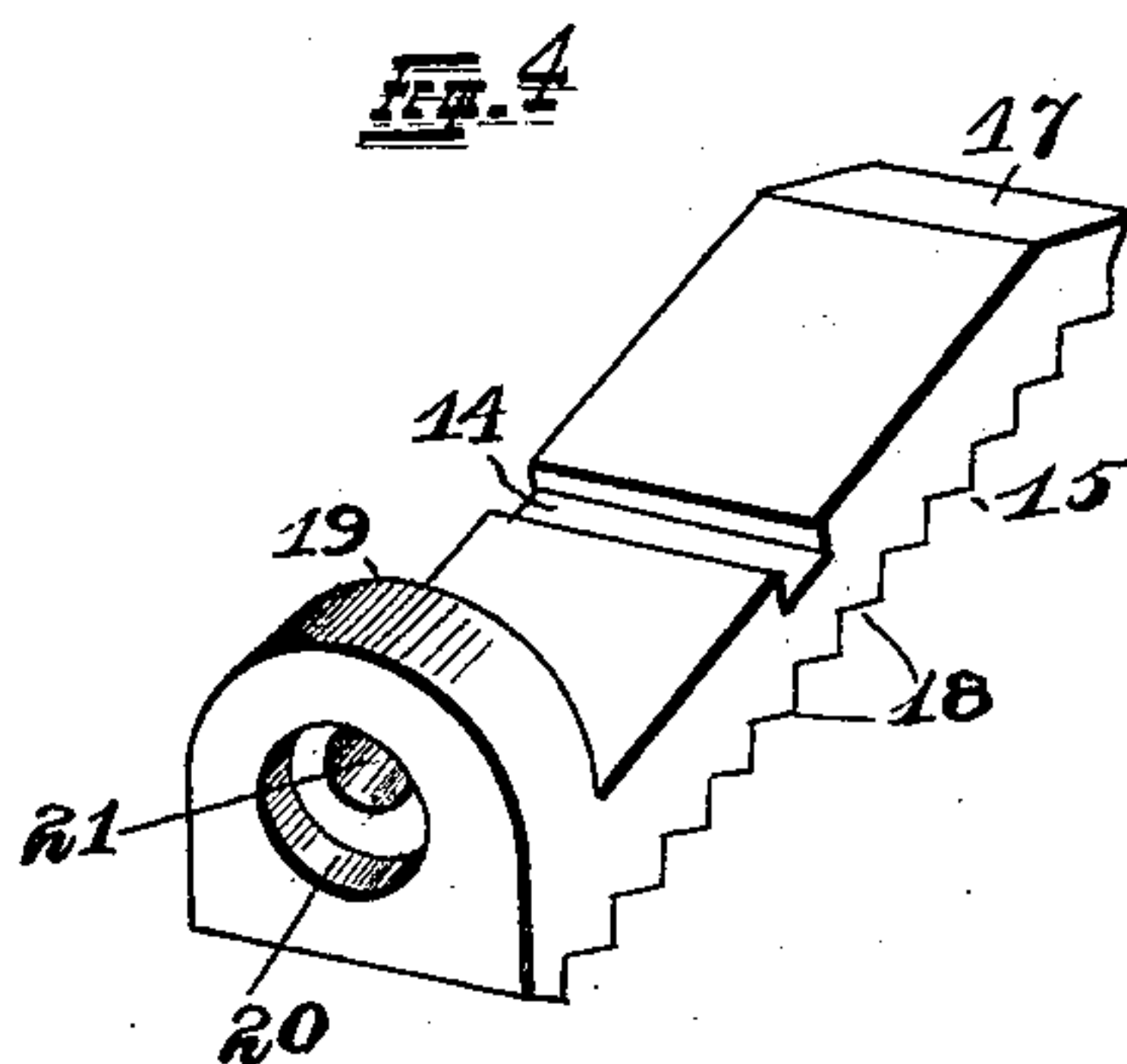
