

No. 831,555.

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F. J. HOLTON & D. HOLMGREN.

WRENCH.

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FIG. 1 -

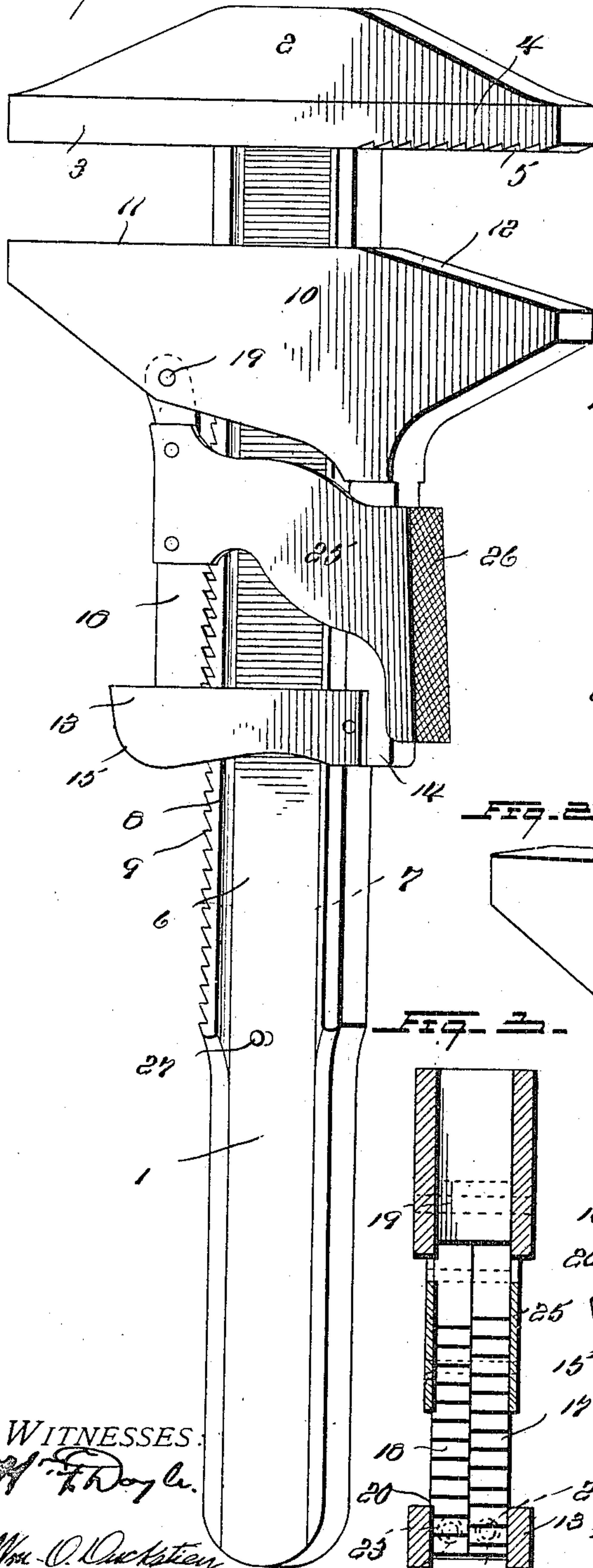


FIG. 2 -

