

(No Model.)

H. H. McKELVEY.
WRENCH.

No. 592,162.

Patented Oct. 19, 1897.

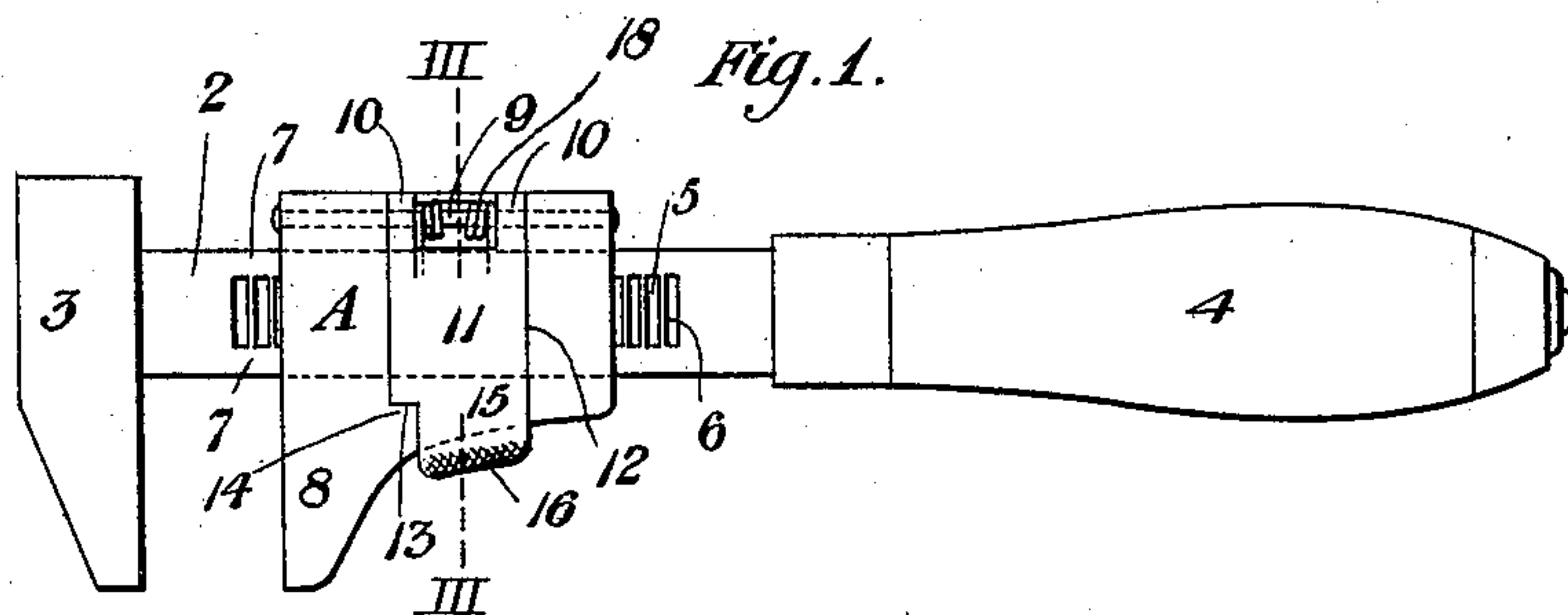


Fig. 2.