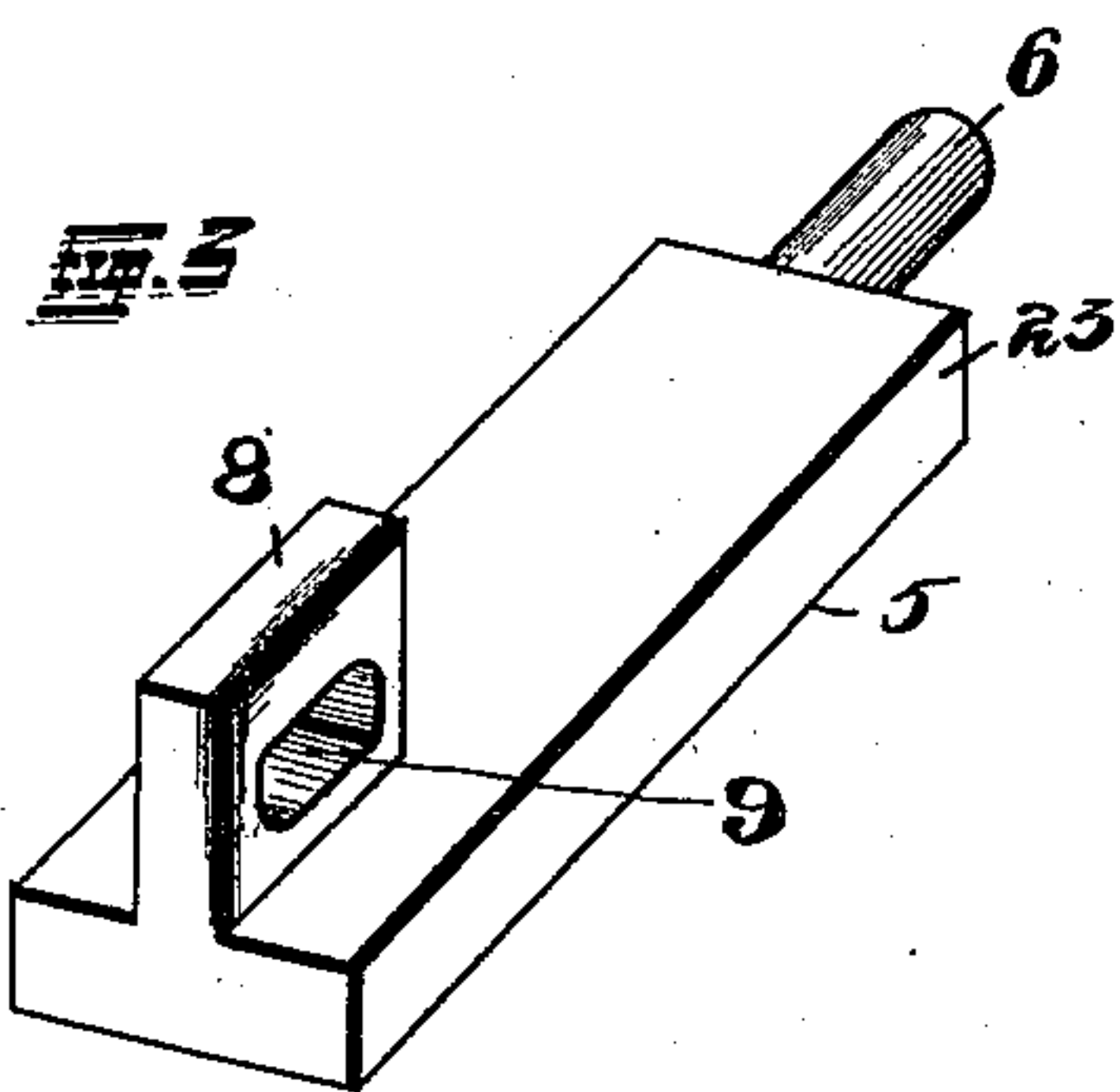
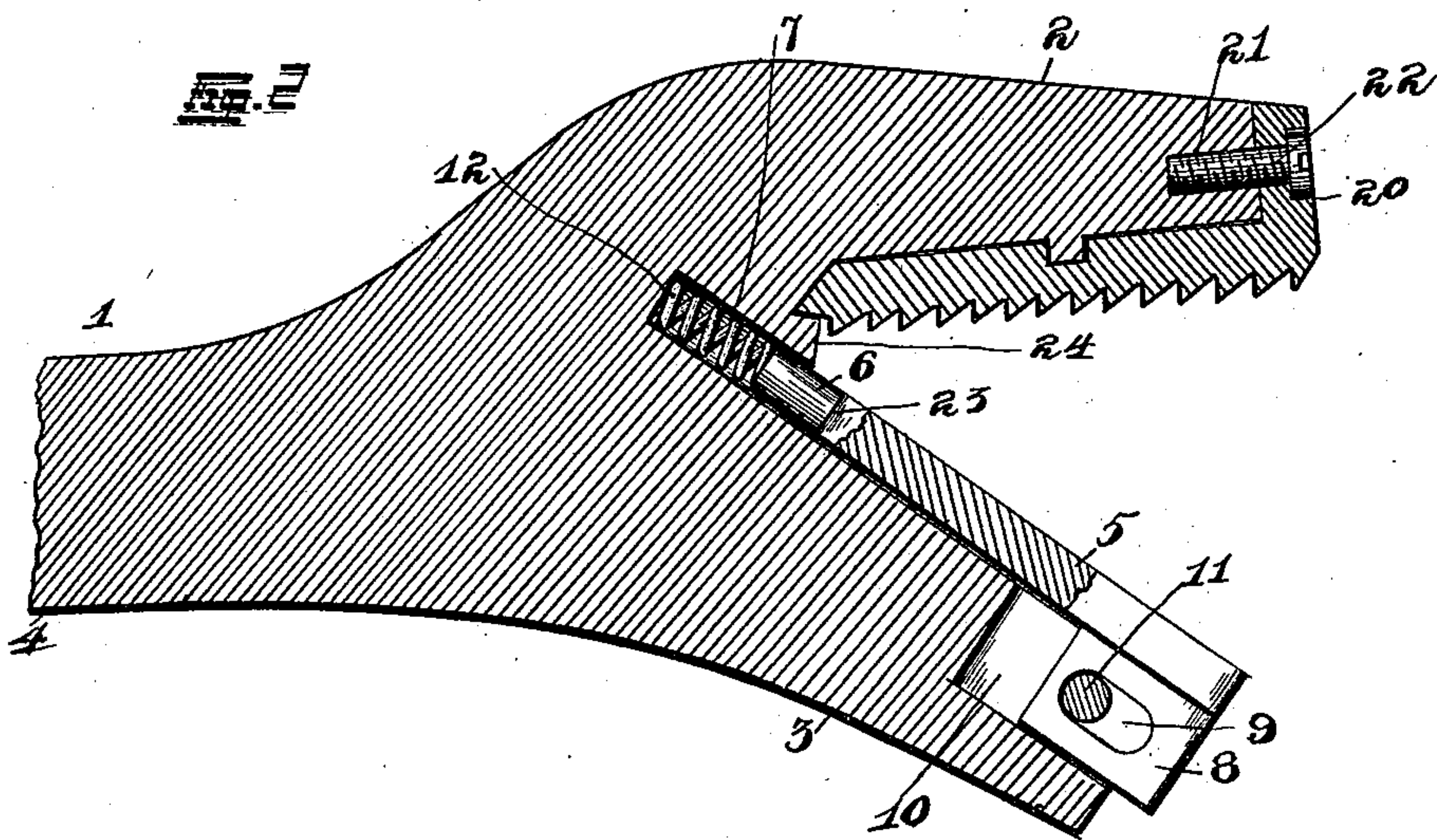
