(No Model.)

# J. H. FITCH.

## RATCHET WHEEL WRENCH.

No. 603,377. Patented May 3, 1898.

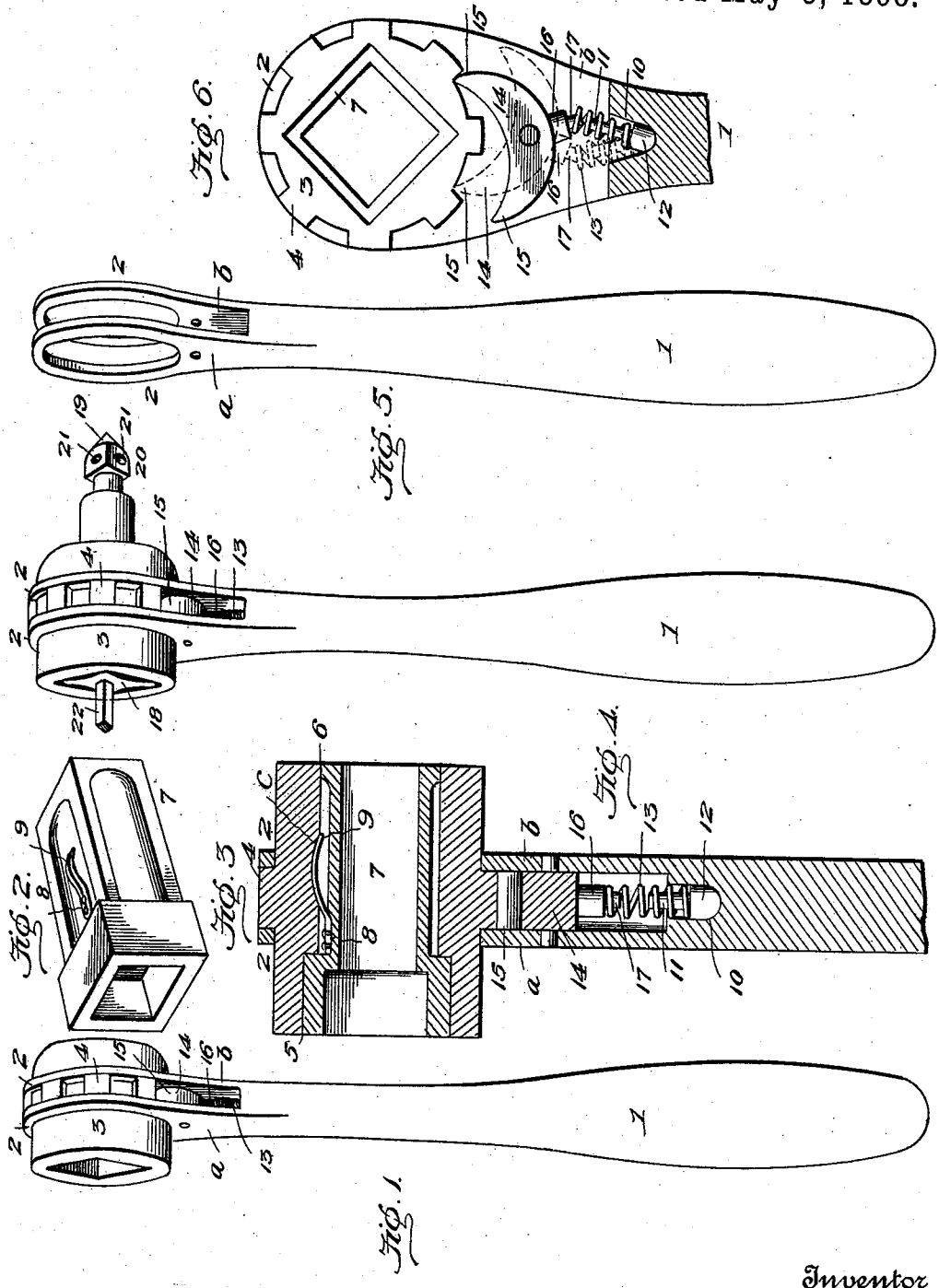

Fig. 6.