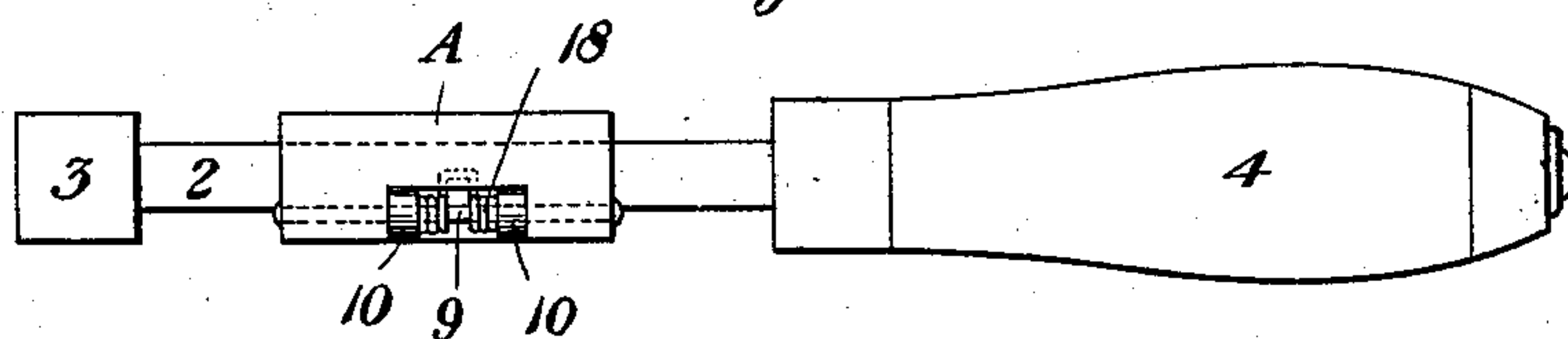


Fig. 3.