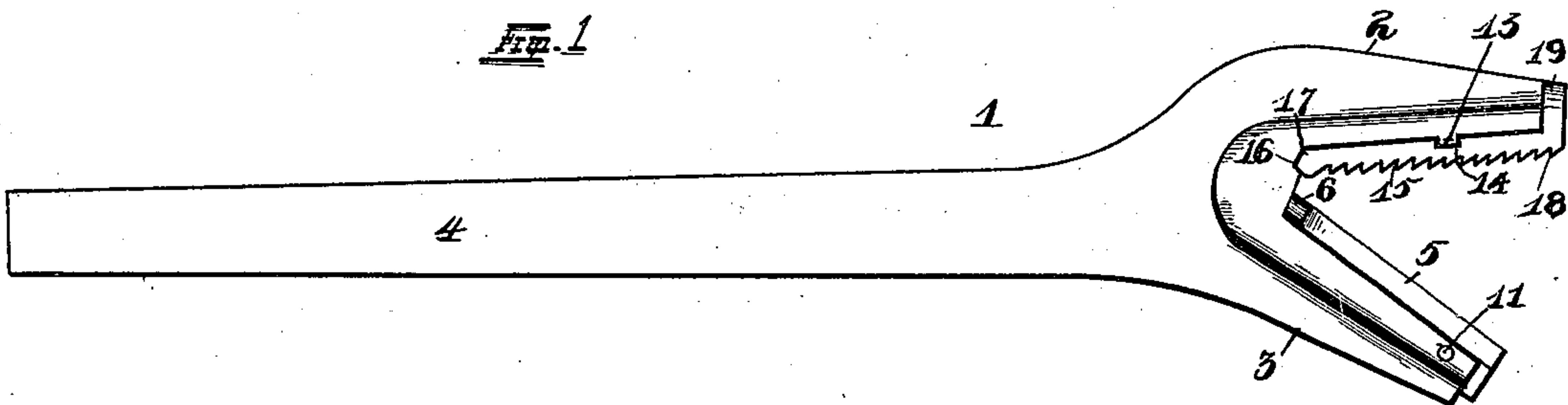


