(No Model.)

J. H. & T. C. SEXTON.

WRENCH.

No. 302,166. Patented July 15, 1884.

Fig. 1.

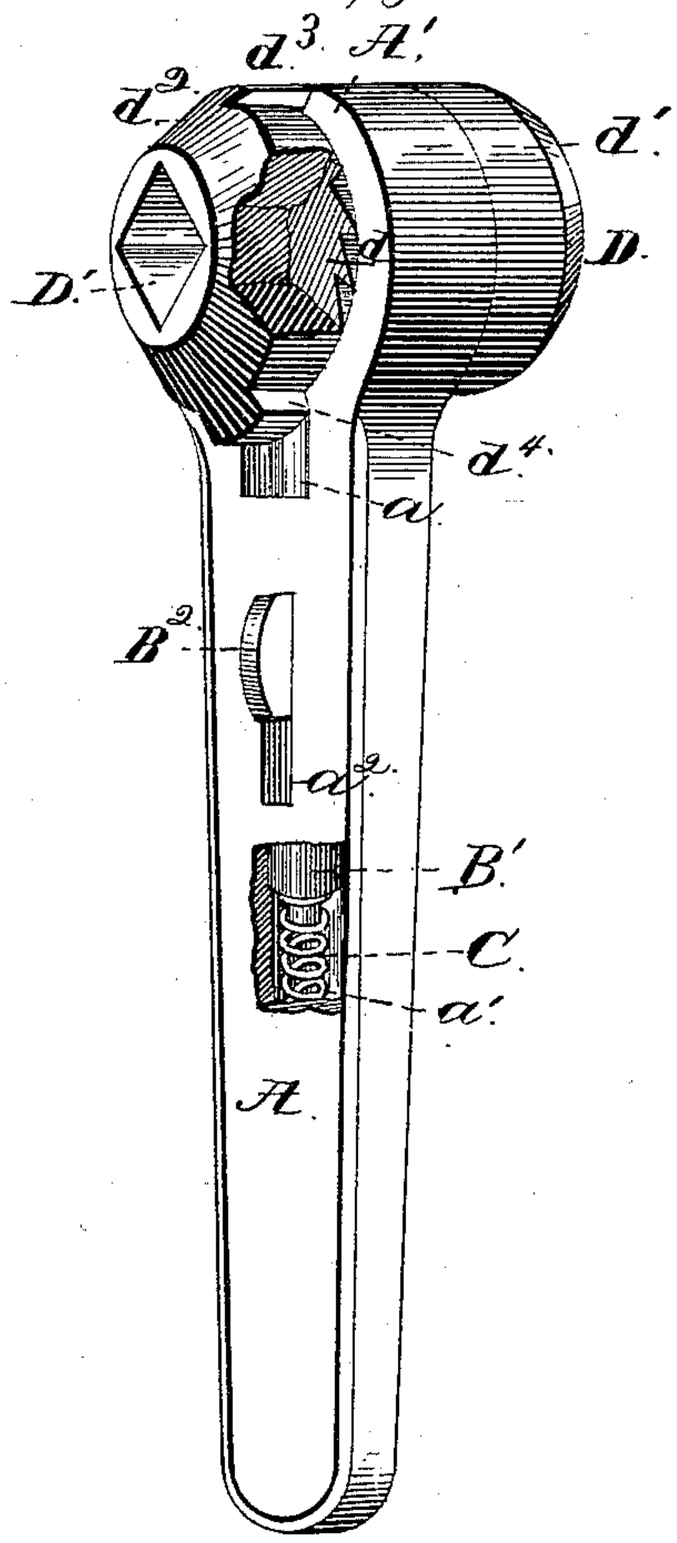


Fig. 2.

