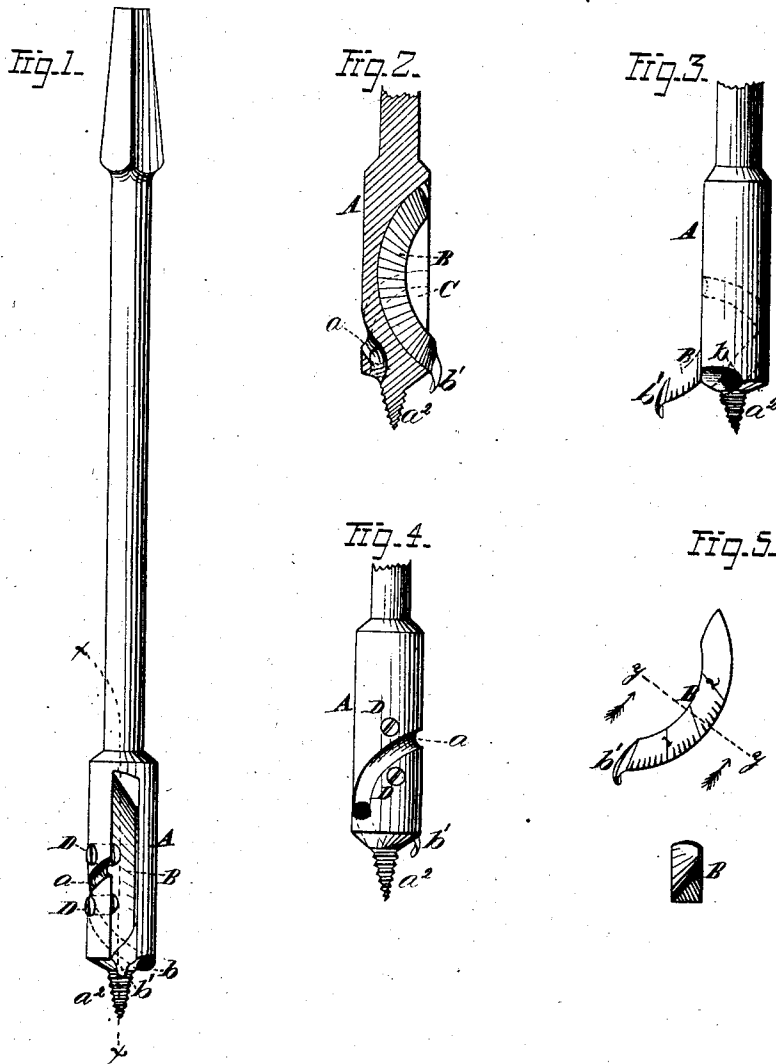


W. L. PARMELEE.

Expansion-Bits.

No. 155,333.

Patented Sept. 22, 1874.



WITNESSES.

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WILLIAM L. PARMELEE, OF SEYMOUR, CONNECTICUT.

IMPROVEMENT IN EXPANSION-BITS.

Specification forming part of Letters Patent No. **155,333**, dated September 22, 1874; application filed August 31, 1874.

To all whom it may concern:

Be it known that I, WILLIAM L. PARMELEE, of Seymour, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Expansion-Bits, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, in which—

Figures 1, 3, and 4 are views in elevation of my bit, viewing it from different stand-points, one of which showing the expansible cutter in an extended position. Fig. 2 is a section through the dotted line *xx* of Fig. 1; and Fig. 5 is a view, in elevation, of the expansible cutter, and a section, *yy*, thereof.

Corresponding parts in the several figures are designated by like letters.

This invention relates to a certain improvement in expansion auger-bits; and it consists of an expansible cutter, in longitudinal section of the form of a segment of a circle, and in cross-section that of a triangle, inserted in the stock, provided with set-screws or other means for adjusting it to the desired size of hole to be cut, and of a spiral groove leading from the second cutter, at which point it is wholly inclosed, and terminating at the containing chamber or recess of the expansible cutter or other suitable point, substantially as hereinafter more fully set forth.

In the annexed drawing, A refers to the auger-bit stock, which is made with a spiral groove, *a*, leading from the cutter *b* at which point it is wholly inclosed to prevent the chips, &c., cut by the cutter *b* from crowding the bit by issuing from its side, and terminating at the containing chamber or recess of the expansible cutter, which will remove the chips, &c., deposited thereat by the said groove where desired. B refers to the expansible cutter, in longitudinal section of the form of a segment of a circle, and in cross-section that of a triangle, as shown in Figs. 2 and 5, inserted in

the chamber or recess C in the stock A, in which it is susceptible of adjustment in the arc of a circle, through the set-screws D D or other suitable means, by which it can be caused to cut a hole of greater or less diameter, as desired.

To regulate the expansion of the cutter B to agree with the size of the hole to be cut, it is graduated to inches and fractions of an inch, as shown at 1 2, Fig. 5. a^2 is the point or center of the bit. The lower or outer end of the expansible cutter is provided with a lip, *b'*, of spiral form, to aid it in entering the wood.

Through this construction it will be observed that it is unnecessary to remove the expansible cutter when not in use, or the size of the hole to be increased, as is necessary with other bits of this class, lessening trouble and time required by them for the removal of the bit and the reinsertion and readjustment of the latter for varying the size of the hole to be cut.

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

1. The expansible cutter B, in longitudinal section of the form of a segment of a circle, and in cross-section that of a triangle, with or without graduations, substantially as shown and specified.

2. The expansible cutter B, constructed as shown and described, in combination with the recessed or chambered stock A and adjusting-screws D D, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed my name in presence of two subscribing witnesses.

WILLIAM L. PARMELEE.

Witnesses:

EDWARD BROWN,
FRANK TURKINGTON.