

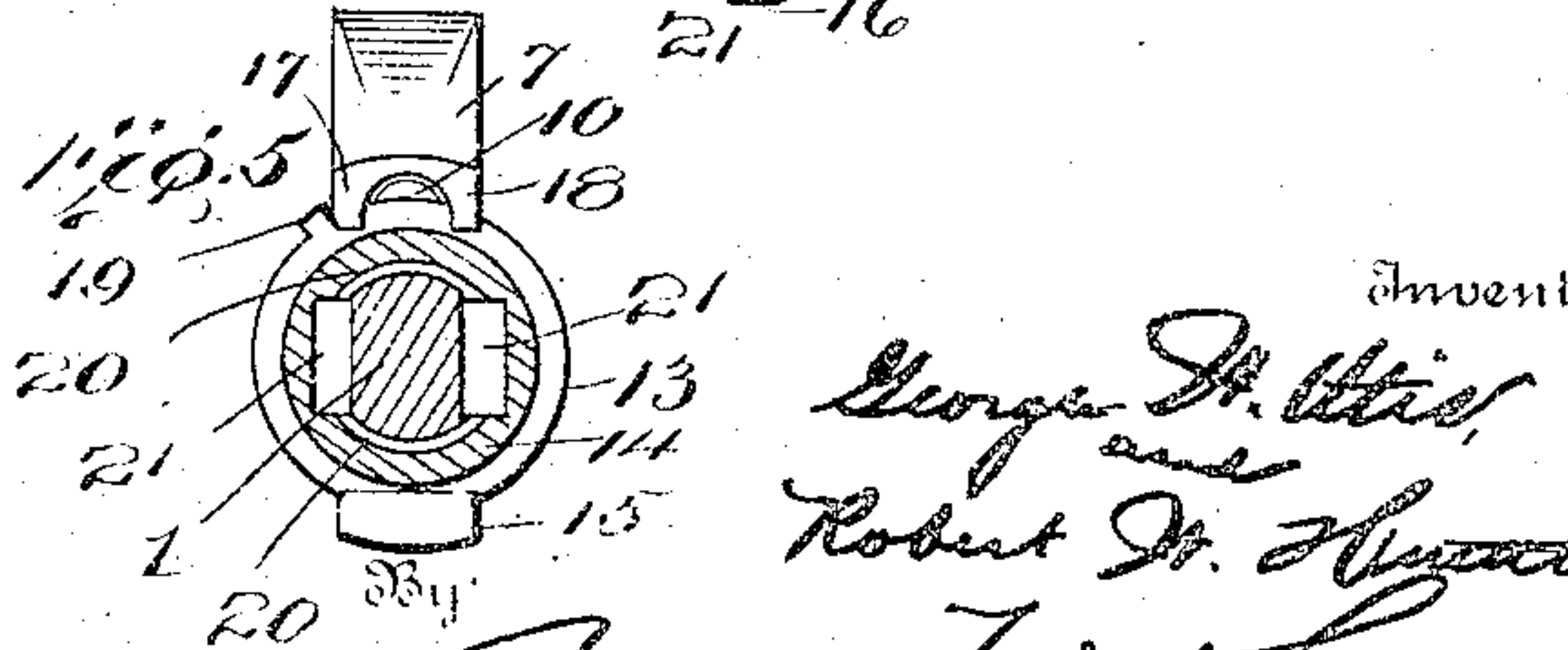
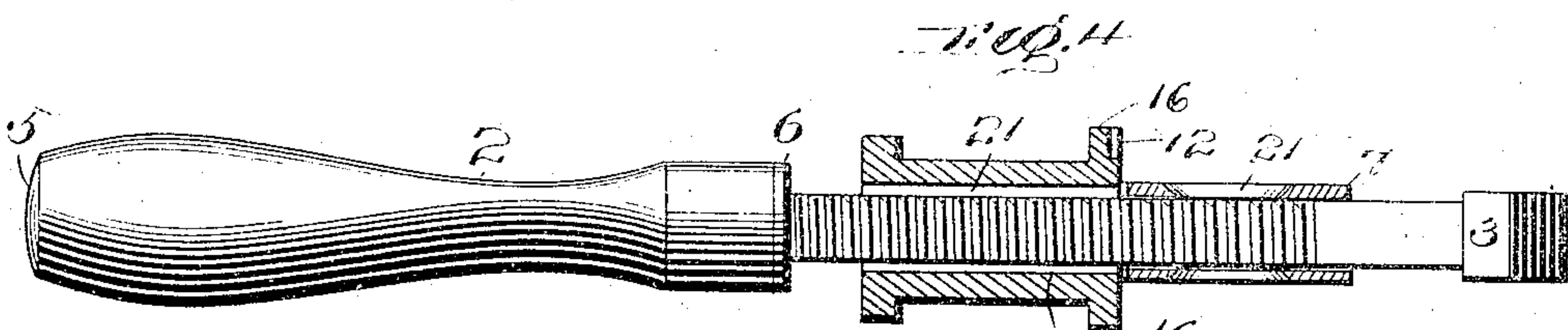
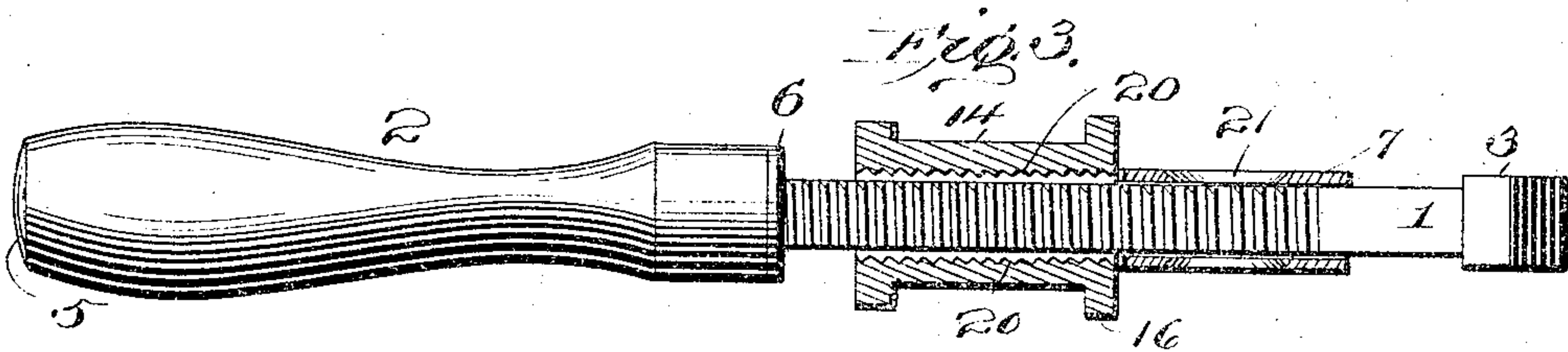
