

No. 667,664.

Patented Feb. 12, 1901.

R. L. AMBROSE.
ROCK DRILLING MACHINERY.

(Application filed Apr. 19, 1900.)

(No Model.)

Fig. 1,

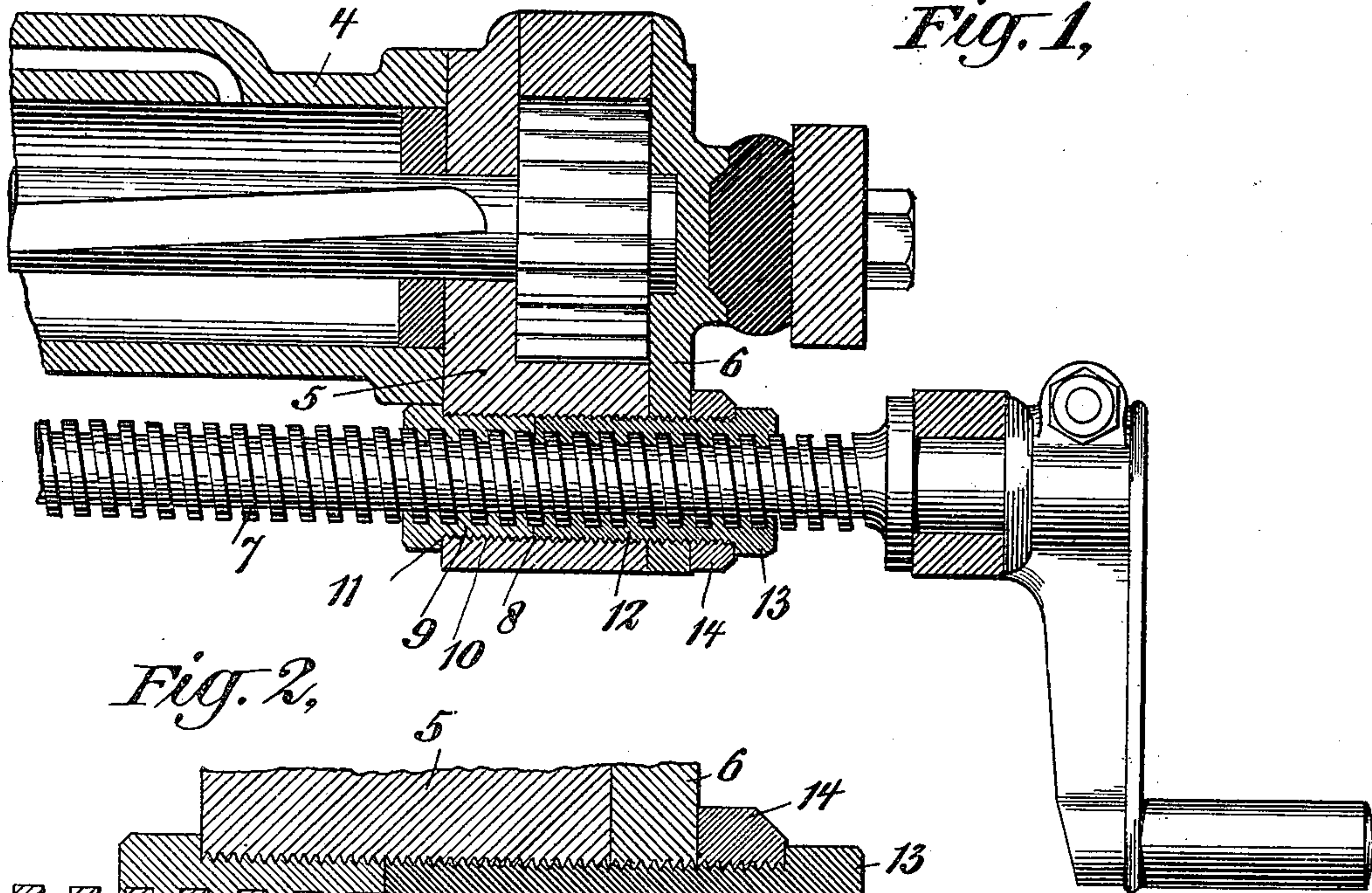


