

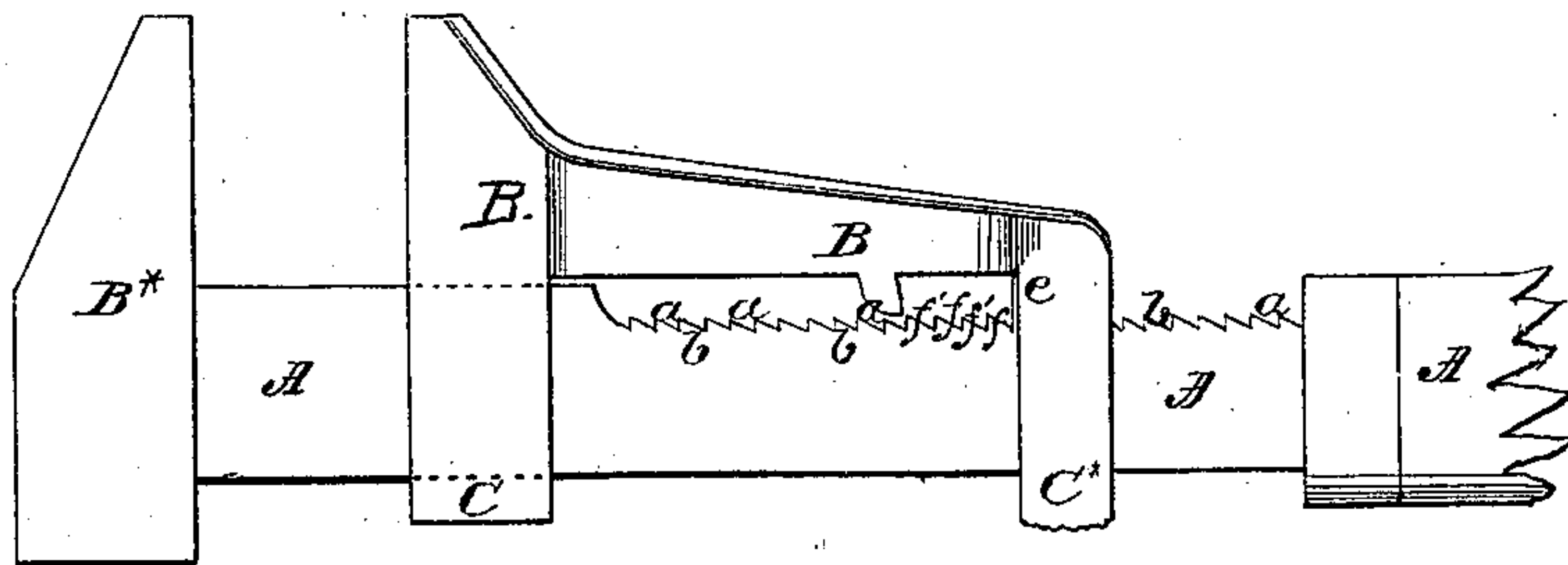
*A. S. Petrie,*

*Wrench.*

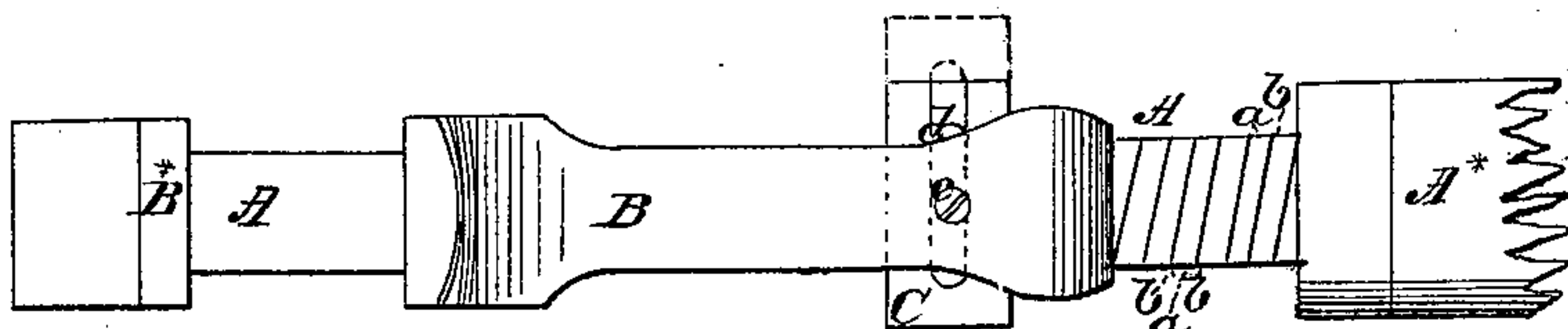
*N<sup>o</sup> 76,519.*

*Patented Apr. 7, 1868.*

