No. 612,924. Patented Oct. 25, 1898.

P. S. GRENIER.

EXPANSION BIT STOCK WRENCH.

(No Model.) (Application filed Mar. 16, 1898.)

Fig. 1.

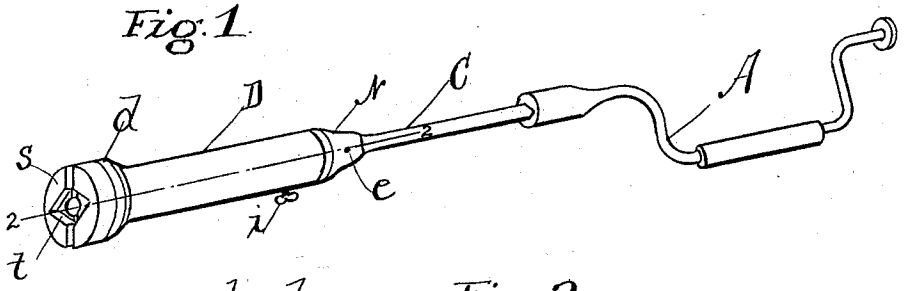


Fig 2

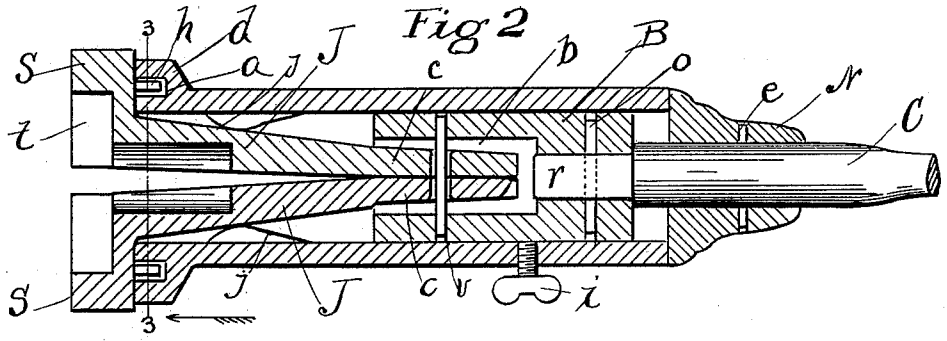


Fig. 3.

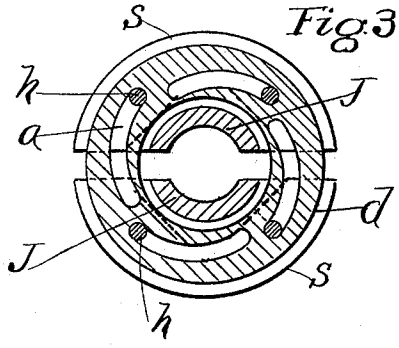


Fig 4.

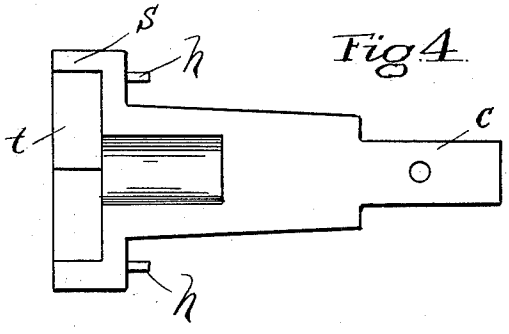


Fig. 5.

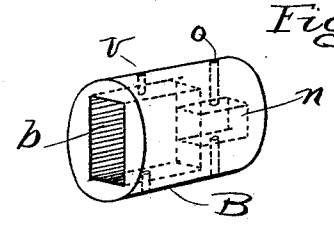
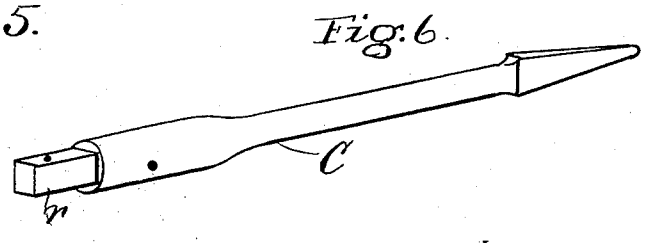


Fig. 6.



