

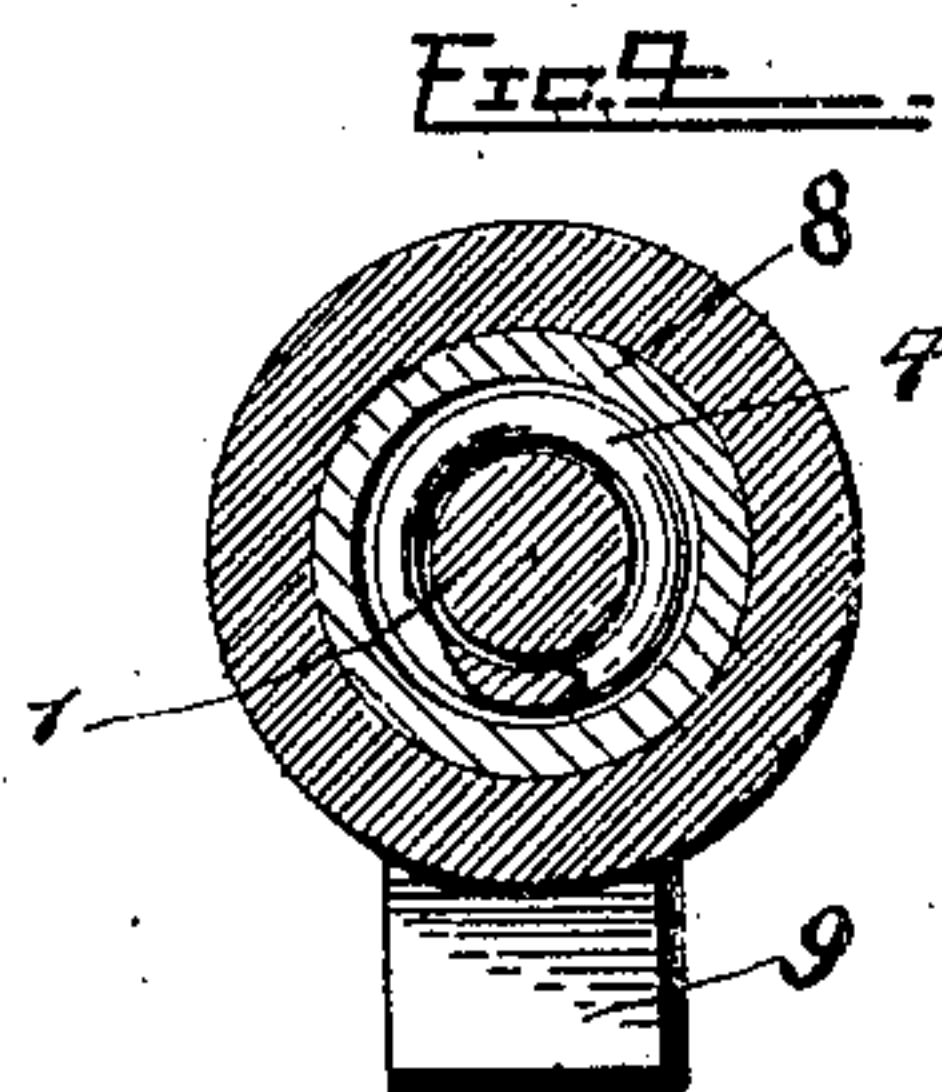
