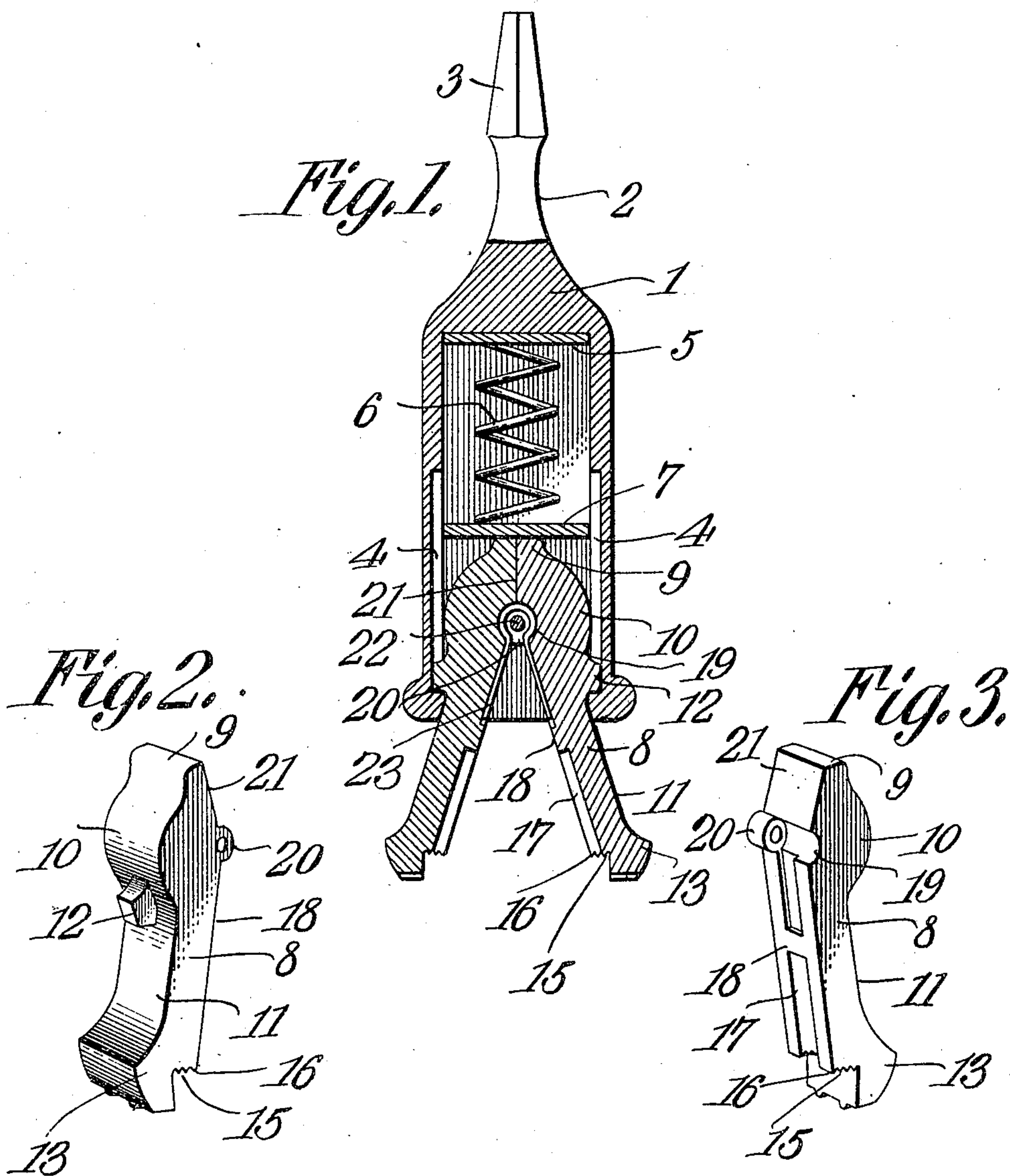


No. 837,225.

PATENTED NOV. 27, 1906.

J. H. HOLMAN.  
WRENCH.

APPLICATION FILED AUG. 24, 1906.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JURNEY HUBERT HOLMAN, OF UNIONVILLE, MISSOURI.

## WRENCH.

No. 837,225.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed August 24, 1906. Serial No. 331,933.

*To all whom it may concern:*

Be it known that I, JURNEY HUBERT HOLMAN, a citizen of the United States, residing at Unionville, in the county of Putnam and State of Missouri, have invented a new and useful Wrench, of which the following is a specification.

This invention has relation to wrenches especially adapted to be applied to braces; and it consists in the novel construction and arrangement of parts, as hereinafter shown and described.