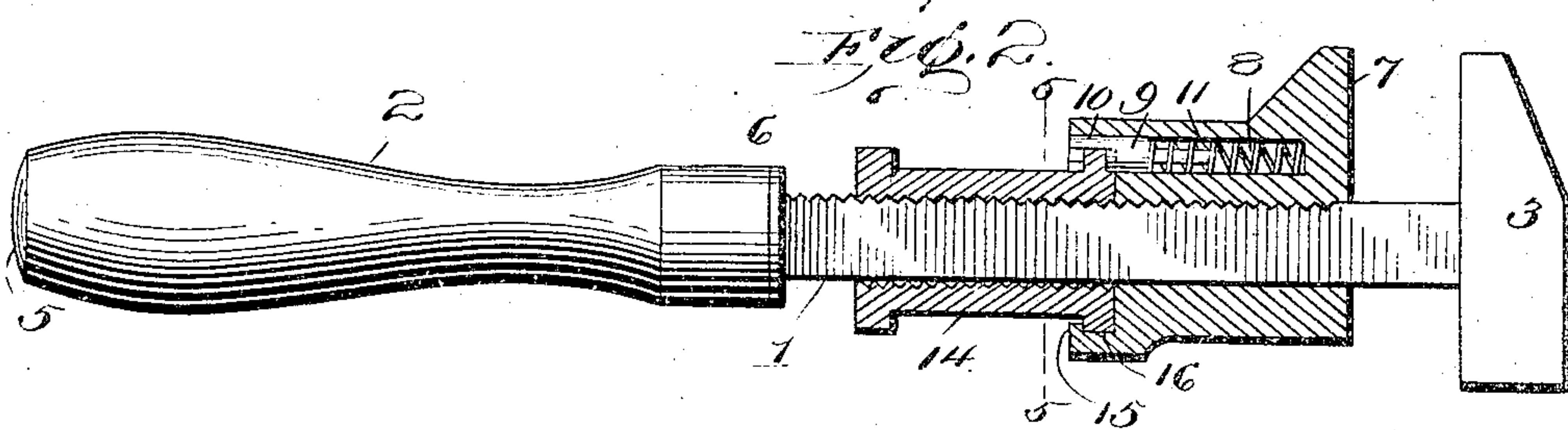
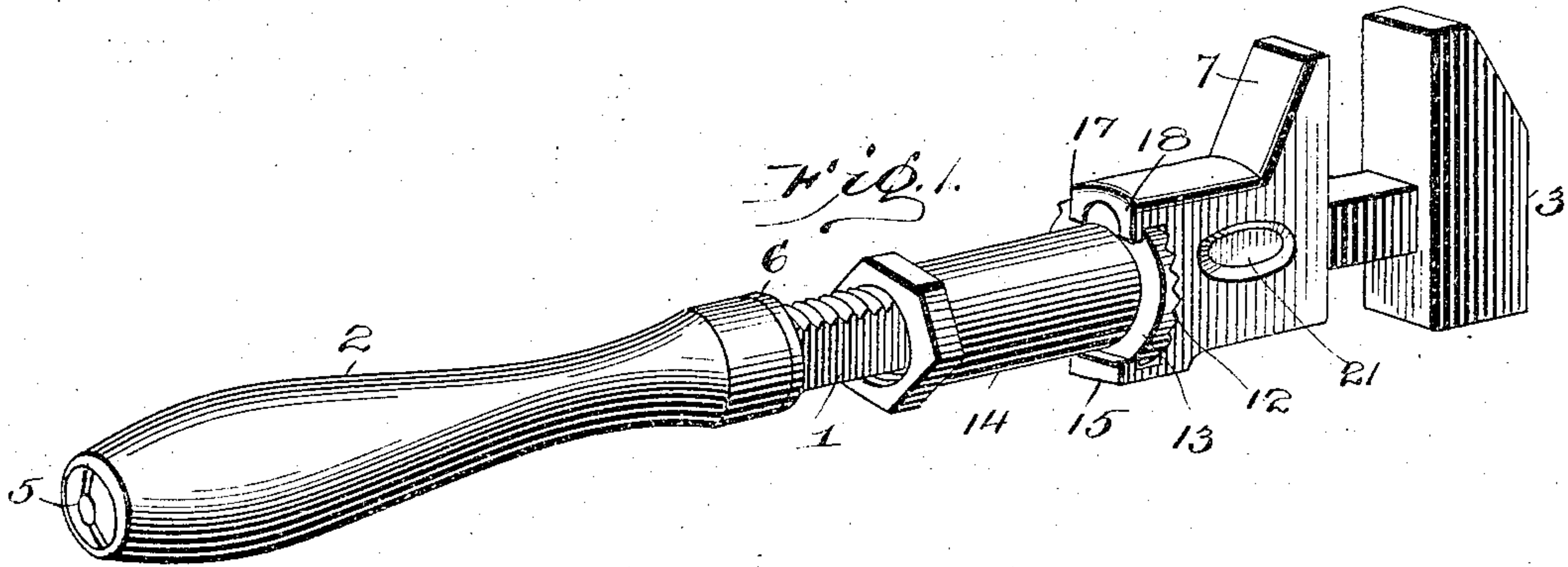
No. 767,311.