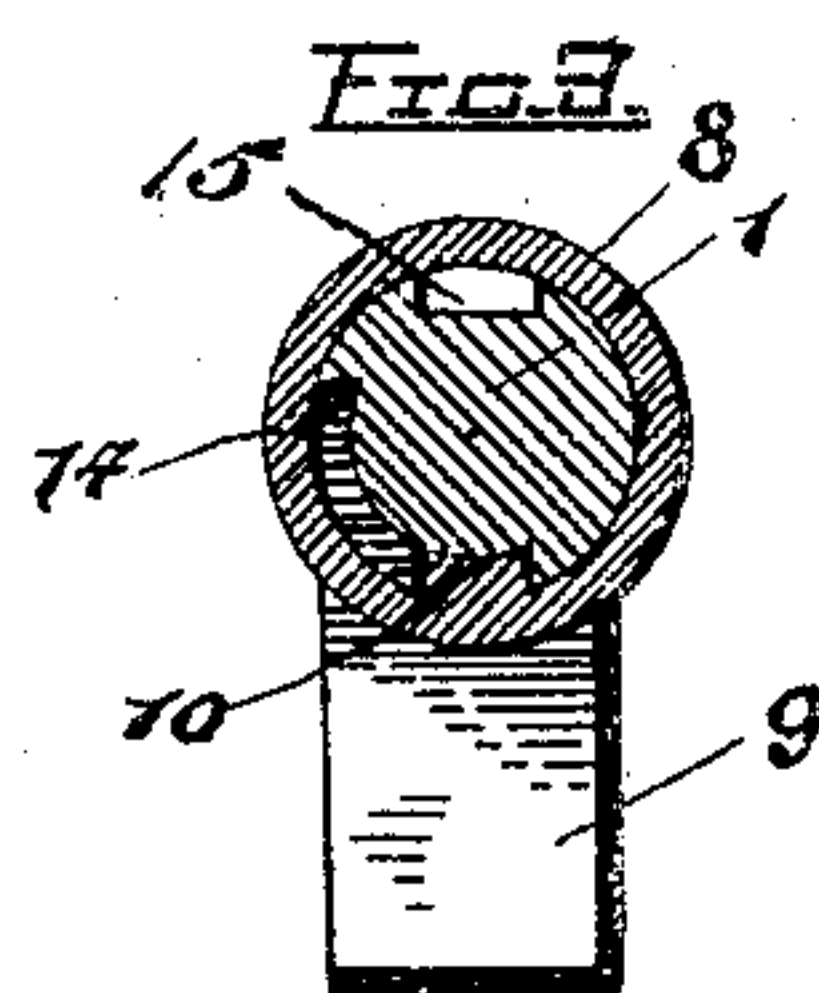
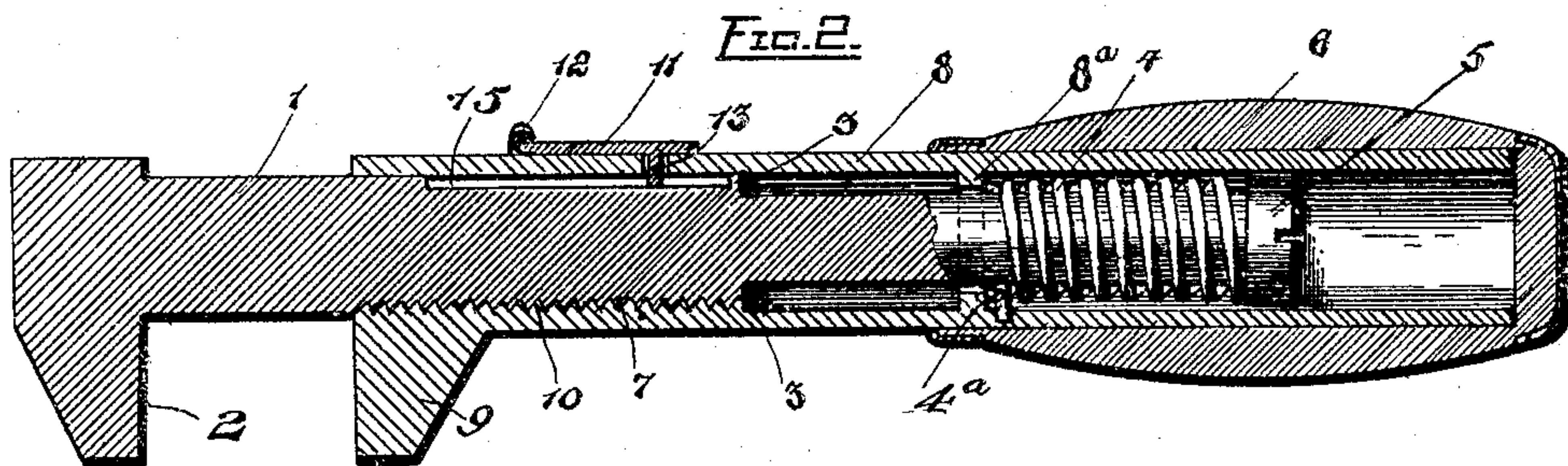