Fig. 2,

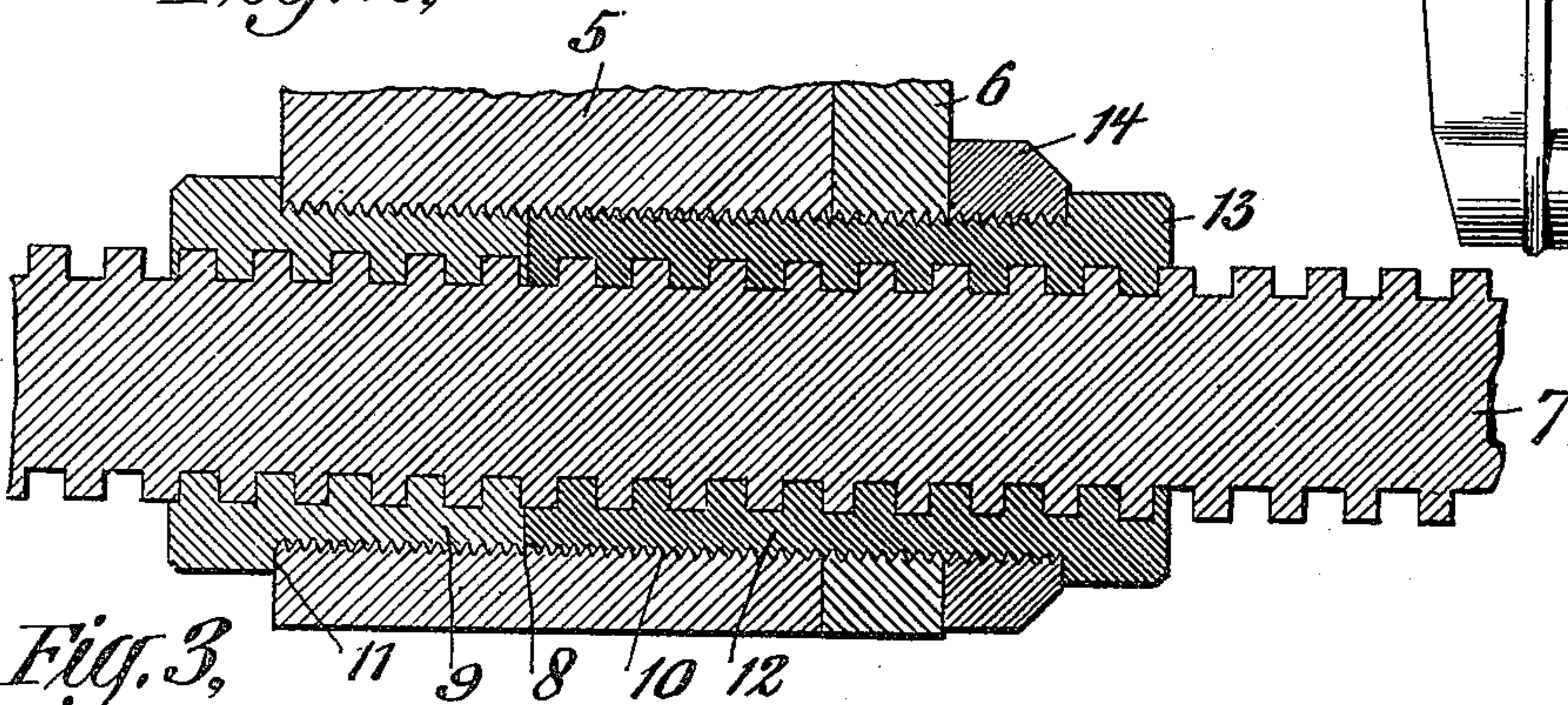
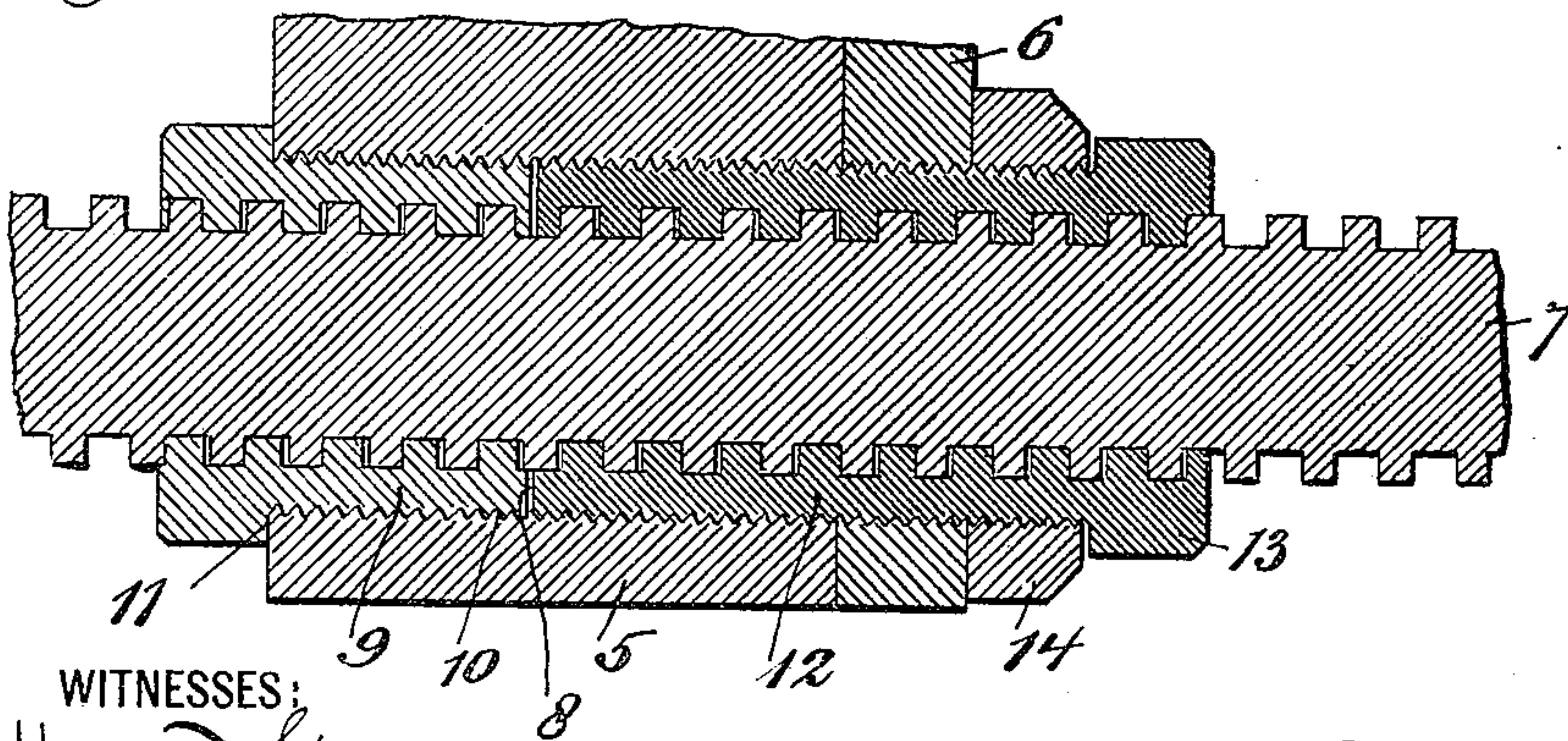


