

No. 702,255.

Patented June 10, 1902.

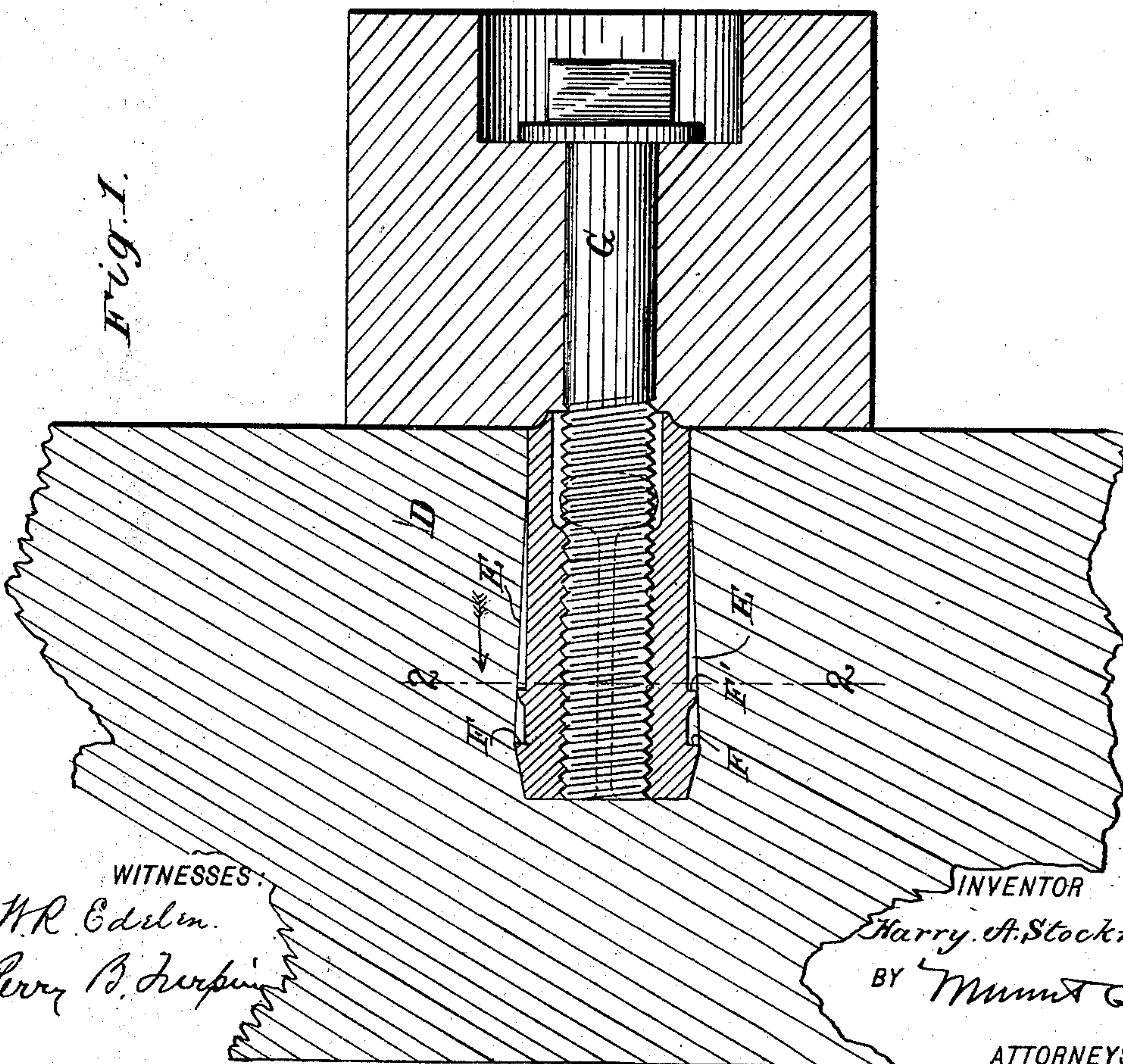