Witnesses

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THE NOBRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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EXPANSION BIT-STOCK WRENCH.

SPECIFICATION forming part of Letters Patent No. 612,924, dated October 25, 1898.

Application filed March 16, 1898. Serial No. 674,001. (No model.)

To all whom it may concern:

Be it known that I, PETER S. GRENIER, of Pawtucket, in the county of Pawtucket and State of Rhode Island, have invented certain new and useful Improvements in Expansion Bit-Stock Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to the class of nut-wrenches arranged to be operated with a bit-stock. It is fully explained and illustrated in this specification and the accompanying drawings.

Figure 1 is a perspective view of the wrench and bit-stock. Fig. 2 is a vertical section of the wrench, taken through lengthwise on line 2 2, Fig. 1. Fig. 3 shows a vertical cross-section taken on line 3 3 in Fig. 2. Figs. 4, 5, and 6 represent separate parts, as will be hereinafter explained.

The object of this invention is to produce a wrench that in combination with a bit-stock can be used with more facility and that can be readily adjusted for different sizes of nuts and held securely to any size when set. The construction is as follows:

A is the bit-stock.

C is a shank made square and tapering at one end to fit in the bit-stock. It is also made square at the other end *r* to fit in one end of a socket B, and a pin *o* is put through the two to hold the socket on the shank. A shell or sleeve D has a hole made through its center large enough for the socket B to turn freely in, and has a head or shoulder at its outer end, in the face of which inclined grooves *a a* are made. (See Fig. 3.) The outer end of the socket B has a rectangular recess *b* in it to receive the shanks *e e* of the jaws J J. The jaws J J are alike in every way, and the inner face of one of them is seen in Fig. 4. When the jaws are put together, they form a cylinder having a head S at the outer end, with pins *h h* fast in its inner side to enter the grooves *a a* in the shell D. The inner ends of the jaws are fitted loosely in the recess *b* in the outer end of the socket B, and a pin *v* is put through them to hold them in the socket. The jaws J have each a V-shaped recess *t* made in the head, that when the jaws are together, as in Fig. 1, a rectangular recess is formed to receive the nut to be turned. Light springs *j j* are inserted between the shell and jaws to take up any looseness there may be.

The parts are put together in the following order: The two jaws are put together and the square ends *c* fitted in the recess *b* in the socket B and the pin *v* is inserted through them. The square end *r* of the shank C is then fitted into the recess *n* and the pin *o* is put in to hold it, and these connected parts are put through the shell D until the end of the shell bears against the head S of the jaws J and the pins *h* enter the recesses *a*. Then a collar N is slipped onto the shank C up against the inner end of the shell D and the pin *e* is inserted through the collar and shank and the shell D is held free to turn between the collar N and the head S of the jaws J. The taper end of the shank C is then inserted in the bit-stock and the whole is ready for use. When it is desired to change the size of the recess *t* in the end of the jaws to fit a larger or smaller nut, the shell D is turned on the jaws in the proper direction and the pins *h h* in the recesses *a a* will cause the jaws to open or shut, according to which direction they are turned, and a thumb-screw *i*, fitted in the side of the shell, can be tightened down against the socket, so as to hold it fast.

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

The combination of a shank fitted for use in a bit-stock, a socket fitted to the outer end of said shank, a pair of jaws pivoted in the other end of said shank, said jaws having a recess in their outer end to receive a nut, a shell held to turn on said jaws and having inclined recesses in its outer end, pins inserted in the inner side of the head of said jaws and arranged to enter the inclined grooves in said shell, substantially as described.

In testimony whereof I have hereunto set my hand this 14th day of March, A. D. 1898.

PETER S. GRENIER.

In presence of—

H. E. BARLOW,

BENJ. ARNOLD.