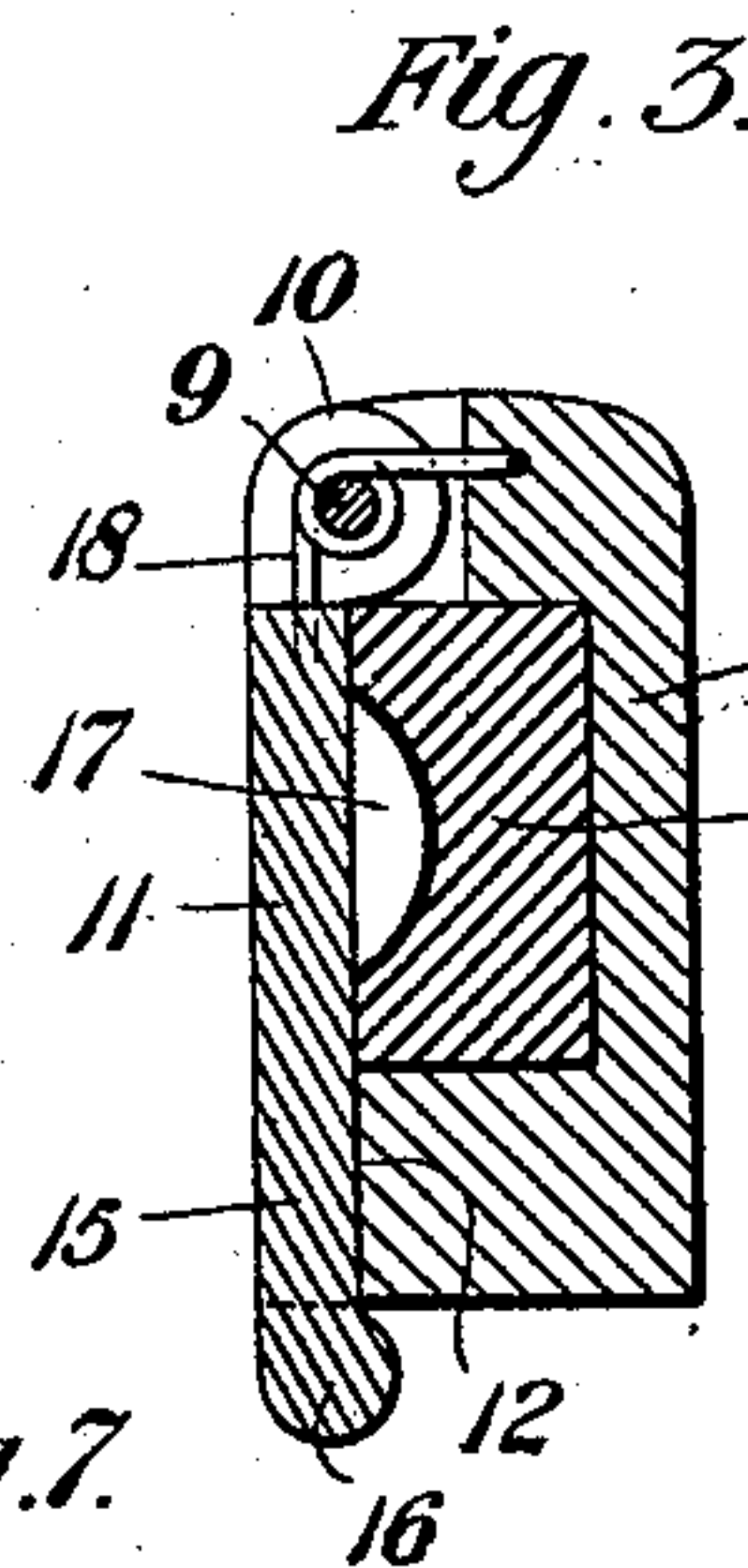


Fig. 5.