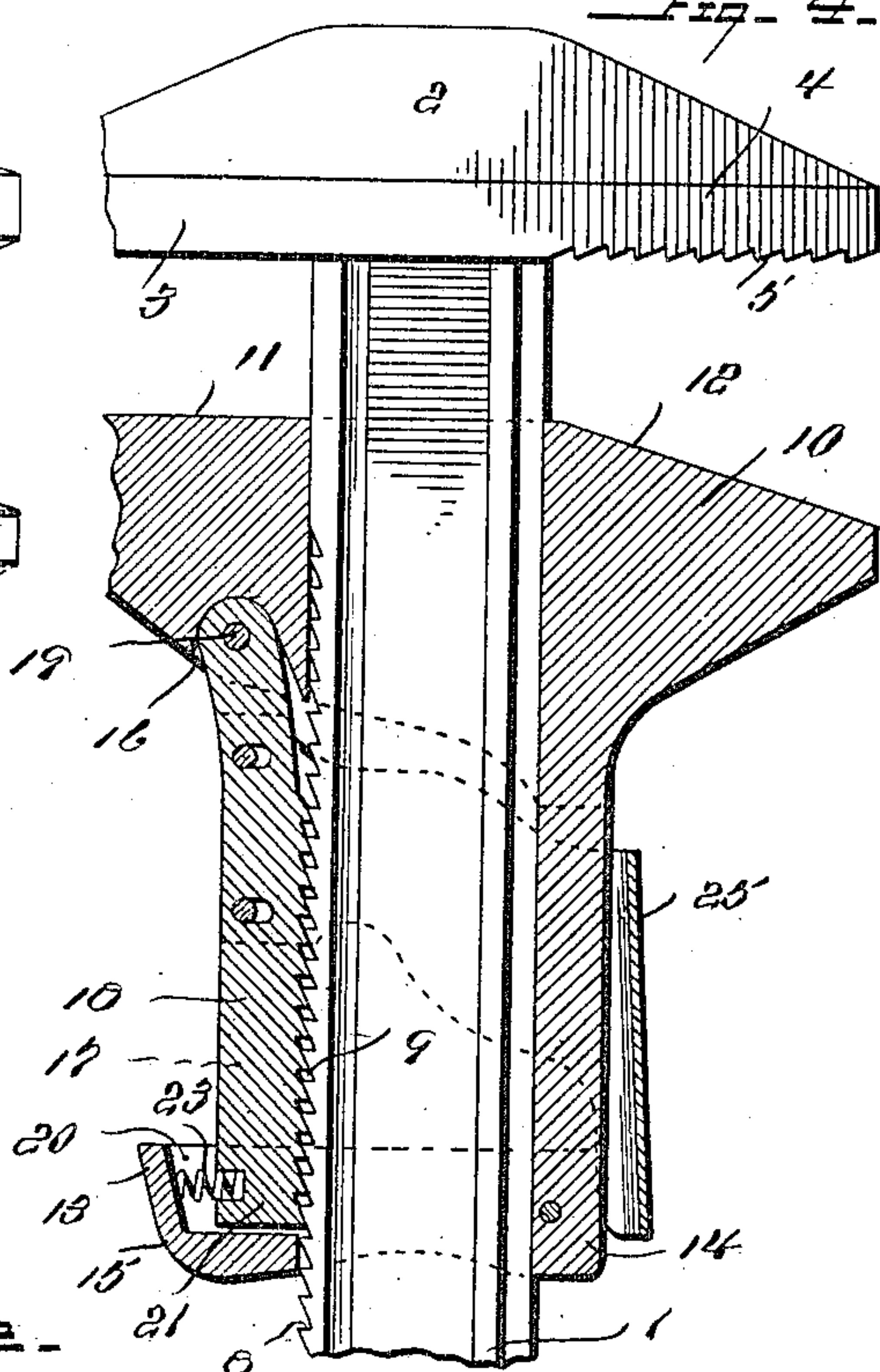


FIG. 3 -

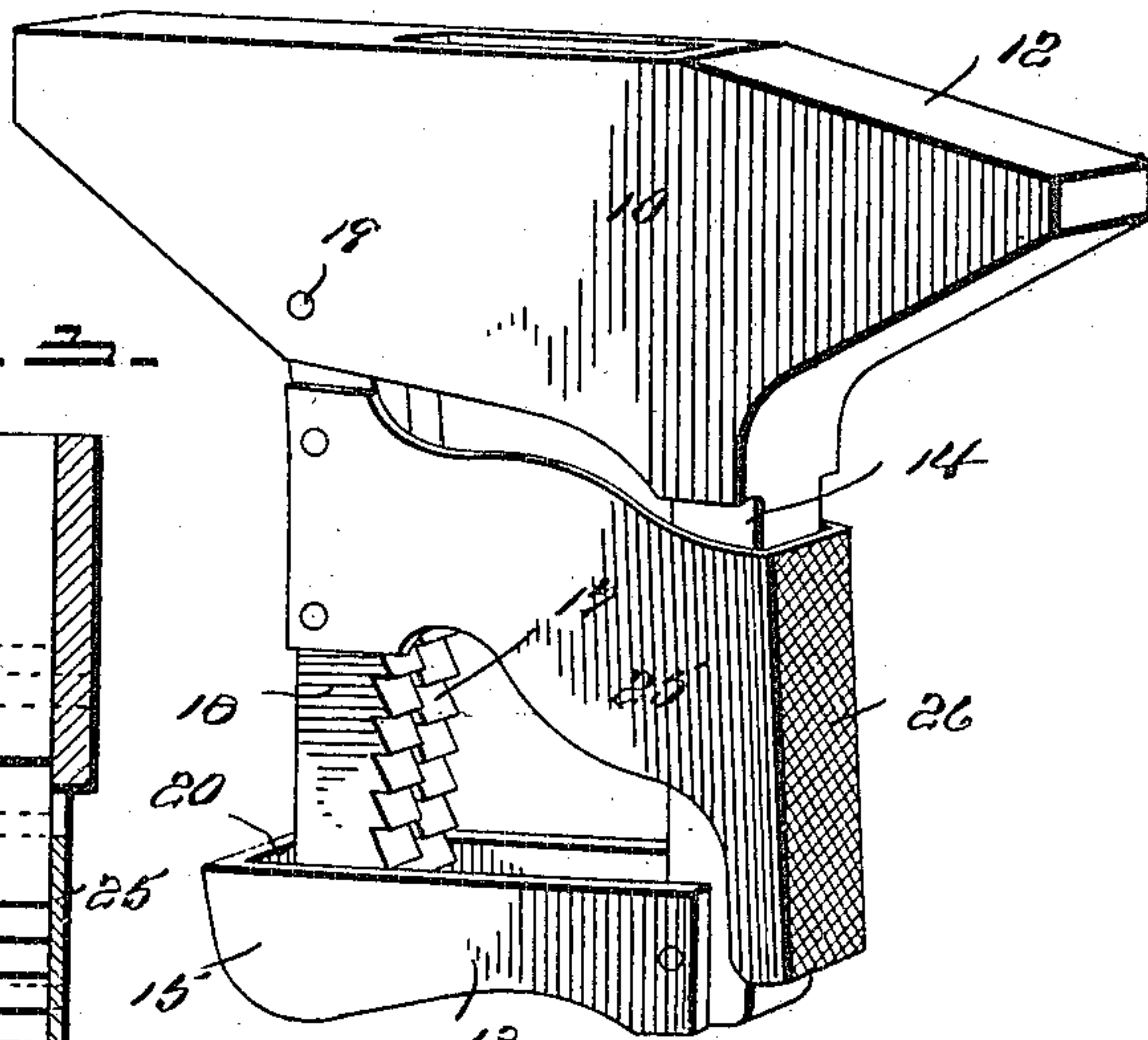
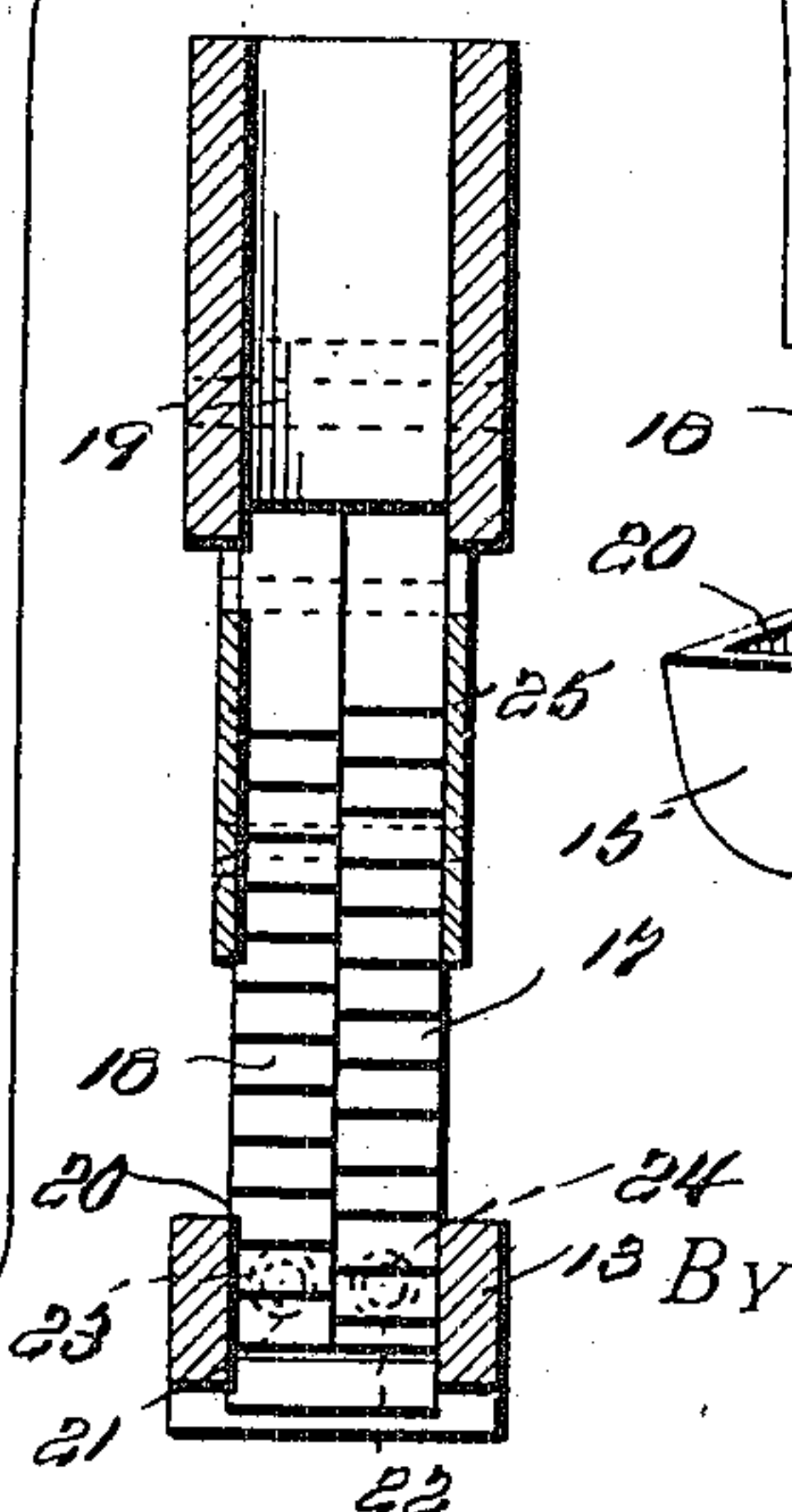