(No Model.)

H. MARTINI.
PIPE WRENCH.

No. 510,182.

Patented Dec. 5, 1893.



Witnesses:
Alfred A. Eicher
Herbert S. Robinson

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Attorneys

UNITED STATES PATENT OFFICE.

HENRY MARTINI, OF ST. LOUIS, MISSOURI.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 510,182, dated December 5, 1893.

Application filed April 24, 1893. Serial No. 471,643. (No model.)

To all whom it may concern:

Be it known that I, HENRY MARTINI, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in "pipe wrenches," and consists in the novel arrangement and combination of parts, as will be more fully hereinafter described and designated in the claim.

The object of my invention is to provide a simple construction of pipe wrenches which in outward appearance resembles and is known as the "alligator jaw," but my improvement differs materially from this class of wrenches, as will hereinafter be shown.

In the drawings: Figure 1 is a side view of my complete invention. Fig. 2 is a sectional view of the head, showing the relative location of the parts. Fig. 3 is a perspective view of the sliding grip-plate. Fig. 4 is a perspective view of the stationary ratchet plate.

Referring to the drawings: 1 indicates my complete wrench, comprising an upper jaw 2, the lower jaw 3 and a handle 4 by means of which the wrench is manipulated. The lower jaw 3 is provided with a sliding gripping plate 5 which has a projecting pin shaped lug 6 upon its inner end, said lug circular in cross-section and adapted to be reciprocated in a chamber 7 projecting inwardly from the face of the jaw 3 and in alignment therewith. The outer end of the plate 5 is provided upon its under side with a rectangular shaped projection 8 provided with an elongated slot 9, said projection 8 adapted to fit in an aligned opening 10 in the face and the end of said jaw 3.

Adapted to be placed through the two ears of the jaw 3 formed by the construction of same with the opening 10, is a pin or shaft 11 which passes through the slot 9 and allows the longitudinal movement of the plate 5.

Located in the chamber or opening 7 in alignment with the face of the jaw 3 is a spring 12, the tension of which keeps the plate to its outward limit, this movement be-

ing controlled by the engagement of the pin 11 in the rear end of the slot 9.

Projecting toward the jaw 3, from the jaw 2 and on the face thereof, is a rectangular projection 13, adapted to fit in a similar transverse opening 14 in the ratchet plate 15, to prevent any longitudinal movement of the same. There is also provided a notched or cut out portion 16 at the base of the jaw 2, into which is adapted to fit the tapered end 17 of said ratchet plate 15, the teeth 18 of which project inwardly toward the plate 5 at such an angle as will grip the pipe readily over which the wrench is being operated.

Upon the outer end of the plate 15 is a projection 19 at right angles with the surface of said plate, said projection 19 having its outer contour similar to that of the jaw 2. The projection 19 is provided with a circular opening 20 with a counter bore 21 leading the remaining distance through the same, the opening 20 being provided for the reception of a set screw 22 which is used to additionally secure the ratchet plate 15 to the jaw 2, said screw 22 passing through the projection 19 and into said jaw. It will now be seen that the outward movement of the sliding plate 5 is limited by the engagement of the bolt 11 with the inner end of the slot 9, and that the inward movement of the plate is limited by the engagement of the shoulders 23 against the projection 24 which lies between the opening 12 and the notch into which the end 17 of the plate 15 fits. The security of the ratchet plate 15 will also be recognized and any movement away from the jaw 2 is prohibited by the engagement of the end 17 in the notched portion, and the longitudinal movement of the same is prevented by the engagement of the shoulder 13 in the slot 14 also secured by means of the screw 22.

The operation of the wrench is very simple, necessitating the application of the same in the direction opposite that to which it is desired to turn the pipe, the sliding plate compensating for any movement of the pipe in settling into the teeth 18 said plate moving slightly toward the shoulder 24 and immediately assuming its normal location when the engagement over the pipe is released.

In turning a pipe, the wrench is preferably moved back and forth slightly in one direction and gripping and turning the pipe in an opposite direction, the sliding plate assuming
5 a new position with every turn of the pipe.

The wrench is constructed of such a size as will apply to pipes of various sizes, working equally as well on larger pipes, as smaller ones.

10 Having fully described my invention, what I claim is—

An improved pipe wrench having a fixed ratchet plate secured to one of the jaws, said ratchet plate having a transverse groove

adapted to fit over a transverse projection 15 upon the jaw, a projection from the end of said plate adapted to be secured to the jaw, the inner end of said plate canted and adapted to engage against the shoulder formed with the wrench, and a sliding plate reciprocatory 20 upon the other jaw, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY MARTINI.

Witnesses:

JNO. C. HIGDON,
ALFRED A. EICKS.