PATENTED AUG. 9, 1904.

G. W. OTIS & R. W. HUETTL.
WRENCH.

APPLICATION FILED MAR. 15, 1904.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE W. OTIS AND ROBERT W. HUETTL, OF DALE, WISCONSIN.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 767,311, dated August 9, 1904.

Application filed March 15, 1904. Serial No. 198,279. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. OTIS and ROBERT W. HUETTL, citizens of the United States, residing at Dale, in the county of Outagamie and State of Wisconsin, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches, and more particularly to that class designated as "monkey-wrenches."

The object of the invention is to provide a simple, efficient, and durable locking mechanism for the sliding jaw of the wrench.

Another object of the invention is to provide revoluble means for locking the sliding jaw in a predetermined position upon the shank of the wrench and to also employ said revoluble means in the adjustment of said jaw.

With these and other objects in view the invention consists in the novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a completed device which is constructed according to our invention. Fig. 2 is a side elevation of the invention, showing the sliding jaw and its coöperating parts in longitudinal section. Fig. 3 is a rear view of the wrench, showing the sliding jaw and locking member therefor in section, said locking member in an unlocked position. Fig. 4 is a similar view to that shown in Fig. 3, except the locking member for the sliding jaw is shown as it appears when in a locked position. Fig. 5 is a transverse sectional view of the wrench, taken centrally of the locking member for the sliding jaw and looking toward the integral jaw formed on the shank.

Referring to the drawings by reference-numerals, 1 designates the shank of the wrench, which is provided upon one end with a suitable handle 2 of any ordinary construction and upon its opposite end with an integral jaw 3. The shank 1 is formed rectangular near the fixed jaw 3 and is also provided upon one side thereof with a screw-threaded or rack surface 4, which is preferably formed upon the front

edge or side of the shank, which is more specifically described by designating said edge as being that surface facing the extended portion of the fixed jaw 3. The handle is retained upon the shank by means of a locking-nut 5, which is secured flushed with the end portion of the handle 2. A suitable shoulder 6 is mounted upon the shank and is interposed between the handle 2 and the rack or threaded portion 4 of said shank.