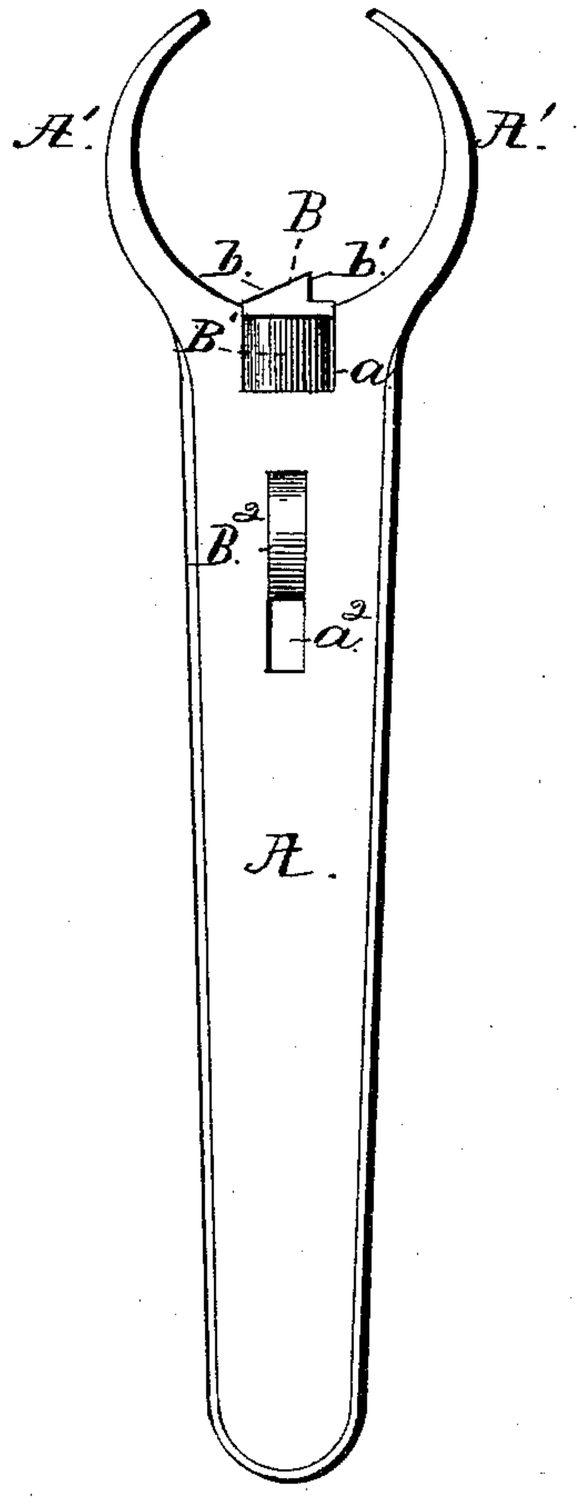
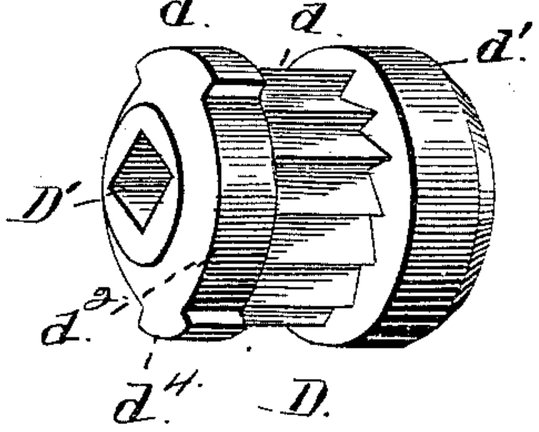


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN H. SEXTON AND THOMAS C. SEXTON, OF FONTANELLE, NEBRASKA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 302,166, dated July 15, 1884.

Application filed March 15, 1884. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. SEXTON and THOMAS C. SEXTON, of Fontanelle, county of Washington, and State of Nebraska, have invented a new and useful Improvement in Wrenches; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use it, reference being had to the accompanying drawings, forming a part thereof.

Our invention relates to improvements in ratchet-wrenches; and it consists in the construction, combination, and arrangements of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the wrench with parts broken away. Fig. 2 is a side view of the lever, and Fig. 3 a perspective view of the barrel, all of which will be described.