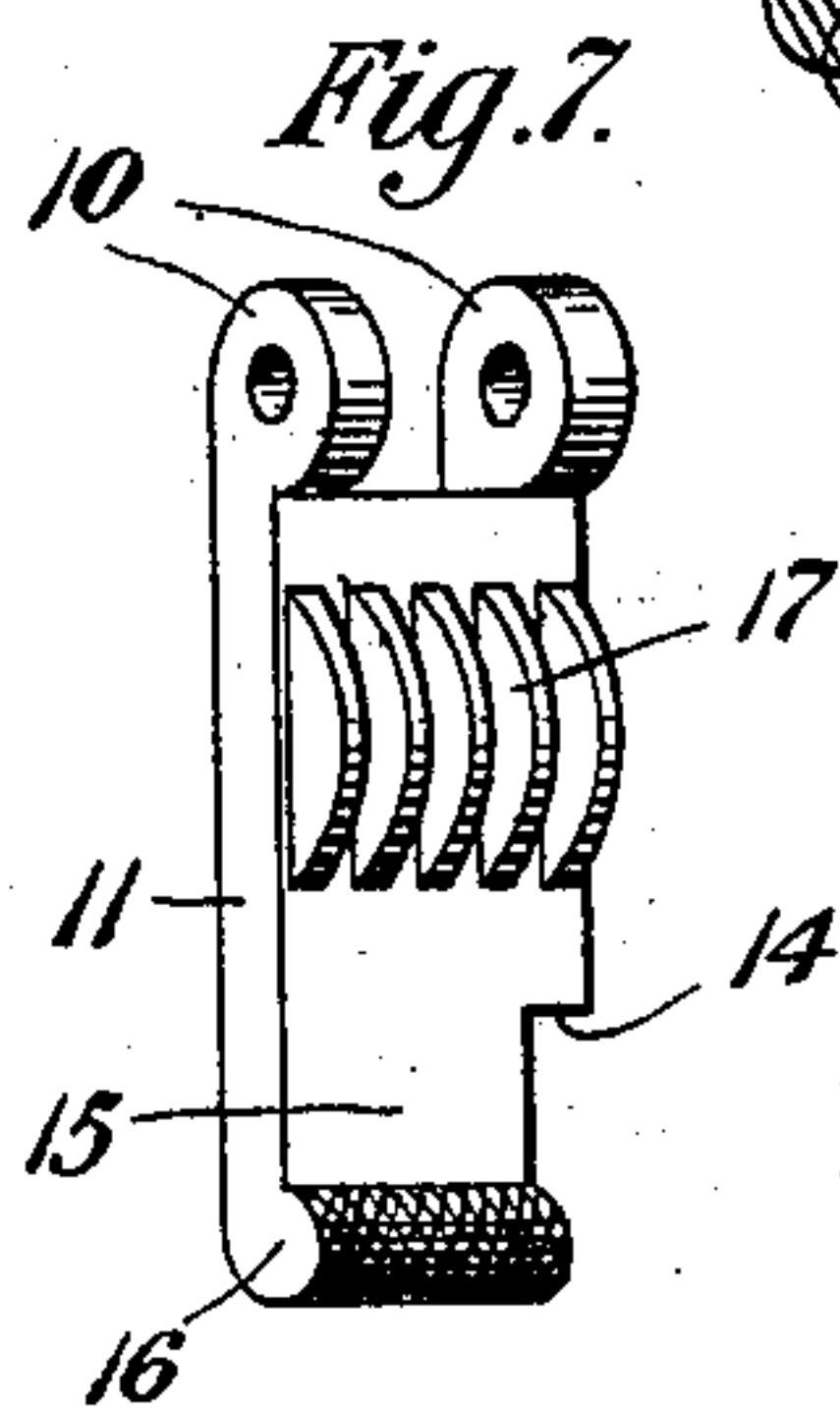