FIG. 4 -



WITNESSES:

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WRENCH.

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Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed December 8, 1905. Serial No. 290,905.

To all whom it may concern:

Be it known that we, FREDERICK J. HOLTON and DAVID HOLMGREN, citizens of the United States, residing at Brigham city, in the county of Boxelder and State of Utah, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

Our invention relates to improvements in wrenches, and pertains more particularly to a combined pipe and nut wrench.

The object of our invention is to provide a wrench of this character having an inner sliding jaw held on the shank in its adjusted position by pawls engaging teeth upon the shank and the arrangement of the pawls being such that it allows of an adjustment of the jaw one-half of the distance of the notches in the shank, thus permitting the notches to be made larger and adding greatly to the strength, but at the same time permits of a finer adjustment without sacrificing strength.

Another object of our invention is to so arrange the pawls in respect to the operating thumb-piece that the operation of the same will raise one of the pawls, so as to disengage its teeth without interfering with the other, and yet both pawls are worked by the one thumb-piece.

Another object of our invention is to provide a more simple, cheap, and effective wrench of this character than has heretofore been produced.

In the accompanying drawings, Figure 1 is a perspective view of our improved wrench. Fig. 2 is a perspective view of the sliding jaw removed. Fig. 3 is a transverse sectional view taken on Fig. 2, showing the position of the teeth upon the pawls; and Fig. 4 is a longitudinal sectional view of the complete wrench.

form and retaining strength. The edge 8 of the shank is provided with an elongated portion having ratchet-teeth 9, which are of a large form and extending outwardly toward the stationary jaw 2 and on the same side of the shank. Slidably mounted upon the said shank is a sliding jaw 10, which is also of a double form, having a straight nut-engaging portion 11 and the obliquely-extending pipe-engaging portion 12. The said sliding jaw 10, as shown, is of an elongated skeleton form, having the loop 13 connected to the jaw proper by a rigid bar 14 on the opposite edge of the shank carrying the ratchet-teeth and is of a width precisely that of the thickness of the shank. The loop 13, as shown, has the shank passing therethrough and is provided with an enlarged portion 15 on the side adjacent the ratchet-teeth of the shank, as will be hereinafter more fully described.