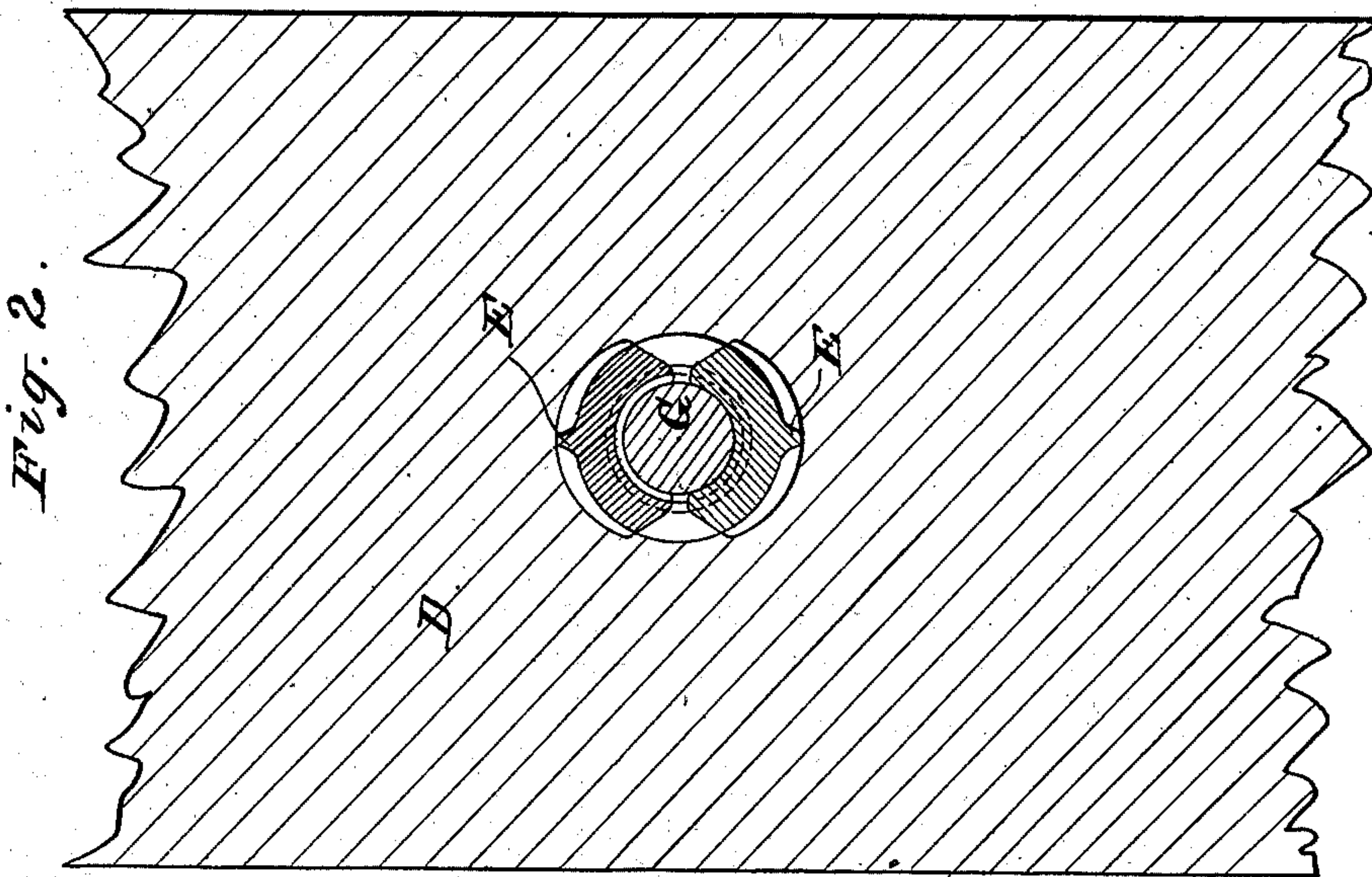
H. A. STOCKMAN.