The lever A is provided at one end with the jaws A′ A′, terminating a short distance apart, as shown, to permit the passage of the key on one end of the barrel, presently described. These jaws are curved to form a bearing for the ratchet portion of the barrel and at their juncture with the lever, and from the head of the same I form an angular slot, *a*. A hole, *a′*, is drilled from this slot down into the lever to receive the shank of the pawl. Slots a^2 a^2 lead from the opposite sides of the lever into this hole or socket *a′* about midway its length.

Into the socket *a′* is placed the shank B′ of pawl B. Then a piece, B^2, is placed into a slot made for that purpose in the shank B′, protruding through it, thus forming the ears B^2, which move in the slots a^2. By means of these ears the pawl B may be disengaged from the ratchet *d*, to which it is held by means of spring C. A coil-spring, C, bears between the shank B′ and the base of socket *a′*, and serves to hold the pawl out in position to engage the ratchet-teeth when not otherwise depressed. The pawl B is formed with the beveled or inclined back *b* and the square engaging-shoulders *b′*. This shoulder *b* is arranged about midway the slot *a* and in line with the middle portion of the lever. The rear side of the pawl rests close against the back wall of slot *a*, and in operation the force of the pressure is transferred directly from the pawl to the body of the lever and in such manner that there is no lineal strain exerted on the pawl, and consequently the liability of same to be bent or broken is reduced. The barrel D is composed of the ratchet-circle *d*, the end flange or ring, *d′*, and the ring d^2, formed on the opposite end of the barrel from ring *d′*, and provided with keys d^3 d^4, as shown. The ring d^2 and ratchet *d* are made of a diameter to fit and bear within the jaws A′ A′. The key d^3 is made of a size to slip snugly between the outer end of the said jaws, and the key d^4 is made so that it will slip through slot *a* when the pawl is depressed by means of the ears B^2. The ring *d′* and the outer edges of keys d^3 d^4 are made to coincide with the outer sides of jaws A′ A′, in order to form a neat smooth head for the wrench. An angular opening, D′, is formed entirely through the barrel D, and permits a bolt to be turned entirely off, the head passing through said opening without removing the wrench. This also permits either end of the wrench to be put on the bolt head or nut.

Barrels with different sized or shaped openings may be provided for the different varieties of bolts or nuts, or removable sleeves, with the proper sized or shaped openings, might be provided to fit into the openings D′.

In operation the pawl is drawn down sufficiently far to permit the key d^4 to slip through slot *a*, the key d^3 slipping at same time between the ends of the jaws A′. When the said keys escape the jaws and the slot, the pawl is forced by its spring into engagement with the ratchet-ring and the device is ready for use.

It will be seen that the pawl and the ratchet-ring are as wide as the lever and its jaws, and that the pawl has its bearing-shoulder arranged as described, whereby it is radial to the ring *d*, and a strong firm bracing of the parts is secured.

The implement is simple, can be economically manufactured, is not likely to be broken, or to get out of order.

What we claim as our invention is—

1. In a ratchet-wrench, the lever having jaws A′ A′ and slot *a*, and provided with a

suitable pawl, in combination with the barrel having ratchet-rings and keys d^3 d^4, substantially as and for the purposes specified.

2. In a ratchet-wrench, the lever having jaws A′ A′, and constructed with slots a a^2 and sockets a', the pawl having its shank seated in the socket a', and its bearing-shoulder b' arranged approximately in line with the middle of the lever, the ears B^2, the spring C, bearing between the base of socket a' and the end of the shank B, and the barrel D, composed of ratchet and circle d and flange d', circle d^2, and key-extensions d^3 d^4, all arranged and adapted to operate substantially as set forth.

3. In a ratchet-wrench, the combination, with the barrel having ratchet-circle and the lever encircling said barrel, and constructed with socket a' and slot a^2, of the pawl having its shank seated in the socket, and provided with ears B^2, extended through slots a^2, and the spring C, all as and for the purposes specified.

In testimony that we claim the foregoing we append our signatures.

JOHN H. SEXTON.
THOMAS C. SEXTON.

Witnesses:
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C. S. TREADWAY.