The object of the invention is to provide a wrench which is adapted to automatically adjust itself to taps of different sizes or diameter and is constructed in a simple form and is of a substantial and durable nature.

In the accompanying drawings, Figure 1 is a vertical sectional view of the wrench. Fig. 2 is a perspective view of a jaw from one view-point. Fig. 3 is a perspective view of the jaw from another view-point.

The wrench comprises the head 1, from which extends the stem 2, and which in turn is provided with the squared end 3, adapted to be secured between the jaws of a brace. The said head is hollow, and in its interior is provided at opposite sides with longitudinally-extending grooves 4, the said grooves terminating short of the length of the hollow interior of the said head. The said head 1 is of greater cross-sectional dimension in one direction than in the direction at right angles thereto, and the grooves 4 are located in the sides of lesser transverse dimensions. The plate 5 normally rests upon the inner or bottom of the hollow provided in the head 1. The coil-spring 6 is mounted at one end upon said plate and is attached at its other end to a similar plate 7. The tension of the spring 6 is such as to have a tendency to force the plates 5 and 7 apart. The wrench-jaws 8 are of the same construction, and a description of one will answer for both. The jaw is provided at the end disposed within the hollow of the head with the rounded knob 9. The said knob rests upon the plate 7. To one side of the said knob 9 is located the lateral arcuate swell 10. The said swell 10 bears against the wall of the hollow provided in the head 1. Below the said swell 10 is located the side 11, which is straight for a part of its length and is curved at the bottom portion. The stud 12 is located upon the side 11 and enters the groove 4. The outer end of the side 11 is extended

laterally and outwardly, as at 13. The shoulder 15 is formed at the extremity of the jaw and is provided with the teeth 16, which extend transversely of the jaw at right angles to the direction in which the jaws open and close. The groove 17 extends longitudinally along the one side of the jaw from the shoulder 15. The side 18 of the said jaw opposite from the side 11 is provided with a semicircular recess 19, which is struck on the same center as the arc of the swell 10. At the edge the side 18 is provided with the semicircular flange 20, the radius of which is coincident with that of the recess 19. The side 21 extends at an obtuse angle to the side 18 and at its upper end merges into the surface of the knob 9.

From the above description it is obvious that when two jaws 8, as above described, are placed together they may be pivoted with relation to each other by a pin 22, which is passed through the centers of recesses 19 and lugs 20. The flat spring 23 passes around the said pin 22 and is located in the recesses 19. The ends of the said spring bear against the sides 18, and the tension of the said spring is such as to have a tendency to cause the outer ends of the jaws 8 to separate.

In operation the wrench works as follows: By means of the tension of the spring 6 the jaws 8 are normally extended with relation to the head 1, and as a result of the tension of the spring 23 the gripping ends of the said jaws are spread apart. The inward movement of the jaws with relation to the head is limited by the lugs 12 coming in contact with the ends of the grooves 4, and the setting apart of the jaws is limited by the sides of the head 1. In order to remove a tap or nut from a bolt, the wrench, which is first gripped in a brace, (not shown,) is presented to the nut so that the shoulder 15 of one of the jaws engages the same. Pressure is then applied to the brace in a direction toward the bolt, so that the jaw engaging the nut will be moved into the hollow of the body 1, carrying the other jaw with it. This movement causes the free jaw to move toward and engage the nut. While pressure is still maintained on the brace, the latter is turned so as to work the nut off. Should the end of the bolt project beyond the nut, it is accommodated in the semicylindrical grooves 18 of the jaws. When the nut is unscrewed, the pressure is relieved to permit the jaws to be automatically expelled or extended, so as to



release the nut. To apply a nut to a bolt, the nut is placed against the end of the bolt and one jaw of the wrench brought into engagement therewith. Pressure is then applied on the brace, thereby causing the jaws to be brought together and firmly grip the nut, which latter can then be screwed on the bolt by turning the brace.

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

1. A wrench comprising a hollow head, jaws mounted for limited longitudinal movement therein, said jaws having their tap-engaging ends, serrated shoulders and longitudinally-extending grooves.

2. A wrench comprising a hollow head,

jaws mounted for limited longitudinal movement therein, each said jaw having near its lower end a lateral swell which bears against one side of the head, each said jaw having a semicircular recess with the same center as the arc of said swell and an adjoining semicircular lug with a radius coincident with the radius of the recess, a spring entering said recess at an intermediate portion and bearing at its ends against said jaws.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JURNEY HUBERT HOLMAN.

Witnesses:

H. L. HOLMAN,

E. D. PICKINPAUGH.