

Q. S. BACKUS.
Bit-Stock Wrench.

No. 216,776.

Patented June 24, 1879.

Fig. 1.

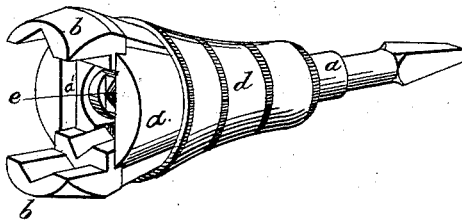


Fig. 2.

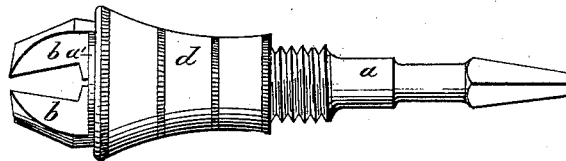


Fig. 3.

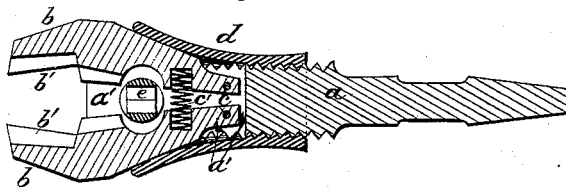
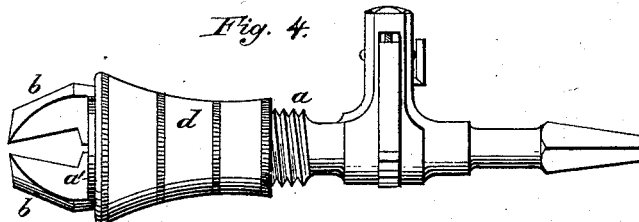


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

QUIMBY S. BACKUS, OF NEW YORK, N. Y.

IMPROVEMENT IN BIT-STOCK WRENCHES.

Specification forming part of Letters Patent No. 216,776, dated June 24, 1879; application filed April 30, 1879.

To all whom it may concern:

Be it known that I, QUIMBY S. BACKUS, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Bit-Stock Wrenches; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of tools which have come into general use in which the same implement is intended to answer several distinct purposes, the object in the present case being to take an implement that may be attached to the ordinary bit-stock, and shall be capable of performing the various functions of a wrench and tool-holder, and which may be called a "bit-stock wrench;" and the invention consists in the construction and arrangement of the several parts of the implement, so as to perform the above-named functions, all as will be hereinafter fully set forth, and then specifically stated in the claims.

In the drawings, Figure 1 is a perspective view of the implement with the jaws open as when used for a wrench. Fig. 2 is a side view with the jaws closed. Fig. 3 is a longitudinal section, showing the relative arrangement of the several parts of the device. Fig. 4 exhibits the implement provided with a ratchet and made capable of attachment to an ordinary brace.

In constructing this implement, the shank *a* is formed with a slot, *a'*, in its larger end, which end is expanded into a conical-shaped frustum, acting as a guide for the expanding-jaws *b*, which are each pivoted at the point *c* within the slot to the shank *a*.

A screw-thread is formed upon the body of the shank, upon which is placed the funnel-shaped sleeve *d*, threaded internally to correspond with screw-thread upon the shank. As this sleeve is moved downward upon the shank it allows the jaws *b* to expand, and when moved in the opposite direction, or toward the end of the shank, the jaws are forced toward each other, causing them to grasp and hold firmly any object placed between them.

In order that the jaws may automatically

follow the movement of the sleeve, a spring, *e'*, is placed in cavities formed for its reception in each jaw, which, by its elasticity, keeps them pressed continually out against the sleeve, while offering no material obstacle to their being closed by its action.

The outer ends of the jaws, at *b'*, are fitted to act either as a wrench or tool-holder in the last-named function, being materially assisted by the perforated bar *e*, which crosses the slot *a'* formed in the end of the shank at a point which enables it to receive the ends of the tools placed between the jaws, thus causing the axial line of the tool and its holder to coincide, and preventing all wobbling or eccentric movement of the bit or other tool held by the jaws.

In order to allow the jaws to close fully a semicircular recess is formed in each at a point opposite to the bar *e*, which, when the jaws approach each other closely, embrace the bar, thus enabling the jaws to grasp and hold the smallest bit or other tool used with a brace, while their ends *b'* form a wrench, which is readily adjustable to nuts or bolts of different sizes, and which, by reason of the capability of attachment of the implement to the ordinary bit-brace, enables the user to screw up nuts or bolts much faster than it can possibly be performed by the screw-wrench in ordinary use.

It is obvious that the brace-wrench hereinbefore described can be attached to any ordinary bit-brace, angle-borer, or tool-holder without departing from the spirit of my invention, and to such holders and braces I intend to apply it.

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

1. The pivoted jaws *b* and funnel-shaped sleeve *d*, in combination with the perforated cross-bar *e*, for the purpose of retaining the axis of the tool and holder in the same line, as set forth.

2. The slotted shank *a* and apertured cross-bar *e*, in combination with the pivoted jaws *b*, spring *e'*, and sleeve *d*, all arranged for joint operation in the manner specified.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of April, 1879.

Witnesses: QUIMBY S. BACKUS.

WM. J. BELL,

JOHN F. KAVANAGH.