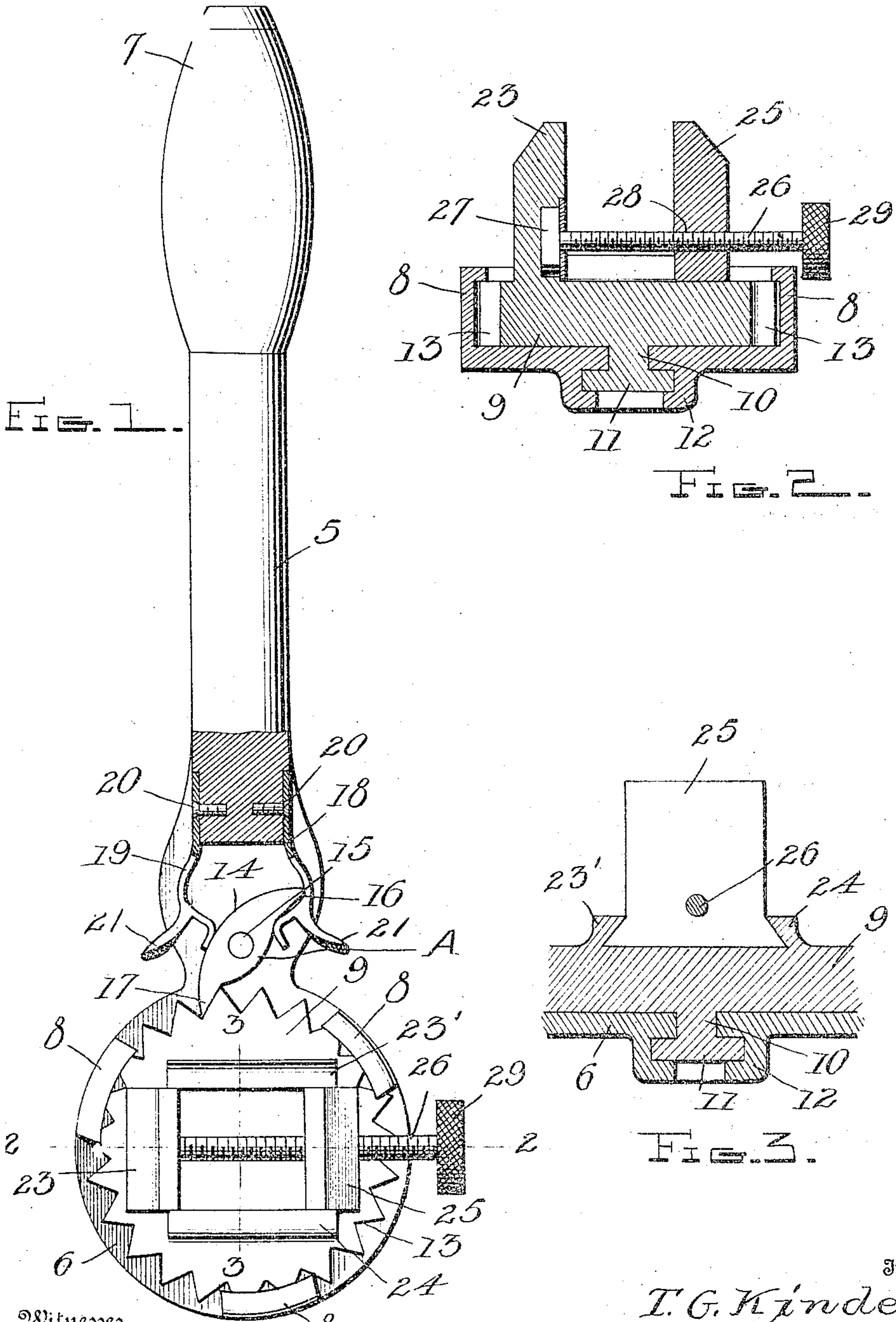


No. 880,670.

PATENTED MAR. 3, 1908.