BOLT LOCK.

(Application filed Nov. 5, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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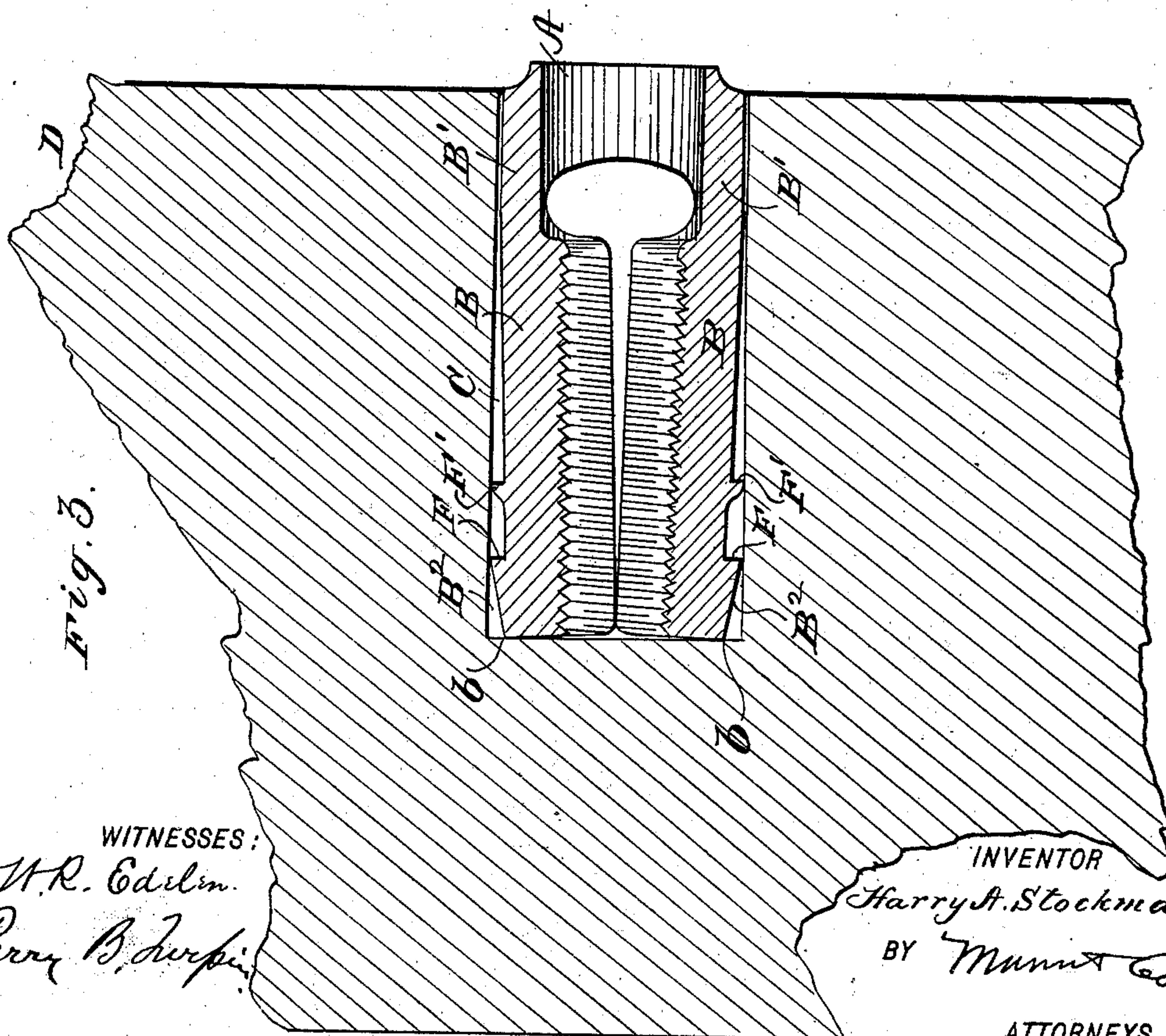
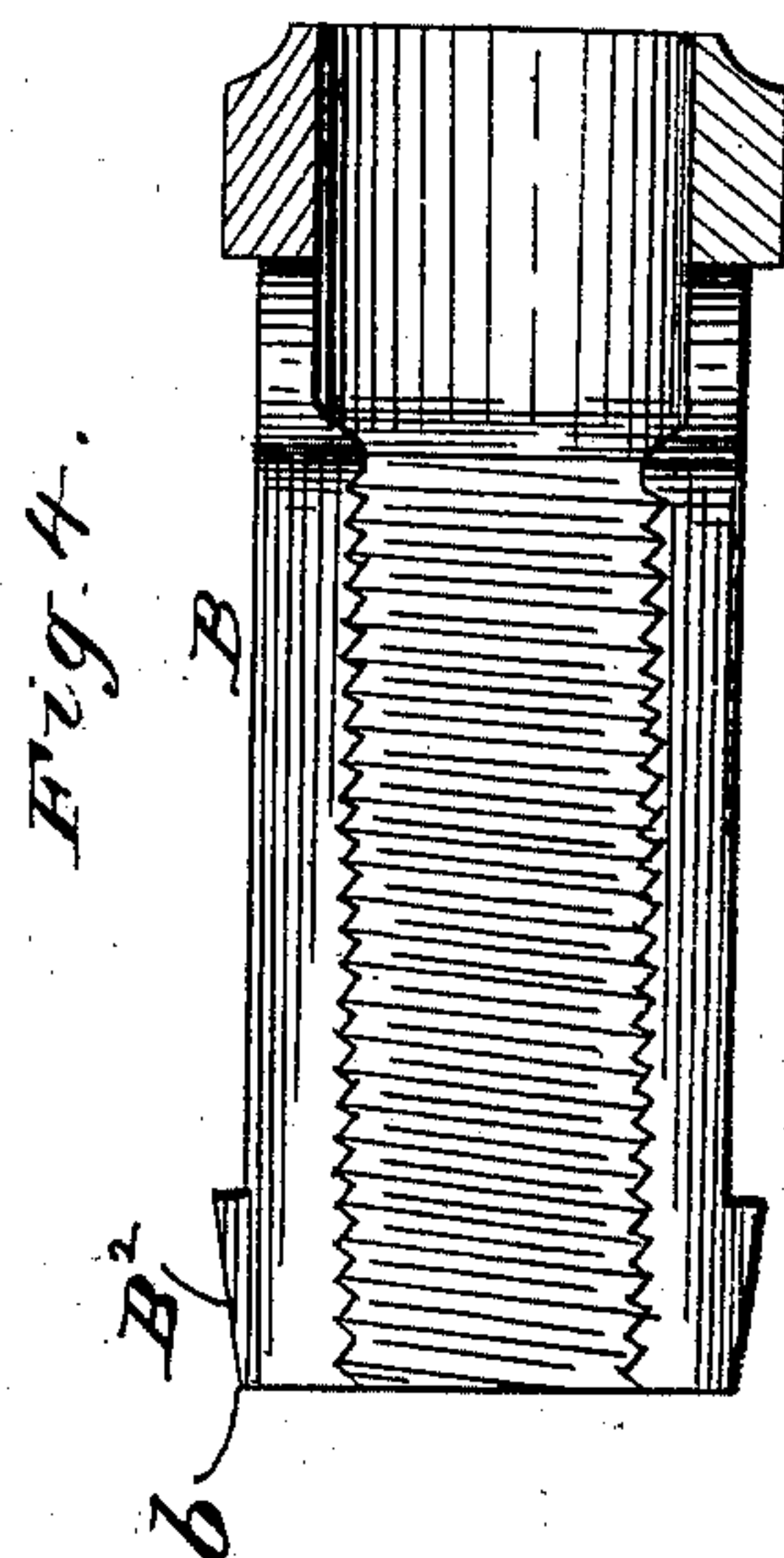
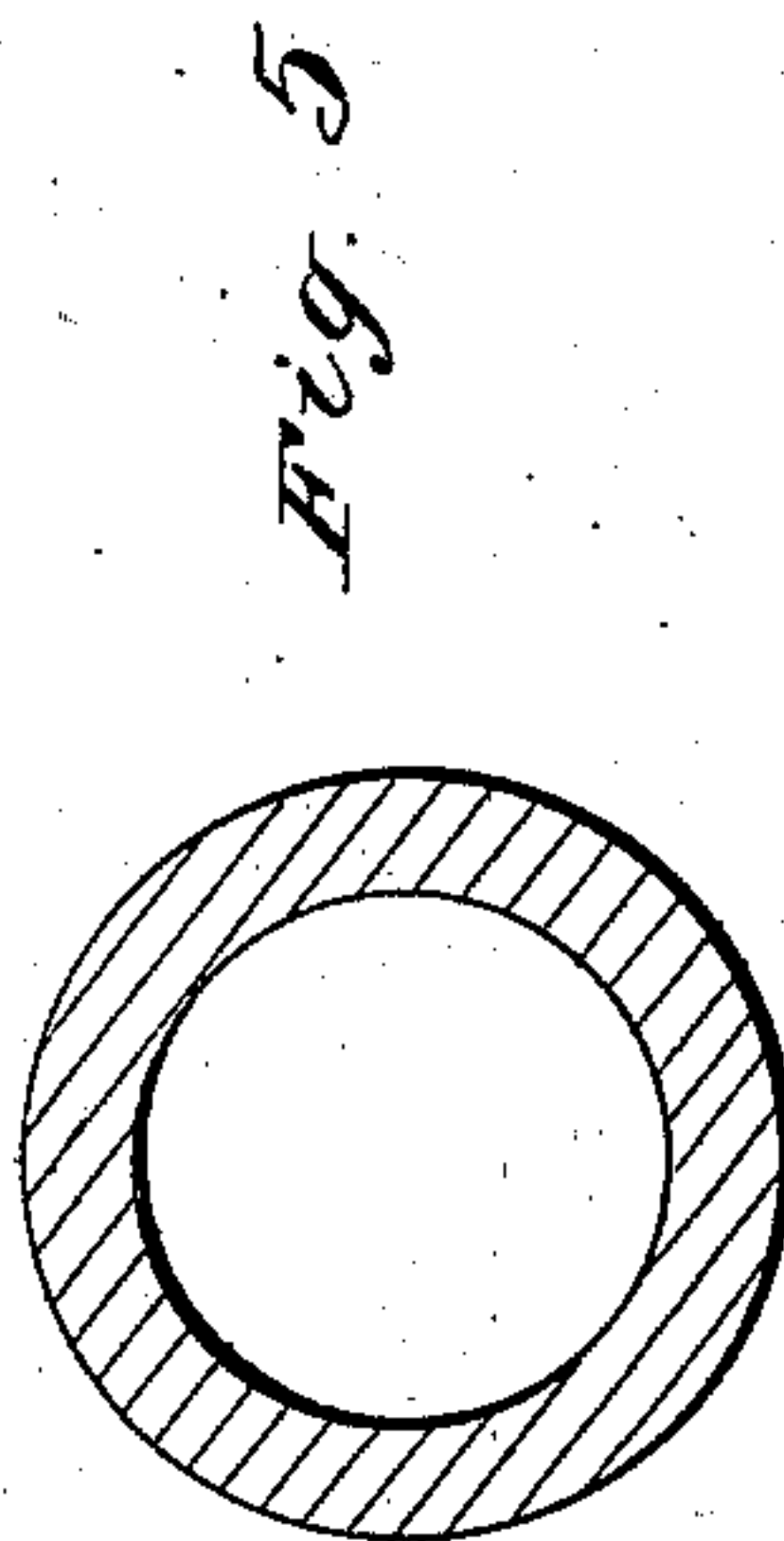