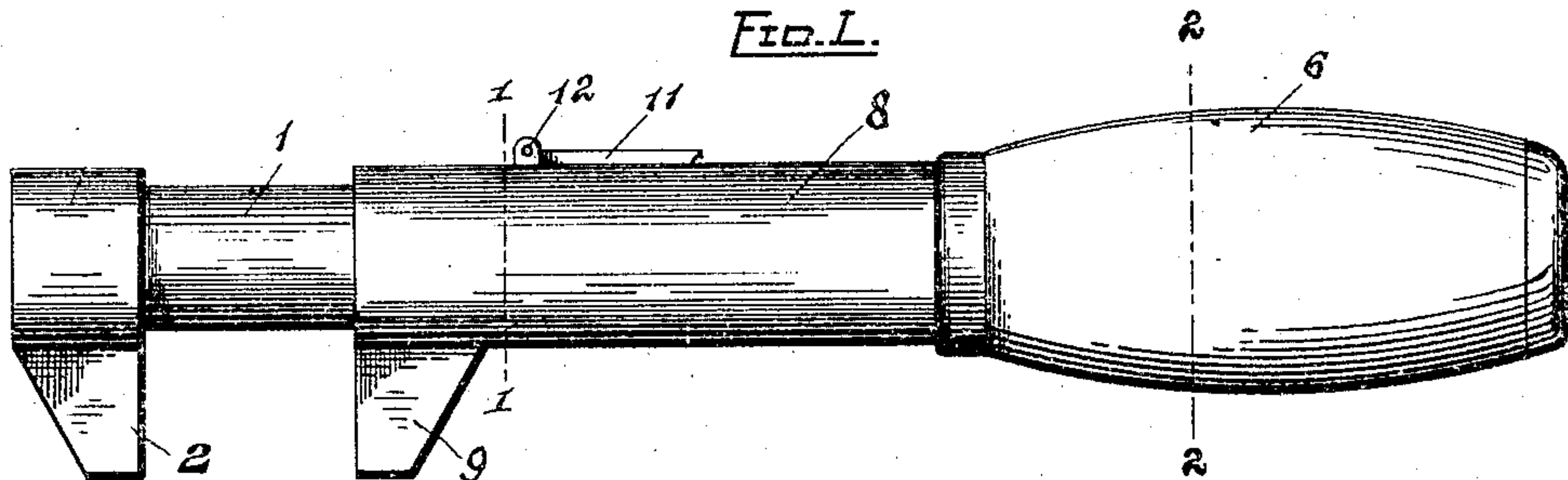
No. 788,383.