T. G. KINDER.  
RATCHET WRENCH.

APPLICATION FILED JULY 6, 1907.



Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS G. KINDER, OF MOUNT OLIVE, INDIAN.

## RATCHET-WRENCH.

No. 880,670.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed July 6, 1907. Serial No. 382,486.

*To all whom it may concern:*

Be it known that I, THOMAS G. KINDER, citizen of the United States, residing at Mount Olive, in the county of Martin and State of Indiana, have invented certain new and useful Improvements in Ratchet-Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches of the ratchet type, and has for its object to provide a useful and convenient device of this character, capable of being used as a reversible wrench.

With this and other objects in view the invention consists in certain novel features of construction and combination of parts, which will be hereinafter more fully set forth.

In the drawings forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1, is an elevation of the wrench partly in section, Fig. 2, is a section on the line 2—2 of Fig. 1, Fig. 3, is a section on the line 3—3 of Fig. 1.

Referring now more particularly to the drawings, there is shown a stock 5 terminating at one end in a head 6 and having its opposite end provided with a handle 7. The head 6 is provided with upwardly and inwardly projecting lugs 8, the purpose of which will hereinafter appear.

Pivotaly mounted on the head 6 and beneath the lugs 8 thereon, is a ratchet wheel 9, the pivot pin 10 of which is headed as shown at 11, and is received in a boss 12, formed on the head 6, whereby a swivel connection is had. The wheel 9 is provided with ratchet teeth 13.

A pawl 15 is pivoted upon the head 6 between the end of the stock 5 and the ratchet wheel 9. This pawl is substantially crescent shaped, so that it has oppositely disposed teeth 16 and 17, for engagement of the ratchet wheel 9. At the concave side of the pawl, it is provided with a centrally located convexity resulting in angles at the inner ends of the teeth 16 and 17. Springs 18 and 19 are secured to opposite sides of the stock 5 at the end thereof located adjacent to the head, these springs having inwardly bent free extremities engaging the pawl 15.

As shown in the drawings, the extremities of the springs are arranged to engage the concave side of the pawl at the end of the centrally located convexity thereof, this convexity being located at A, as shown. When the spring 18 thus engages the pawl, the tooth 17 of the latter is in engagement with the ratchet teeth of the wheel 9, and when the spring 19 is in engagement with the concave side of the pawl the tooth 16 of the pawl is in engagement with the ratchet wheel. The operation of the wrench may thus be reversed by shifting the position of the pawl, as will be readily understood. Springs 18 and 19 are each provided with a serrated finger piece 21. By means of these finger pieces, the springs may be moved out of engagement with the pawl to permit shifting thereof.

Formed on the ratchet wheel 9 is a head 23 and slidable in guides 23' and 24 respectively formed on the wheel, is a second jaw 25, which is movable toward and away from the first named jaw, by means of a screw 26 having one end swiveled in the fixed jaw 23 as shown at 27, and its opposite end is passed through an opening 28 in the movable jaw 25, and is provided with a milled head 29.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood without requiring an extended explanation. The device is exceedingly useful for the purpose for which it is designed and may be placed upon the market at a comparatively small cost.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What is claimed is:

In a ratchet wrench, the combination with a stock, of a head carried by one end of the stock, a ratchet wheel pivotaly mounted upon the head, adjustable jaws mounted upon the ratchet wheel, a pawl pivoted between its ends upon the head between the stock and ratchet wheel, said pawl being of crescent shape to provide oppositely dis-

posed terminal ratchet engaging teeth, said  
pawl having on its concave side a centrally  
located convexity, and separate springs se-  
cured to the end of the stock adjacent to the  
5 head, said springs being arranged for inter-  
changeable engagement with the concave  
side of the pawl at the end of the centrally  
located convexity, to hold the pawl with its

opposite ends yieldably in engagement with  
the ratchet teeth. 10

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

THOMAS G. KINDER.

Witnesses:

JOSEPH M. DAYTON,  
RICHARD CLEMENTS.