Fig. 3,



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ROCK-DRILLING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 667,664, dated February 12, 1901.

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To all whom it may concern:

Be it known that I, ROBERT L. AMBROSE, a citizen of the United States of America, and a resident of Tarrytown, county of Westchester, State of New York, have invented certain new and useful Improvements in Rock-Drilling Machinery, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.
10 My invention relates to improvements in rock-drilling machinery, and particularly to improvements in the feed-nut therefor.

My invention consists in the provision of means whereby the feed-nut of a rock-drill may be adjusted to compensate for wear either in the feed-nut or in the feed-screw. In providing means for such adjustment simplicity of construction is an essential feature, as is also strength and rigidity of the parts.

20 The object of my invention is to provide an adjustable feed-nut of simple construction, of easy adjustment, and of extreme strength and rigidity.

To this end my invention consists in certain novel details of construction and combination of parts to be hereinafter more fully set forth.

I will now proceed to describe my invention in detail, with reference to the accompanying drawings, and will then point out the novel features in the claims.

30 In the drawings, Figure 1 represents a central longitudinal section of such portion of a rock-drill as is necessary to illustrate my invention and having fitted thereto an adjustable feed-nut embodying my invention. Fig. 2 is a view, on an enlarged scale, of a feed-nut embodying my invention and having a feed-nut in engagement therewith. Fig. 3 shows a view similar to Fig. 2, with the adjustable feed-nut suitably adjusted to compensate for wear.

Similar reference characters designate corresponding parts in the several figures.

Reference character 4 designates the cylinder of a rock-drill, 5 the combined cylinder-cover and ratchet-box, and 6 the ratchet-box cover. The cylinder-head and ratchet-box and its cover are all secured to the cylinder, as by suitable bolts. (Not shown.)

50 7 designates the feed-screw of a rock-drill, and 8 my improved feed-nut as a whole. In

a rock-drill of this description the feed-nut 8 is usually made in one piece and is rigidly secured to the cylinder-cover and ratchet-box. I have, however, constructed this feed-nut in two parts and have rigidly secured one portion to the said cylinder-head and ratchet-box and have mounted the other portion in such a way as to permit an adjustment thereof relatively to the stationary portion. The front portion of the nut 9 I have exteriorly screw-threaded and have provided interiorly-arranged screw-threads within the orifice 10 in the cylinder-cover and ratchet-box, which is arranged to receive the said nut. I preferably secure the portion 9 in position by screwing the same down hard to a shoulder 11. The rear or adjustable portion 12 of the nut 8 I have also provided exteriorly with screw-threads, which threads are adapted to engage with the interiorly-arranged screw-threads in the orifice 10 in the cylinder-head and ratchet-box, and I have provided the outer end of the adjustable portion of the nut with a suitable head 13, by which it may be adjusted toward and away from the stationary portion 9. I have provided a lock-nut 14, by which the adjustable portion 12 of the nut may be held in position when it has been correctly adjusted. It will be seen more clearly by reference to Fig. 3, in which are represented a feed-nut and feed-screw before any wear has taken place, that the said nut 14 may occupy and entirely fill the space between the outer face of the ratchet-box or its cover and the head of the adjustable portion of the nut. When wear has taken place in either the feed-screw or the feed-nut, the adjustable portion of the feed-nut may be moved backward by slightly unscrewing the same, and the said portion may then be locked in its position by tightening the lock-nut 14 up against the cylinder-head or ratchet-box cover. Fig. 3 shows the parts so adjusted as to thus compensate for wear.

By my particular construction and arrangement of parts I have provided an adjustable feed-nut of extreme simplicity and of great strength and rigidity. The adjustable portion 12 is by this construction always mounted in perfect alinement with the stationary portion. The adjustment requires no difficult manip-

ulation or unusual skill for its operation. There are no new and complicated parts, the only change from the old form of feed-nut being the making of the same in two halves and
5 threading both these halves into a stationary portion of the drill, such as the cylinder-head and ratchet-box. The nut has great strength and rigidity, because both portions thereof are secured to the same stationary portion of the
10 rock-drill, and hence there is no danger of an accidental relative movement between the two portions.

What I claim is—

1. In a rock-drill the combination with a
15 cylinder, a cylinder-cover and ratchet-box having a screw-threaded orifice therethrough, and a feed-screw, of a feed-nut comprising two sections, one section thereof fitted in the said screw-threaded orifice and rigidly se-
20 cured to the said cylinder-cover and ratchet-box, and the other section adjustably mounted in the said screw-threaded orifice and having

a locking-nut for securing it against movement in either direction in such position, relatively to the stationary section, to which
25 it may have been adjusted.

2. In a rock-drill the combination with a cylinder, a cylinder-head and ratchet-box having a screw-threaded orifice 10 therein, and a feed-screw, of an adjustable feed-nut 8
30 having two sections 9 and 12, the section 9 being fitted to the screw-threaded orifice 10 and rigidly secured in position by screwing the same up to a shoulder, and the adjustable section 12 also mounted in the said orifice and
35 having a locking-nut 14 for securing it against movement in either direction in such position, relatively to the stationary section 9, to which it may have been adjusted.

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