PATENTED APR. 25, 1905.

P. C. THAYER.

WRENCH.

APPLICATION FILED NOV. 10, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

PAUL C. THAYER, OF OROVILLE, CALIFORNIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 788,383, dated April 25, 1905.

Application filed November 10, 1904. Serial No. 232,162.

To all whom it may concern:

Be it known that I, PAUL C. THAYER, a citizen of the United States, residing at Oroville, in the county of Butte and State of California, have invented certain new and useful Improvements in Wrenches; and I do 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 monkey-wrenches; and one of the objects of the same is to provide a wrench which may be quickly and accurately adjusted to engage nuts or burs of various sizes.

Another object is to provide a wrench which when adjusted to fit a nut or bur will reliably engage the same and will not be liable to slip therefrom.

These and other objects are attained by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a wrench made in accordance with my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a vertical section on the line 1 1 of Fig. 1. Fig. 4 is a section on the line 2 2 of Fig. 1.

Referring to the drawings for a more particular description of my invention, the numeral 1 designates a shank, having a jaw 2 rigidly connected thereto or formed therewith. The shank 1 is provided with a shoulder 3, and a spring 4 surrounds the shank 1 at its reduced outer end, said spring 4 having one end, 4^a, secured to a sleeve 8, hereinafter mentioned, and its opposite end connected to the head or cap 5, the tension of said spring being such that it has a tendency to rotate the shank and to draw said shank within the handle 6. A series of teeth or serrations 7 are formed on the shank 1 between the shoulder 3 and the jaw 2. The handle 6 is hollow and is provided with a sleeve 8, which surrounds the shank 1, and upon its outer end is provided with a fixed jaw 9 and a series of teeth or serrations 10 to engage the teeth or serrations 7 on the shank 1, and upon the opposite side of said sleeve a pivoted pawl 11 is provided. The pawl 11 is pivoted at 12 and provided with a stud or pin 13, which extends through an opening in the sleeve 8. A groove

14 is formed in the shank 1, and upon the upper side of said shank a longitudinal recess or groove 15 is formed in line with the serrations or teeth 7 on the shank 1. A flange or shoulder 8^a may be formed inside the sleeve 8 to confine the spring 4.

The operation of my wrench may be described as follows: When the pawl 11 is thrown up to withdraw the stud 13 from the groove 15, the torsional action of the spring 4 rotates the shank 1 within the sleeve 8, so that the jaw 9 will occupy a position at right angles to the jaw 2. The teeth or serrations 10 are thus moved laterally out of engagement with the teeth 7 and into alinement with the groove 14, when the expansive action of said spring will draw the shank within the sleeve and bring the jaws together at right angles one to the other. When the wrench is to be engaged with a nut or bur, the jaw 2 is placed against one surface of the nut or bur and the handle 6 is drawn outward until the jaw 9 engages the opposite side of the nut, when the handle is turned to bring the two jaws in alinement and the teeth 7 and 10 into engagement. The pawl 11 is then thrown down, the stud 13 engaging the longitudinal recess 15 to prevent the spring 4 from rotating the shank 1 relatively to the sleeve 8. To remove the wrench from the nut, the pawl 11 is thrown up and the spring 4 moves the jaw 9 at right angles to the jaw 2, and thus releases the nut.

From the foregoing it will be obvious that my wrench may be operated quickly to engage a nut, that when said nut has been engaged there is not any liability of the jaws slipping, owing to the fact that the shank 1 is engaged upon opposite sides by the teeth and the pawl.

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

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

1. A wrench comprising a jaw, a shank extending therefrom, serrations upon the shank, a handle provided with a sleeve the latter hav-

- ing teeth to engage said serrations and carrying a pawl adapted to engage a recess in the shank, a spring surrounding said shank and secured at one end to said sleeve and connected at its opposite end to a cap upon said shank, said handle adapted to be rotated by the spring to throw the serrations out of engagement with the teeth to engage a nut, substantially as described.
- 10 2. A wrench comprising a jaw, a sliding shank secured thereto and provided with teeth or serrations, and a groove adjacent to the serrations, a handle provided with a sleeve carrying a fixed jaw and provided with serrations upon one side, and a pivoted pawl upon
- 15 the other, a spring surrounding the shank of the sliding jaw, and adapted to rotate the shank

relatively to the handle, substantially as described.

3. A wrench comprising a sliding and rotating shank, a jaw thereon, a handle provided with a sleeve carrying a fixed jaw, said shank adapted to slide and partially rotate within the sleeve and to be engaged at any point therein by serrations upon one side and a pivoted pawl upon the other, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

PAUL C. THAYER.

Witnesses:

JNO. P. LEONARD,
WM. HERBERT.