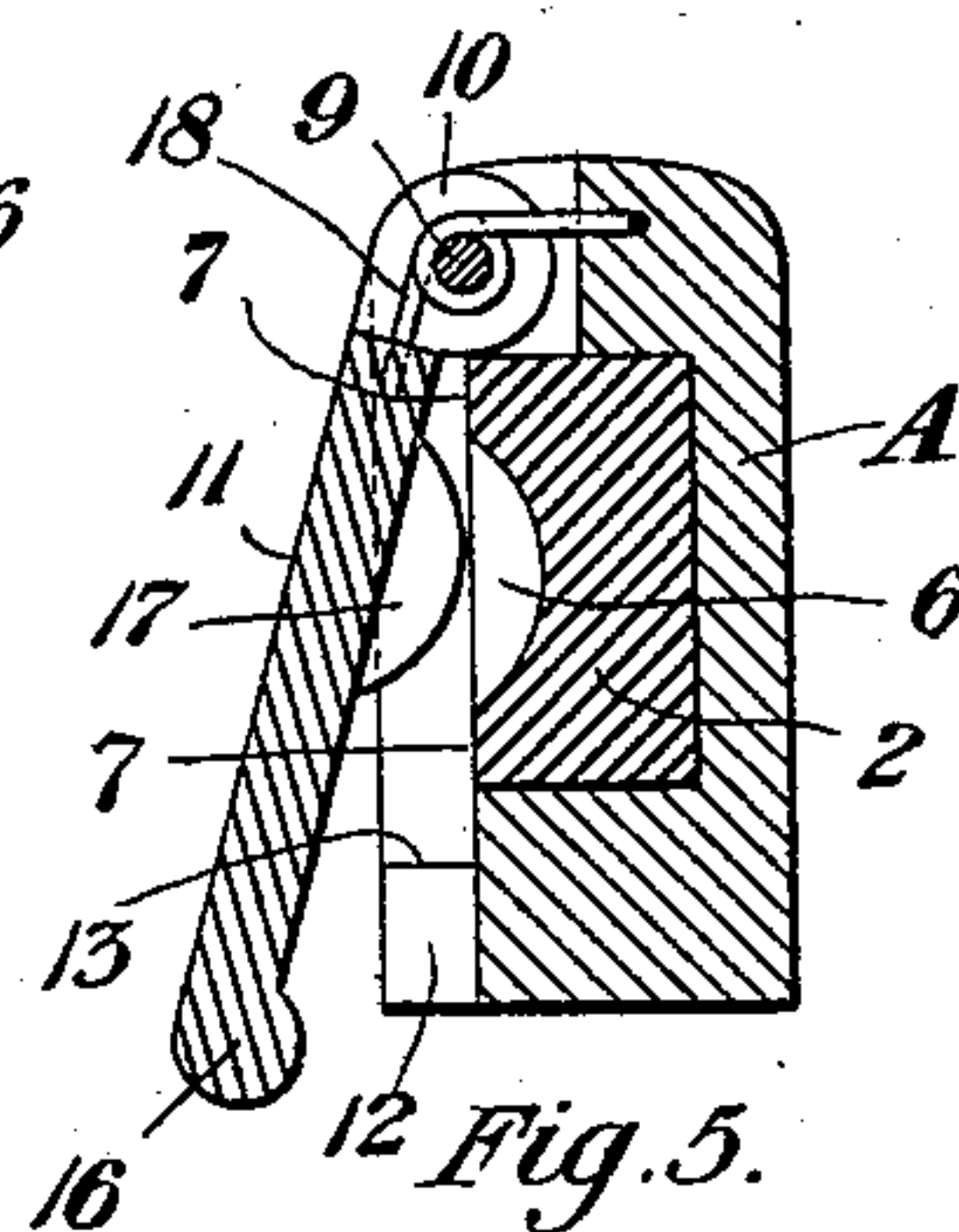