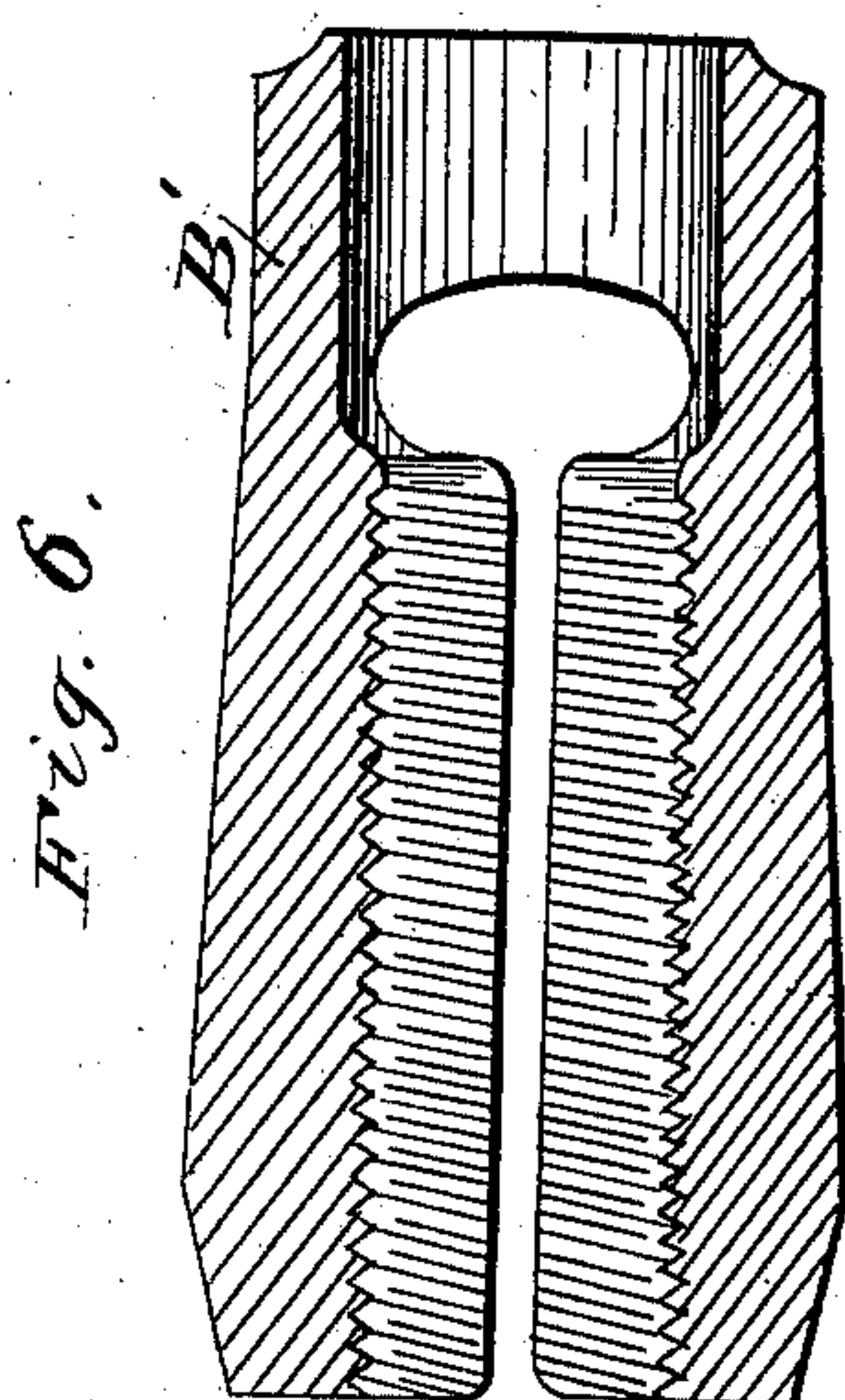
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2 Sheets—Sheet 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HARRY AUGUST STOCKMAN, OF JOHANNESBURG, SOUTH AFRICAN
REPUBLIC.

