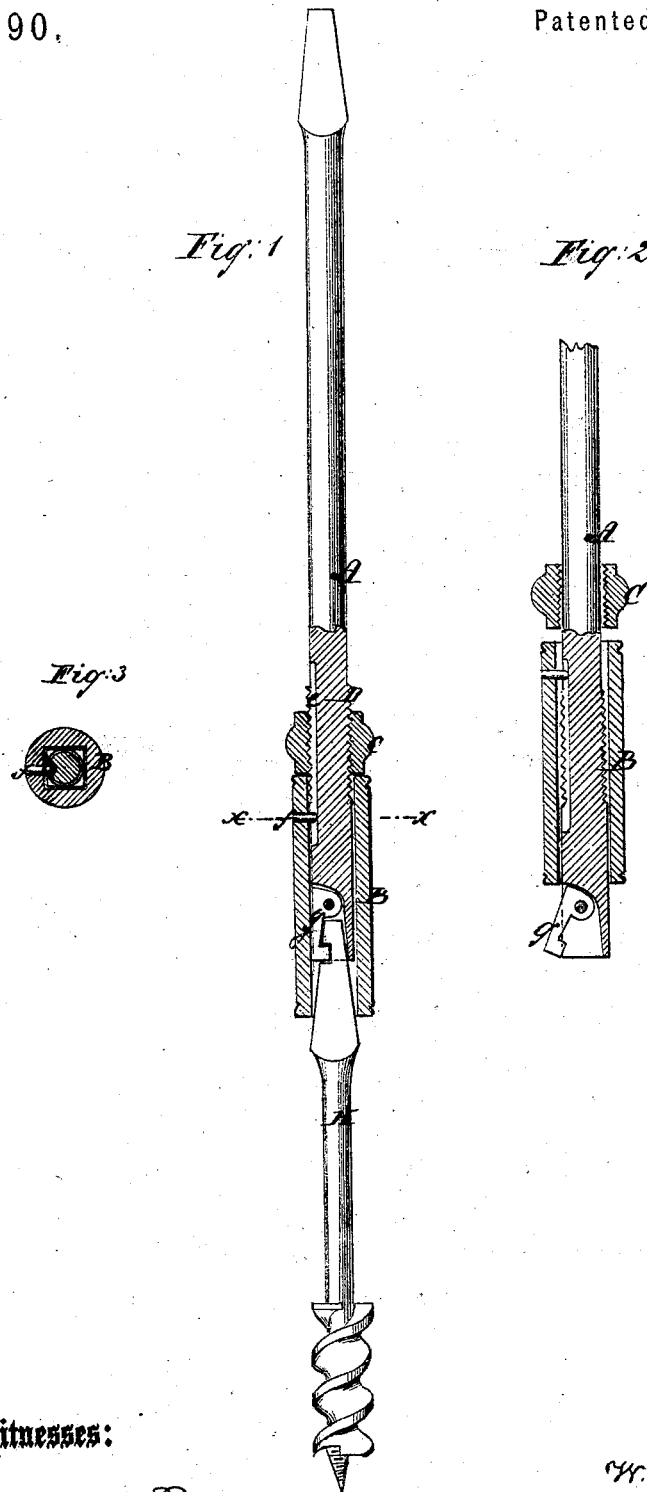


W. S. PATTIN.

Improvement in Extension Shanks for Boring-Bits.

No. 116,090.

Patented June 20, 1871.



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM S. PATTIN, OF PORTSMOUTH, OHIO.

## IMPROVEMENT IN EXTENSION-SHANKS FOR BORING-BITS.

Specification forming part of Letters Patent No. 116,090, dated June 20, 1871.

*To all whom it may concern:*

Be it known that I, WILLIAM S. PATTIN, of Portsmouth, in the county of Scioto and State of Ohio, have invented a new and useful Improvement in Extensible Shanks for Boring-Bits; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to improved means for locking a bit-holder and bit so that the latter will have no side play, but will tend to move constantly, without deviation, and in a perpendicular line, through the timber. If it is perceived to bind or work with unusual friction a turn on the nut will force the sleeve upon the converging shank of the bit, and center the latter in perfect alignment with the stock.

In the accompanying drawing, Figure 1 represents the extension-shank with the boring-bit attached, the finger being partly in section. Fig. 2 shows a sectional view of the extension-shank. Fig. 3 is a cross-section of Fig. 1 taken on the line *x x*.

Similar letters of reference indicate corresponding parts.

A is the extension-shank, which is fastened in the brace or other device in the same manner as are ordinary boring-bits. B is the sleeve, which is made to slide over the end of the shank. C is a nut, which engages with the screw-thread D on the shank. *e* is a slot in the shank, and *f* is a pin in the sleeve, by means of which the sliding movement of the sleeve is limited.

The end of the shank A is provided with a fastening-dog, *g*, for securing the bit to the end of the extension-shank. The sleeve is square inside, as seen in Fig. 3, and from the screw-thread the shank A is square to the end to fit the sleeve. H is the boring-bit, and it is fastened as seen in Fig. 1.

When the sleeve is allowed to slide back on the shank A the fastening-dog *g*, being pivoted loosely to the shank, falls back and allows the end of the bit to enter. When the sleeve is forced up by the nut the dog is inclosed by the sleeve and the hook enters the notch in the end of the bit-shank, while the end of the sleeve incloses the shank of the bit and firmly holds it in place. This arrangement is plainly seen in Fig. 1.

The sleeve B should not exceed in diameter that of the bit or hole bored, but should be a trifle less, so as not to cause friction in boring.

This extension-shank, it will be seen, is adapted to all bits of the ordinary kind with short shanks.

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

In combination with a stock, D, slotted and having a clamp-dog at the end, and a sleeve, B, to close it, the flat-sided bit-shanks converging diminishingly upward, and the threaded nut C placed above the sleeve, for the purpose of locking the bit more securely and preventing lateral play thereof.

WILLIAM S. PATTIN.

Witnesses:

W. B. GRICE,  
JOHN H. PECK.