Fig. 7.

Witnesses:
Peter Edwards
A. A. Clarke

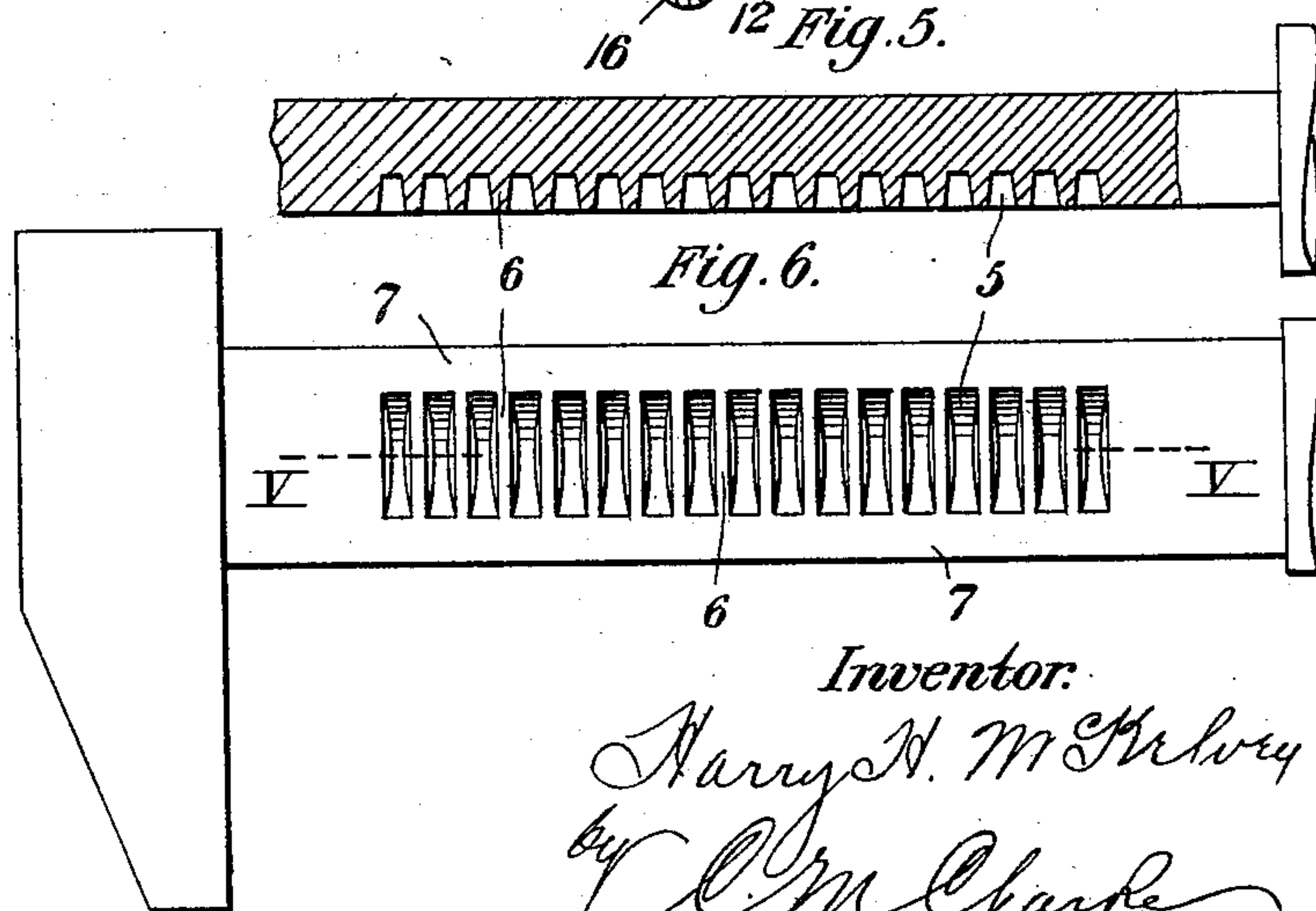


Fig. 9.

Inventor:
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UNITED STATES PATENT OFFICE.

HARRY H. MCKELVEY, OF CORAOPOLIS, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 592,162, dated October 19, 1897.

Application filed February 17, 1897. Serial No. 623,915. (No model.)

To all whom it may concern:

Be it known that I, HARRY H. MCKELVEY, a citizen of the United States, residing at Coraopolis, in the county of Allegheny and State of Pennsylvania, have invented or discovered a new and useful Improvement in Wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this application, in which—

Figure 1 is a view in side elevation of a wrench made in accordance with my invention. Fig. 2 is a back edge view thereof. Fig. 3 is a cross-section on the line III III of Fig. 1. Fig. 4 is a similar view showing the latch disengaged. Fig. 5 is a partial sectional detail view of the shank, the sectional part being indicated by the line V V of Fig. 6. Fig. 6 is a side elevation of the shank and head, showing the teeth. Fig. 7 is a perspective detail view of the latch detached. Figs. 8 and 9 are partial detail fragmentary views of the shank similar to Figs. 5 and 6.

My invention relates to the class of wrenches provided with a fixed head and movable jaw, and has reference especially to the means for adjustment of the movable jaw upon the shank and to the manner of constructing the jaw itself.

Referring to the drawings, 2 is the shank of the wrench, provided at its end with the usual fixed head 3 and supplied with a handle 4. The shank is provided along one side with concave milled recesses 5 and intervening bridge-teeth 6, terminating in the flat side of the shank toward its edges, and flush with its upper surface.

As shown in detail in Figs. 8 and 9, the teeth are provided with square abutting faces *a* at right angles to the top, against which the teeth of the latch, which are similarly constructed, bear. A positive non-slipping engagement is thus insured. The backs are made with tapering or sloping sides *b*, facilitating withdrawal of the latch-teeth, and this construction is preferred for the reason stated.

Along each edge of the shank is the face 7 of solid uncut metal, the teeth being located between such faces, and by so constructing

the teeth they are very much stronger and more durable than if cut clear across the face of the shank.

At their bases the teeth are preferably made wider, whereby the teeth taper toward the points, thereby increasing the strength and resulting in increased ease of operation.

It should be stated that the entire series of teeth, as shown, may be cut in the face of the shank at one operation by the use of a milling-tool of suitable length and provided with suitably-mounted cutters.

