

T. GENERO,
WEAR COMPENSATING FEED SCREW FOR DRILLS.
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Fig. 1.

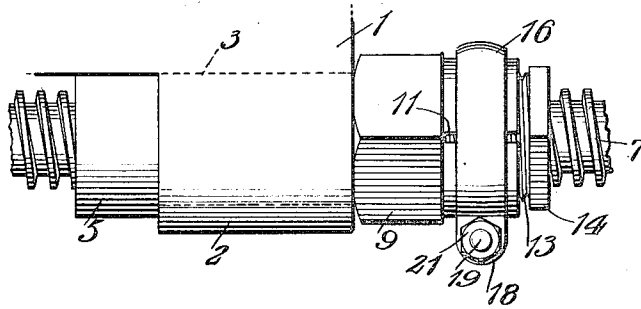


Fig. 2.

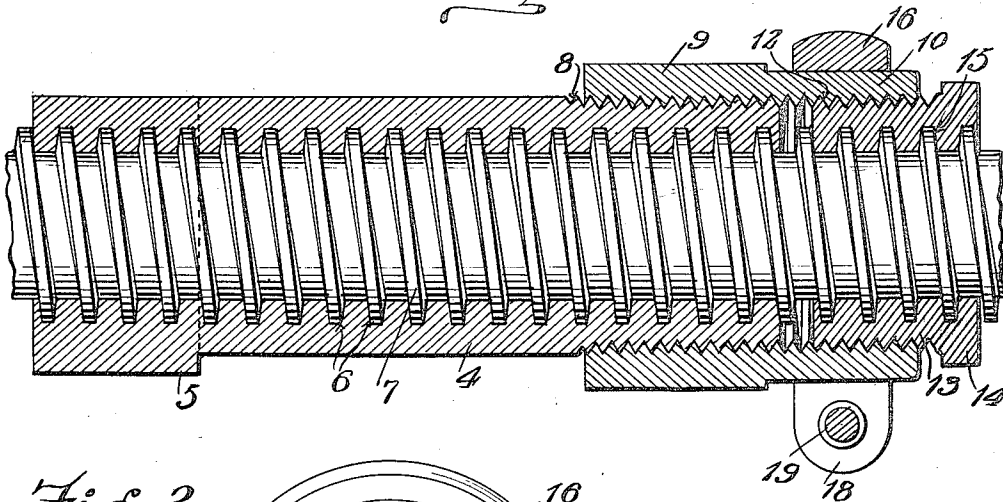
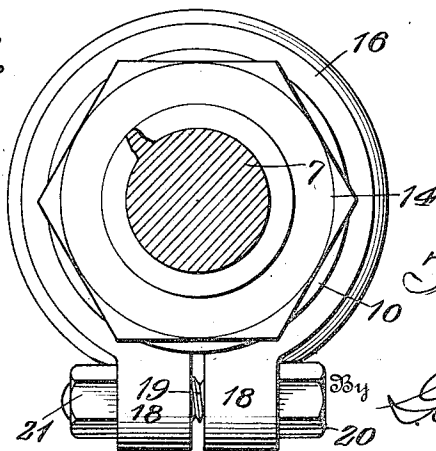


Fig. 3.



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WEAR-COMPENSATING FEED-SCREW FOR DRILLS.

1,256,471.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THEODORE GENERO, a citizen of the United States, and resident of Websterville, in the county of Washington and State of Vermont, have invented certain new and useful Improvements in Wear-Compensating Feed-Screws for Drills, of which the following is a specification.

The present invention relates to new and useful improvements in boring and drilling machines and has particular reference to a novel and improved type of wear compensator for use in connection with feed screws of steam and pneumatic drills, an object of the invention being to provide means for association with the standard type of feed screw and drill for compensating the wear on the screw, whereby to increase the life and usefulness of the screw and to render more positive the feeding action of the same.

Another object of my invention is to provide means in connection with my improvement for maintaining the same in adjusted position.

A further object of my invention is to provide a device of the character described which may be easily applied to the existing types of steam and pneumatic drills without materially altering the structure of the drill or of the feeding screw. The device may be applied to the machine when new, or may be applied after the screw has become worn.

A still further object of my invention is to provide a feed screw attachment of the class described which is simple in construction, strong and durable, cheap to manufacture and install and effective in operation.