BOLT-LOCK.

SPECIFICATION forming part of Letters Patent No. 702,255, dated June 10, 1902.

Application filed November 5, 1901. Serial No. 81,180. (No model.)

To all whom it may concern:

Be it known that I, HARRY AUGUST STOCKMAN, a subject of the King of Sweden and Norway, residing at Johannesburg, South African Republic, have made certain new and useful Improvements in Bolt-Locks, of which the following is a specification.

My invention is an improvement in bolt-locks, and particularly in that class of such locks illustrated in my former application for patent, Serial No. 68,484, filed in the United States Patent Office July 16, 1901, and the present invention is designed for use with one lag-screws are employed; and the present invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a sectional side view of my invention as in use. Fig. 2 is a cross-sectional view on about line 2 2 of Fig. 1. Fig. 3 is a longitudinal section of the invention as applied to and secured in the wooden beam previous to being expanded to the position shown in Fig. 1. Fig. 4 is a longitudinal section of the locking device on about line 4 4 of Fig. 6. Fig. 5 is a cross-section through the end ring of the locking device, and Fig. 6 is a longitudinal section of the locking device on a line at right angles to that shown in Fig. 4. Figs. 4 and 6 show a somewhat different construction from that shown in Figs. 1, 2, and 3.

My former invention before referred to is especially designed for shaftwork in mines, where two bolts or lag-screws are secured from opposite sides. My present invention has a more general application, and provides a locking device by which the insertion of the bolt from one side will operate to make the lock or holder fast in its place and also secure the bolt from accidentally loosening.

In the present invention the locking device includes an end ring A and locking bars or sections B, which are secured at one end to the ring A, being formed integrally therewith, and are separated throughout their lengths at both edges, having their ends free and arranged to be expanded from the position shown in Fig. 3 to that shown in Fig. 1 by the insertion of the bolt to the position shown in

Fig. 1. It will be noticed that in its normal position the extremities of the arms B at *b* are of a diameter about equal to the external diameter of the ring A. This will be understood from Fig. 6, which shows the device before it is inserted in the hole C in the timber D. In this position the bars or arms B are spaced apart and occupy the position they do when expanded within the hole C, as shown in Fig. 1. It will be noticed that the connection of the arms B with the end rings A at B' is somewhat reduced, so the arms can be readily bent at such point by the entering screw or bolt to expand the holder to the position shown in Fig. 1. Immediately adjacent to their ends *b* the arms B are tapered at B², gradually enlarging and forming a wedge or taper, whereby the free ends of the arms may be compressed from the position shown in Fig. 6 to that shown in Fig. 3, the arms being reduced in diameter from the inner ends of the tapers B² toward the ring A. This reduction in diameter of the arms may be gradual, as shown in Fig. 6; but it is preferred to provide the construction shown in Fig. 3, wherein the holder is provided with ribs E, extending longitudinally of its arms at the center thereof, and abrupt shoulders are formed at F F', facing toward the ring A, by which to prevent the withdrawal of the holder when the same has been expanded from the position shown in Fig. 3 to that shown in Fig. 1 by the introduction of the bolt G in the use of the device. The ribs E operate to prevent any turning of the holder within the beam D and form braces for the shoulder portions F F', which extend on opposite sides of the said rib, as will be understood from Figs. 1 and 2.

In the operation of the invention a hole is bored in the beam equal to the diameter of the ring A and a depth equal to the length of the nut or holder. The nut is driven into this hole with a hammer or mallet until it reaches the bottom of the hole, when the shape of the nut and the taper of its arms will force the free ends of its arms together to the position shown in Fig. 3. The bolt is then inserted and screwed home, when it will force the projections or shoulders into the wood, causing the nut or holder to bind in the beam and to grip the bolt so tightly that it will withstand

a great deal of vibration before it becomes loose.

While the invention is especially intended for use in wood, it may also be employed in connection with stone or concrete. In fastening in a stone, the hole should be drilled and the nut inserted and a piece of wood put in the hole, while the surrounded space is filled with lead or some other substance, after which the wood may be removed and the bolt inserted to expand the arms, as before described.

In Fig. 4 I show the arms provided with a single shoulder, while in Fig. 6 the construction is modified by the provision of a gradual incline between the end ring and the taper at the free ends of the arms B.

It will be understood that the arms of my holder are threaded internally, as shown, to receive the bolt, and that the said arms are compressed at their free ends by their introduction into the hole in the beam formed to receive them and are then expanded by the insertion of the bolt, as shown in Fig. 1.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

In a bolt-lock, a holder for the bolt comprising an end ring, arms projecting from said ring and separated throughout their lengths at both edges, and having their extremities opposite the said ring free, and arranged to be expanded and contracted, said arms being provided internally with threads and having their outer sides tapered from their extremities toward the ring, and provided between said tapered portion and the ring with the longitudinal ribs, and with the shoulders facing toward the ring, the holder being adapted to be compressed by the tapered ends of the arms as the holder is inserted in a beam, and to be expanded within said beam by the introduction of the bolt, substantially as and for the purposes set forth.

HARRY AUGUST STOCKMAN.

Witnesses:

JAS. D. RANDALL,
K. L. OWEN.