Mounted on the shank is a sliding jaw A, provided with a finished opening, through which the shank passes and upon which it is free to move. The jaw has an extended end 8, designed to correspond to the head 3, and hinged to its back edge on a pin 9, engaging the body of the jaw and lugs 10 of the latch, is the latch 11, set in between the ends of the jaw and flush with its surface. For this purpose the jaw is cut out at 12 down to a level with the face of the shank, and the body of the latch is made of a thickness corresponding to the depth of the cut.

At 13 is made an offset in the jaw and a shoulder 14 of the latch is made in a corresponding position, the narrowed extension of the latch 15 extending out beyond the jaw and terminating in an inwardly-turned rounded edge 16, cross-milled around its surface, whereby the latch is raised by the thumb or finger of the operator. On its under face the latch is provided with a series of teeth 17, made to interfit neatly between the teeth 6 of the shank, as in the position shown in Fig. 3, and for the purpose of holding the latch down in such position, with the teeth so in engagement, I have provided a wire spring 18, coiled around the pin 9, its free ends being in engagement with the back of the jaw and the latch, respectively, and exerting its pressure inwardly. When it is desired to adjust the jaw by moving it backward or forward for various sizes of nuts, the latch 11 is slightly raised by the operator, as shown in Fig. 4, when the teeth will be out of engagement and the jaw may be freely moved in either direction. Upon releasing the latch the spring will throw the teeth

again into engagement in the desired position of the jaw and it is immediately ready for use upon the nut.

It will be observed that as the upper portion of the latch is flush with the sides of the jaw the strain is distributed through the jaw and somewhat relieved from the teeth and hinge and the wrench thus may be used with equal ease on either side. The raising of the latch is very slight in order to disengage the teeth, and is very readily accomplished by the same hand that is used to grasp the wrench-handle.

I am aware that wrenches have been constructed employing toothed shanks, and am familiar with the patents granted to Roter-mund, No. 265,445; Heath, No. 221,305, and Cline, No. 332,051, but in all such prior constructions the teeth are cut across the narrow edge of the shank, and clear through from side to side, whereby the shank is proportionately weakened. The amount of movement required in the latch is also much greater than in my construction, and in other respects my invention possesses features of rapidity of action, efficiency, compactness, and cheapness of construction which will be appreciated by those skilled in the art to which it appertains.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a wrench, the combination with a shank provided with a fixed head and countersunk, concave teeth-cavities on one side face of the shank for part of its width and inside the edges; of a sliding jaw mounted on the shank provided with a spring-controlled hinged latch having on its under surface convex projecting teeth adapted to engage the teeth-cavities of the shank, substantially as set forth.

2. In a wrench, the combination with a shank provided with a handle and a fixed head and countersunk, concave, inwardly-tapering teeth-cavities on one side face of the shank for part of its width and inside the edges; of a sliding jaw mounted on the shank provided with a spring-controlled hinged latch having on its under surface convex tapering-sided teeth adapted to engage the teeth-cavities of the shank, substantially as set forth.

3. In a wrench, the combination with a shank provided with a handle and a fixed head and countersunk, concave, inwardly-tapering teeth-cavities on one side face of the shank for part of its width and inside the edges; of a sliding jaw mounted on the shank provided with a spring-controlled hinged latch adapted to be seated between the ends of the jaw and flush with its face, and having on its under surface convex, tapering-sided teeth adapted to engage the teeth-cavities of the shank, substantially as set forth.

4. In a wrench, the combination with a shank provided with a handle and a fixed head and countersunk, concave, inwardly-tapering teeth-cavities on one side face of the shank for part of its width and inside the edges; of a sliding jaw mounted on the shank provided with a spring-controlled hinged latch adapted to be seated between the ends of the jaw and flush with its face, and having on its under surface convex, tapering-sided teeth adapted to engage the teeth-cavities of the shank, and a rounded cross-milled thumb extension, substantially as set forth.

In testimony whereof I have hereunto set my hand this 11th day of December, 1896.

HARRY H. McKELVEY.

Witnesses:

C. M. CLARKE,
GEO. B. PARKER.