 10, which may be a cylindrical metal rod of a suitable length for effective service, and said rod is preferably graduated to enable a proper adjustment of the same to be made. On the lower end of the gage-rod a foot 10^a is formed which extends laterally from the body thereof and may be curved edgewise somewhat for a projection of the outer end of the foot toward the spiral body of the auger-

bit 6 when in use or as shown in Fig. 1. A horizontal threaded perforation is formed in the clamp-section 7 at the same side as the hinge-joint b^2 and receives therein a set-screw 11, which at its inner end bears upon the gage-rod 10.

In use the gage-rod may be set at a desired point which may be indicated by the scale on the gage-rod, and this will raise the foot 10^a a proper distance above the point of the bit 6 after the clamping-sections 7 7^a have been secured on the bit-shank 6^a at a selected point.

It will be seen that any desired number of perforations of an equal depth may be formed in material, the depth being indicated by a contact of the foot 10^a upon the material wherein the holes are bored. Obviously, by a change in adjustment of the gage-rod holes of different predetermined depths may be formed with exact precision.

An advantageous feature consists in the means for quickly detaching the depth-gage from a bit-shank without requiring the removal of the latter from the chuck on the brace, as this can be readily effected by releasing the set-screw from pressure on the bit-shank and then unlatching the latch-plate 8, which will permit the clamping-sections 7 7^a to be swung apart and removed from the bit-shank.

It is apparent that the improved depth-gage is extremely simple, is very reliable, and is adapted for general use where perforations of certain depth are required.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A depth-gage, comprising a clamp formed of two sections, one section having a rectangular notch in one end forming two parallel members and a threaded opening leading into the notch, and the other section having a V-shaped notch in one end, a vertical opening in its other end, and a threaded opening leading into the vertical opening, the last-named section being hinged to one of the

members of the first-named section by a vertical pivot, a spring latch-plate secured at one end to the side of one of the clamp-sections and provided with an opening in its free end to receive a lateral projecting pin on the other section, a set-screw in the threaded opening of the section having the rectangular notch and adapted to engage the shank of the bit when the sections are latched together, a graduated gage-bar in the vertical opening of the section with the V-shaped notch, and having a foot at its lower end, and a set-screw in the threaded opening of said clamp-section and engaging the said gage-bar, substantially as herein shown and described.

2. A depth-gage, comprising a two-part clamping-block, one part having a V-shaped notch in one end, V-shaped jaws projecting from the upper and lower sides of said part, the sides of said jaws alining with walls of the V-shaped notch, a hinge-joint between the block-sections at one side thereof, the other section of the clamping-block having a recess in a corresponding end, a spring latch-plate secured by one end on the side of one section of the clamping-block and having a perforation in its free portion adapted to receive a locking projection on a corresponding side of the other clamping-section, a set-screw adjustable in the end of the section for pressure on a bit-shank when the block-sections are latched together, a gage-bar vertically slidable in a perforation in the block-section having the V-shaped notch therein, and a set-screw working in the side of said block-section adapted for holding the gage-bar at a desired point of adjustment.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD JOHN TIEDE.

Witnesses:

GEORGE HOHN,
MICHAEL STEGER.