The nut-engaging portion 11 of the wrench adjacent the shank in its lower face is provided with a recess 16, in which are pivotally mounted the downwardly-extending pawls 17 and 18, both of which are mounted upon a common pivot 19. The said pawls, as shown, are of such a shape that they extend inwardly and have an elongated portion which is parallel with the elongated portion of the shank carrying the ratchet-teeth 9, and thus the pawls have a greater number of teeth engaging the teeth of the shank and forming a more secure holding means for the jaw. The said pawls 17 and 18 extend downwardly into a recess 20 in the enlarged portion 15 of the loop 13. The said recess 20 is of a length greater than the width of the pawls, and the outer faces of the pawls 17 and 18 are provided with recesses 21 and 22, in which are placed coil-springs 23 and 24, which extend outwardly and engage the outer wall of the recess 20 and normally hold the pawls in engagement with the ratchet-teeth of the shank.

teeth of the shank, although but one pawl has its teeth positively interlocked therewith. In order to provide means for disengaging the pawls from the teeth, we have provided a stirrup 25, which straddles the skeleton portion of the movable jaw and is provided with a serrated portion 26, by means of which the same is engaged by the thumb for operating it. One end of said stirrup is rigidly connected to the pawl 17, while the opposite end is connected to the pawl 18, but has a limited outward movement independent of the stirrup. Thus it will be seen that one pawl is independent of the other, whereby one interlocks with the ratchet-teeth and the other half-way interlocking, but not holding the same at all.

The stirrup being connected to the pawls and the pawls being held inwardly by the springs, it will be seen that the stirrup is held in an outward position away from the movable jaw, and any pressure applied to the same releases the pawls and allows the movable jaw to be moved upon the shank. To limit the downward movement of the sliding jaw to prevent the same from being disconnected from the wrench, we provide the shank with a pin 27.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A combined pipe and nut wrench, comprising a shank having a double rigid jaw carried by the outer end, ratchet-teeth carried by the shank, a sliding jaw having a straight nut-engaging portion and an oblique pipe-engaging portion, and two pawls carried by the sliding jaws, and having teeth arranged in the same direction but out of transverse alinement with each other to allow for an adjustment of the jaw of one-half the distance of the length of one of the teeth carried by the shank, and a stirrup secured to the pawls and extending around the movable jaw for operating the pawls.

2. A combined pipe and nut wrench, comprising a shank having a rigid jaw carried by the outer end, ratchet-teeth carried by the shank, a sliding jaw upon the shank, and two pawls carried by a common pivot within the movable jaw, and springs held in engagement with the ratchet-teeth of the shank, said pawls having ratchet-teeth arranged in the same direction but out of transverse alinement with each other to allow of an adjustment of the jaw of one-half the distance of the length of one of the teeth of the shank, and a stirrup extending around the movable jaw and having one end rigidly secured to one pawl and the other end connected to the other pawl, but the pawl having a limited movement thereon.

3. A combined pipe and nut wrench, comprising a shank having a rigid jaw carried by the outer end, ratchet-teeth carried by the shank, a sliding jaw carried by the shank and of an elongated skeleton form, two pawls pivoted upon a common pivot within the upper end of the sliding jaw, the lower ends of the pawls having recesses therein carrying springs bearing against the lower end of the jaw, said pawls having ratchet-teeth arranged in the same direction but out of transverse alinement with each other to allow of an adjustment of the jaw of one-half the distance of the length of one of the teeth of the shank, a stirrup extending around the movable jaw and having one end rigidly secured to one pawl and the other end connected to the other pawl, but the last-named pawl having a limited movement independent of the first pawl.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRED. J. HOLTON.
DAVID HOLMGREN.

Witnesses:

CLEO FORSGREN,
B. C. CALL.