Other objects and advantages to be derived from the use of my improved wear compensating device for feed screws will appear from the following detailed description of the claims, taken with an inspection of the accompanying drawing, in which:

Figure 1 is a side elevational view of a device embodying the improvements of my invention, the same being shown applied in operative position;

Fig. 2 is a longitudinal sectional view of the same; and

Fig. 3 is a rear end elevational view of the same.

Referring more particularly to the draw-

ing, wherein similar characters of reference designate like and corresponding parts throughout the various views, 1 designates a portion of the body of a standard air or steam drill, 2 designating the screw holding block, said block being provided with the usual aperture 3 shown in dotted lines.

In the standard types of drills an internally threaded body 4 is usually provided, said body being formed with an enlargement 5 on one free end thereof to prevent movement of the body within the block 2 in a given direction. The tubular body 4 is provided with internal working threads 6 engaged normally by the standard feed screw 7.

My invention contemplates the modification of the tubular body 4 to permit of application of a wear compensating device thereto. The body 4 is provided with external threads 8 on its free extremity to receive a nut 9. The nut 9 is adapted to abut one end of the block 2 and the enlargement 5 is adapted to abut the opposite end. The nut 9 is formed with a sleeve 10 split as at 11, the threads of the nut extending throughout the sleeve as at 12. The splitting of the sleeve 10 permits contraction and expansion of the same for a purpose which will hereinafter appear.

The wear compensating nut is designated 13 and is provided with a hexagonal head 14 to facilitate turning of the same. The nut 13 is provided with external threads for engagement with the threads 12 of the sleeve and is formed with internal threads 15 forming working threads for engagement with the screw 7.

A clamping and retaining ring 16 is provided, said ring being formed on its free ends with apertured lugs 18 to receive a bolt 19 having a head 20 on one end and a nut 21 on the other end. By tightening the nut 21 the ring may be brought into clamping engagement with the sleeve, this in turn causing the sleeve to grippingly engage the wear compensating nut 13 and prevent movement of the nut.

It will be seen that when the threads of the body 4 become worn, the nut 13 may be moved relative to the body for tightening the feed screw and preventing lost motion. The use of my improved wear compensating nut will serve to obviate the necessity of renewing the screw and screw body at frequent intervals, this being often necessary with the

devices now in use. It will be clear that the device may be quickly applied and the manufacture and cost of the same will be negligible when compared with the advantages derived therefrom.

From the above description taken in connection with the accompanying drawing, it is thought that a clear and comprehensive understanding of the construction, operation and advantages of my invention may be had, and while I have shown and described the device as embodying a specific structure, I desire that it be understood that such changes may be made in said structure as do not depart from the spirit and scope of the invention as claimed.

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

1. In a device of the character described, the combination of a stationary block, an internally threaded body anchored in said block, a nut at one end of said body, a split sleeve on said nut, a ring clamp on said sleeve, a screw operating through said body, and a second nut receivable within the sleeve and on said screw.

2. In a device of the character described, the combination of a stationary block having an aperture, an internally threaded body anchored within said aperture, a screw operable in said body, one end of the latter being externally threaded, a nut receivable thereon and having an internally threaded split sleeve, and a wear compensating nut receivable within the sleeve.

3. The combination with a feed screw

block and a feed screw operable therethrough, one end of said block being externally threaded, of a nut receivable on said threaded end and having a split sleeve portion, a wear compensating nut receivable in said sleeve, said nut having working threads for engagement with the screw, and a ring clamp arranged on said sleeve to lock said wear compensating nut against movement.

4. The combination with a feed screw block having external threads on one end thereof and a screw operable therethrough, of a nut receivable on said threaded end, said nut having a split sleeve formed with internal threads, a wear compensating nut receivable within the sleeve and engaged with said screw, and a ring clamp disposed about said split sleeve to contract the latter for engagement with said compensating nut to lock the latter against accidental movement.

5. In a device of the class described, the combination of an internally threaded body and a feed screw operable therethrough, one end of said body being provided with external threads, a nut receivable on said threads and having a split sleeve extending therefrom and formed with internal threads, a wear compensating nut engageable with the threads of said sleeve, said nut having internal working threads for engagement with said screw, and a ring clamp embracing said split sleeve to lock said wear compensating nut against movement.

In testimony whereof, I affix my signature hereto.

THEODORE GENERO.