A sliding jaw 7 is mounted upon the shank 1 between the fixed jaw 3 and the handle 2, and said jaw 7 is provided with a recessed slot or portion 8, within which is mounted a sliding pin 9, which is provided with an extension 10, which materially assists in guiding the pin 9 when the same is in an assembled position with the other parts of the wrench. Said pin 9 is provided with a suitable integral extension which projects between a coil-spring 11, mounted within the recess 8 of the sliding jaw 7. It will be apparent that the spring 10 normally retains the pin 9 in an extended position, whereby the said pin 9 is adapted to engage radiating channels or depressions 12, formed on a collar 13, which is secured integrally to a revoluble bur 14, which is slidably mounted upon the shank 1. To secure the revoluble bur 14 in an assembled position with the sliding jaw 7, an integral extension 15 is formed upon the sliding jaw. Said extension 15 is provided with a groove or slot 16 for receiving the collar 13 of the bur 14. Upon the front portion of the jaw 7 is formed integral inwardly-projecting extensions 17 and 18, which also are provided for the purpose of receiving the collar or annular extension 13 of the revoluble member 14. An extension 19 is formed upon the periphery of the collar 13 and provides a stop for limiting the movement of the revoluble locking member 14. The central bore of the member 14 is provided with segmental rack-surfaces 20, which are formed upon the inner wall of the member 14 in opposite positions, and between said portions 20 are formed suitable channels or smooth surfaces 21, whereby the locking and unlocking of the member 14 and the sliding jaw 7 in a predetermined position is obtained. An integral hexagon-surface collar

is formed upon the bur 14 at its opposite end from that which is provided with the collar 13. The sliding jaw 7 is provided with ornamental apertures 21^a. The sliding jaw 7 is provided with a rectangular bore throughout its entire length and is adapted to slide loosely upon the shank 1 when the locking mechanism which is assembled therewith is in an unlocked position.

The operation of the sliding jaw and its co-operating parts is as follows: The bur 14 is rotated to the position shown in Fig. 1, thereby causing the extension 19 to engage the outer surface of the inwardly-projecting extension 17, and when the bur is in this position one of the racked or threaded surfaces 20, formed within the member 14, is in engagement with the corresponding surface of the shank 1. It will be obvious that this position positively retains the sliding jaw in a locked position upon the shank 1. If it is desired to move the sliding jaws upon the shank 1, it will be necessary to rotate the bur 14, and it is preferable to continue to rotate said member until the extension 19 engages the integral extension 15 of said jaw 7. When the bur has assumed the last-mentioned position, the locking-surfaces of the bur are in parallel position with the smooth surfaces of the shank and one of the channels 21 is in parallel position with the rack formed upon the shank. The sliding pin 9, which engages the channeled or ratchet surface of the integral collar 13, which is formed upon the member 14, performs the function of a brake, whereby the rotary movement of the member 14 is controlled. If it is desired to retain the jaw 7 in a fixed position, the same may be adjusted to a predetermined position by the actuation of the bur, and upon obtaining such position said bur will be positively secured in the adjusted position by means of brake mechanism carried by the sliding jaw. It will be obvious that the pin 9 does not lock the member 14 against manual operation, but

that it insures the prevention of rotation of the bur member when in an adjusted position after such member and jaw have been moved to a position desired by the operator.

While we have described the preferred form of our invention, and shown the same in the accompanying drawings, it will be obvious that the sliding jaw can be constructed in different sizes and of different patterns and that the locking mechanism therefor can be deviated from without departing from the general spirit of the invention, and we therefore reserve the right to make such modifications, alterations, and changes as shall fairly fall within the scope of the invention.

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

A device of the character described, comprising a shank, a jaw secured thereto, a sliding jaw mounted upon said shank provided with a plurality of diametrically opposite extensions, a revoluble bur provided with an annulus secured in an assembled position with said sliding jaw by means of said extensions, said annulus provided with a roughened surface formed upon its end portion, one of said extensions formed upon said sliding jaw provided with a guiding-recess, said sliding jaw having an opening formed therein, a pin provided with cushioning means mounted within said opening of the sliding jaw, said pin provided with an extension and an engaging surface, said extension projecting within the guiding-recess formed upon said extension of the sliding jaw, and means for retaining said bur in a locked position upon said shank.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

GEORGE W. OTIS.
ROBERT W. HUETTL.

Witnesses:

A. R. WATERHOUSE,
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