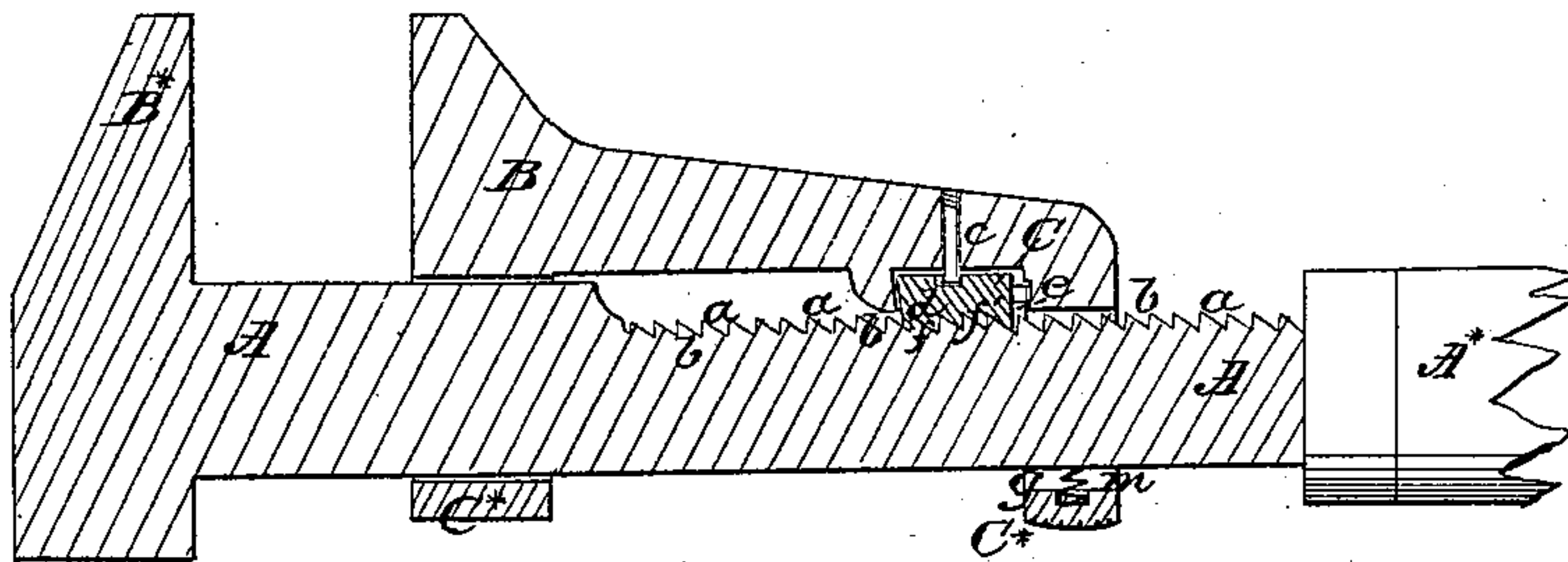
*Fig. 1.*



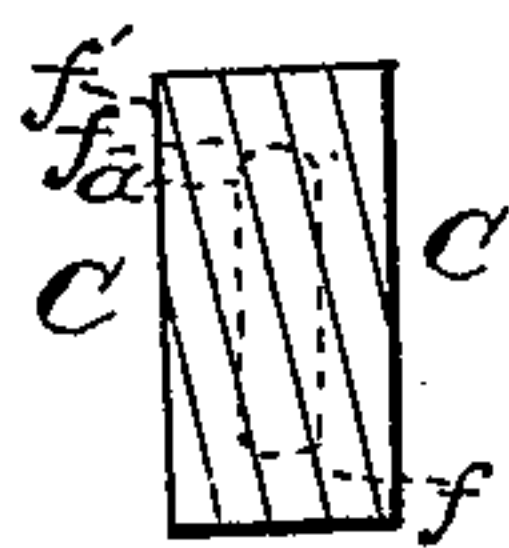
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses:*  
*M. Connelley*  
*A. Hellere*