Fig. 5.

Fig. 4.

Fig. 3.

Fig. 2.

Fig. 1.

Witnesses
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# UNITED STATES PATENT OFFICE.

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## RATCHET-WHEEL WRENCH.

SPECIFICATION forming part of Letters Patent No. 603,377, dated May 3, 1898.

Application filed November 12, 1897. Serial No. 658,336. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. FITCH, a citizen of the United States, residing at Wesley, in the county of Mason and State of Michigan, have invented certain new and useful Improvements in a Combined Drill and Wrench; 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.

My invention relates to a combined drill and wrench; and the object of the invention is to provide an interchangeable device of this character which shall be simple of construction, durable in use, and comparatively inexpensive of production.

With this object in view the invention consists of certain features of construction and combination of parts which will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of the device when used as a wrench. Fig. 2 is a similar view of the interchangeable bushing. Fig. 3 is a longitudinal sectional view of the wrench with the bushing in place. Fig. 4 is a perspective view of the device, the bushing being removed and a drill-holder, with its feed-screw, substituted, showing the device when used as a drill. Fig. 5 is a perspective view with the drill-holder and feed-screw removed from the head of the tool, and Fig. 6 is a transverse sectional view showing in full lines the dog held tilted in one direction by the spring and in dotted lines the dog held tilted in the opposite position.

In said drawings, 1 denotes the handle of the wrench, which, as shown, is preferably provided with two parts *a* and *b*, each formed with enlarged outer ends having bearings 2. Journaled in these bearings is a head 3, having upon its outer periphery a series of ratchet-teeth 4. This head is provided with alined and communicating nut-sockets 5 and 6 of different areas, so as to adapt them to nuts of different sizes.

7 denotes a bushing which is provided with a groove 8, in which is secured one end of a double spring 9. When the bushing is inserted into the head, the spring will force itself up into a recess *c* in the head and hold the bushing in place against accidental disengagement. This bushing has nut-sockets of different areas, which also communicate one with the other, and is adapted to have its larger end inserted in the larger opening in the head and its smaller end in the smaller opening in the head, so that with a tool thus constructed nuts of four different sizes may be worked upon, the bushing being constructed to receive nuts of two different sizes and the head being constructed to receive nuts of two other sizes.

10 denotes a socket located in the handle and elongated transversely. Within this socket is loosely mounted a pin 11, having at its lower end an enlarged head 12. Placed upon this pin is a coiled spring 13, the coils of which project beyond the end of the pin.

14 denotes a dog pivoted between the enlarged portions of the handle and having two engaging toes 15. The dog is provided with a lug 16, having a reduced free end 17, that is adapted to project into the upper coils of the spring.

When it is desired to rotate the head in one direction, the dog is turned upon its pivot-point in the position shown in full lines in Fig. 6, and by reciprocating the handle back and forth the head will be rotated in that direction. To rotate it in the opposite direction, the dog is turned upon its pivot in the position shown in dotted lines in Fig. 6, and in each adjusted position is retained by the tension of the spring, due to the fact that the headed pin is capable of being rocked from one position to the other in the socket and the spring exerting its tension in a direction parallel with the pin.

When it is desired to use the device as a drill, the bushing is removed and the drill-holder 18 is substituted. This holder is provided with a feed-screw 19, having a head 20, adapted to be supported against some firm object, and is provided with holes 21, by means of which a bar or other tool may be inserted for the purpose of rotating the screw and advancing the tool to its work.

22 denotes the bit, carried by the drill-holder.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be understood without requiring an extended explanation.

The device works on the ratchet principle, and provision is made whereby it may be worked in either direction at the will of the operator.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

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

The combination with the handle having at one end two concentric rings and a transversely-elongated socket, a head journaled in said rings and provided with ratchet-teeth, a dog pivoted to said handle and provided with two operating-toes and provided with a lug having a reduced stem, a pin having a rounded head seated in said transversely-elongated socket and a coil-spring having its upper end embracing the reduced stem and abutting against the lug, and having its lower end embracing the pin and abutting against the head of the same, substantially as shown and described.

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

JOHN H. FITCH.

Witnesses:
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