No. 846,360. PATENTED MAR. 5, 1907.

F. SPROWLS.

WRENCH.

APPLICATION FILED JAN. 4, 1906.

2 SHEETS—SHEET 1.

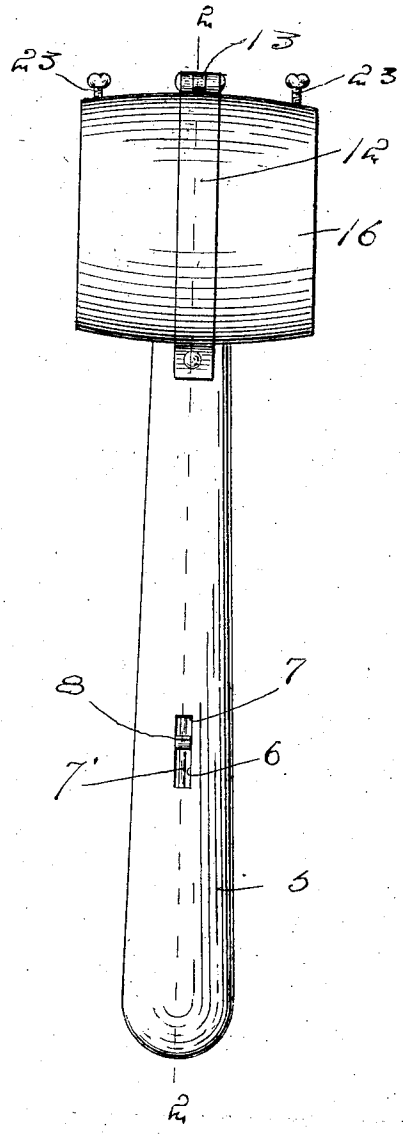



FIG. 1

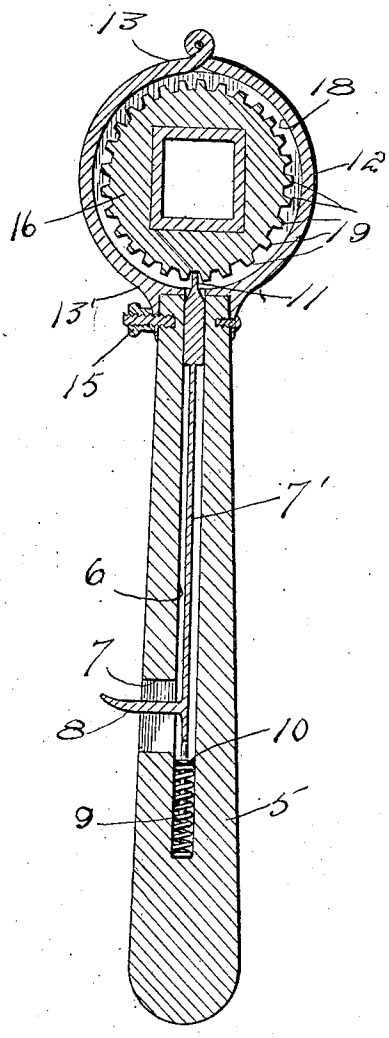



FIG. 2

Witnesses
J. C. Simpson
F. C. Jones

Inventor
Fred Sprowls
By Thomas Franklin
Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 846,360. PATENTED MAR. 5, 1907.

F. SPROWLS.

WRENCH.

APPLICATION FILED JAN. 4, 1906.