*Inventor:*  
*A. S. Petrie*

# United States Patent Office.

A. S. PETRIE, OF HUDSON CITY, NEW JERSEY.

*Letters Patent No. 76,519, dated April 7, 1868.*

## IMPROVEMENT IN WRENCH.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, A. S. PETRIE, of Hudson City, in the county of Hudson, and State of New Jersey, have invented a new and useful Improvement in Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a portion of this specification, in which—

Figure 1 is a side view of a wrench made according to my invention.

Figure 2 is a side view of the same, taken at right angles to fig. 1.

Figure 3 is a longitudinal section of the same.

Figure 4 is a detached view of one portion thereof.

Similar letters of reference indicate corresponding parts in all the figures.

This invention consists in an obliquely-grooved or ribbed sliding key, so combined with the movable jaw and the obliquely-grooved or ribbed shank of a monkey-wrench, that the aforesaid movable jaw may be very readily tightened against the nut or other article to be turned by the wrench, by which means an implement of very simple and cheap construction, and one capable of very convenient manipulation, is secured.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

The shank of the wrench is shown at A, and is provided at one end with a suitable handle, A\*, and at the other with a fixed jaw, B\*. That side of the shank A, at which is formed the fixed jaw, has oblique transverse grooves, *a*, provided therein, the said grooves being preferably of angular shape, so that the surfaces of the ribs *b*, between the said grooves, toward the fixed jaw A\*, may form flat shoulders at right angles to the length of the shank, as shown more clearly in figs. 1 and 2. Attached to the shank, by the slotted lugs C\*, formed in any suitable manner, is the sliding jaw B, provided transversely in the inner side of the innermost end portion of which is a transverse groove or socket, preferably of a somewhat dove-tail form, and having placed in it a key, C, capable of moving longitudinally therein. This key C is kept from slipping out endwise from its socket by means of a screw or pin, *c*, extending down through the innermost part of the sliding jaw B, with its end fitting into a groove, *d*, formed in the upper or outer side of the key C, and the shape and position of which are shown more clearly in fig. 2, and also in dotted outline in fig. 4. The key C is of less width than its socket, and has fitted behind it a spring, *e*, which retains it in contact with the forward side of the said socket, as indicated more plainly in fig. 2, in order that the inclined or semi-dovetail form of the said side of the socket may retain the key from falling out when lifted away from the shank, as hereinafter explained. Furthermore, this key has provided in its under or inner side a series of oblique grooves, *f*, corresponding to grooves *a* in the shank A, in such manner as the ribs *f'*, between the grooves *a* of the shank. The slot *g*, in the lug C\*, of the sliding jaw B, is longer than the width of the shank, and has placed between its outer end the adjacent surface of the shank, a spiral or other spring, *m*, which operates to bring the key C down upon the obliquely-grooved side of the shank with its ribs *f* in the grooves *a* of the shank, as hereinbefore explained.

In using the wrench, the key is first pushed outward, as indicated in red outline in fig. 2, and the innermost lug C\*, of the movable or sliding jaw B, is pressed inward, compressing the spring *m*, and bringing the key C away from the grooved side or surface of the shank, whereupon the movable jaw may be moved longitudinally to bring it as close as may be to the nut, bolt-head, or like article, which it is desired to turn, which being done, the aforesaid end of the jaw B is released from pressure, thus allowing the key to come upon the grooved surface of the shank. The key is then pushed inward, and its oblique ribs *f'*, acting upon or against the shoulders formed, as hereinbefore set forth, by the oblique ribs *b*, between the grooves *a*, snugly tightens the movable jaw against such nut or article, the two obliquely-grooved surfaces of the shank and key forming, as it were, two sets of inclined planes acting upon each other, to thus tighten the jaw against the article to be turned.

In order to remove the wrench from such article, it is of course only necessary to move outward the key, thus sliding back the jaw B sufficiently to permit of such removal.

What I claim as my invention, and desire to secure by Letters Patent, is—

The obliquely-grooved or ribbed sliding key C, in combination with the movable jaw B and the obliquely-grooved or ribbed shank A, substantially as and for the purpose specified.

A. S. PETRIE.

Witnesses:

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