2 SHEETS—SHEET 2.

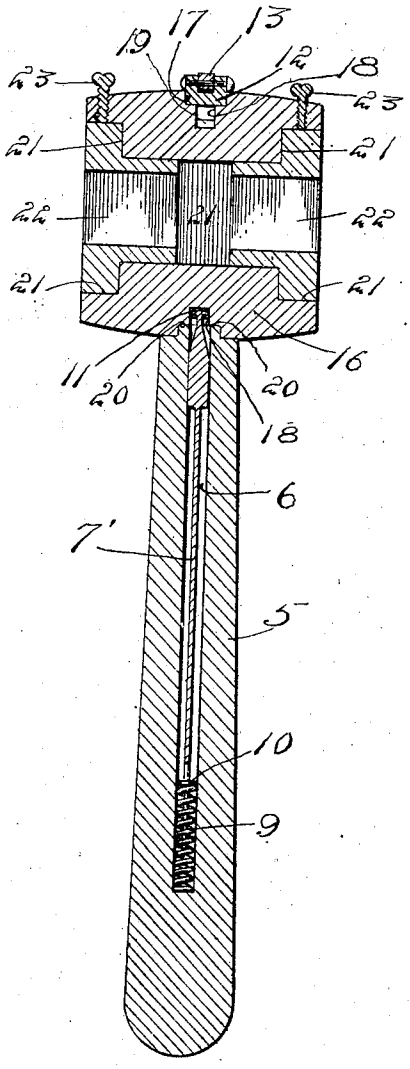



FIG. 3

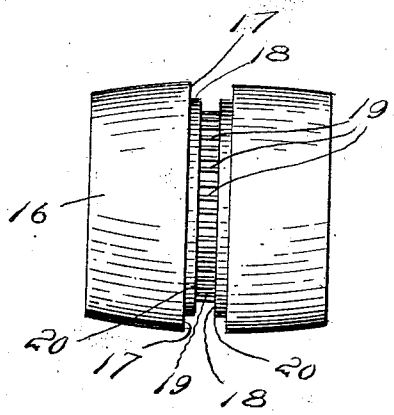



FIG. 4

Witnesses

J. C. Simpson

J. F. C. Jones

Inventor

Fred Sprowls.

By Thomas & Thomas.

Attorneys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

FREDERICK SPROWLS, OF WEST FINLEY, PENNSYLVANIA.

## WRENCH.

No. 846,360. Specification of Letters Patent. Patented March 5, 1907.

Application filed January 4, 1906. Serial No. 294,613.

*To all whom it may concern:*

Be it known that I, FREDERICK SPROWLS, a citizen of the United States, residing at West Finley, in the county of Washington, State of Pennsylvania, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wrenches, and more particularly to ratchet-wrenches, and has for its object to provide a wrench of this type which will be simple in arrangement and structure and which while being efficient may be produced at comparatively low cost. Other objects and advantages will be apparent from the following description.

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 a side elevation of the present invention, showing an end view of the head. Fig. 2 is a longitudinal section taken on line 2 2 of Fig. 1, centrally of the wrench. Fig. 3 is a longitudinal section at right angles to Fig. 2. Fig. 4 is a side elevation of the head.

Referring now to the drawings, the present invention comprises a handle 5, having a longitudinal passage 6 therein, which opens through its inner end, and having a lateral slot 7 opening through its side and communicating with the passage 6. A rod 7′ is disposed within the passage and has a lateral finger-piece 8, which extends outwardly through the slot, and a helical spring 9 is disposed between the inner end of the passage 6 and a cross-pin 10, which is engaged in the rod. The rod 7′ extends outwardly of the passage 6 beyond the inner end of the handle, where it carries a dog 11, for a purpose to be presently described.

An arcuate plate 12 is secured at one end to the inner end of the handle 5 and extends in the plane of the handle, and hinged to the outer end of the plate there is an arcuate jaw 13, movable to bring its free end 13′ into and out of engagement with the handle, a fastener 15 being provided and arranged to hold it in such position. When in engagement with the handle, the jaw 13 and the plate 12 form a circular band, and disposed within the inclosure of this band there is a revoluble head 16, having a peripheral groove 17 between its ends, within which the band lies, as shown. Within the groove 17 there is a supplemental groove 18, within which are transverse ratchet-teeth 19, these teeth extending longitudinally of the head, and the formation of the groove 18 results in shoulders 20, upon which the edge portion of the band formed by the plate 12 and the jaw 13 rests. The arrangement is such that the dog 11 is held by the spring 9 yieldably in engagement with the teeth 19 for rotation of the handle with the head. The dog may be moved out of engagement with the teeth, however, by moving the finger-piece 8 toward the outer end of the handle, as will be understood, when the handle is free to rotate upon the head.

In the end faces of the head 16 there are formed recesses 21, in which are engaged the removable jaw-facings 22, held in position by set-screws 8, and it will be understood that jaw-facings of different sizes may be engaged in the recesses.

It is thought that the operation of the wrench will be clearly understood without further description. It will be seen that the head 16 may be removed from the handle to permit of the insertion of heads adapted for the reception of nuts of different sizes, when desired.

What is claimed is—

In a wrench, the combination with a handle having a longitudinal passage therewithin opening through the upper end of the handle, a rod slidably disposed in the passage, a dog carried by the rod and extending beyond the inner end of the handle, said handle having a lateral slot communicating with its passage, a lateral finger-piece carried by the rod and extending outwardly through the slot, said slot being located adjacent to the lower end of the handle, a cross-pin engaged in the rod below the slot, a spring engaged between the lower end of the passage and the cross-pin to hold the rod with the dog yieldably projected beyond the upper end of the handle, an arcuate plate carried by the upper end of the handle, an arcuate jaw pivoted at one end to the outer end of the plate and lying at its

other end against the handle, means for holding the jaw in engagement with the handle, and a nut-engaging head having a circumscribing groove in which the plate and jaw are engaged for rotation of the head, said head having teeth within its groove for the reception of the dog therebetween.

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

FRED. SPROWLS.

Witnesses:
C. C. PLANTS,
M. S. STILLWAGEN.