E. T. MOOSE.

WRENCH.

APPLICATION FILED MAY 24, 1913.

1,089,249.

Patented Mar. 3, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

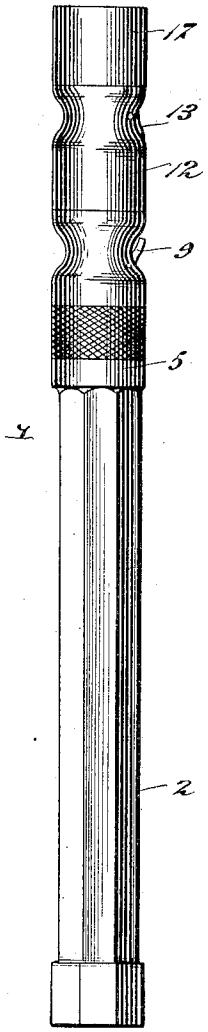


Fig. 2.

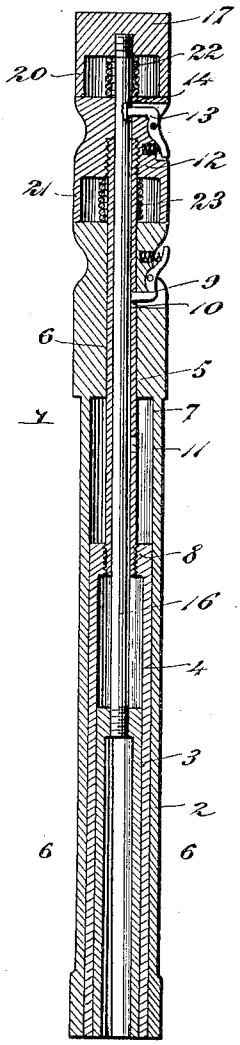
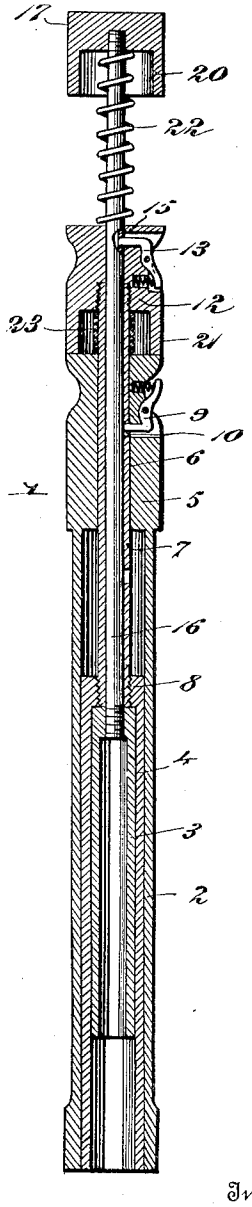


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

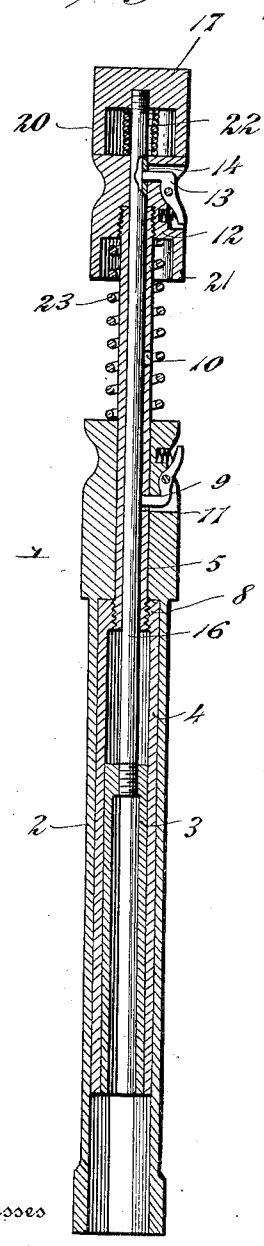


Fig. 5.

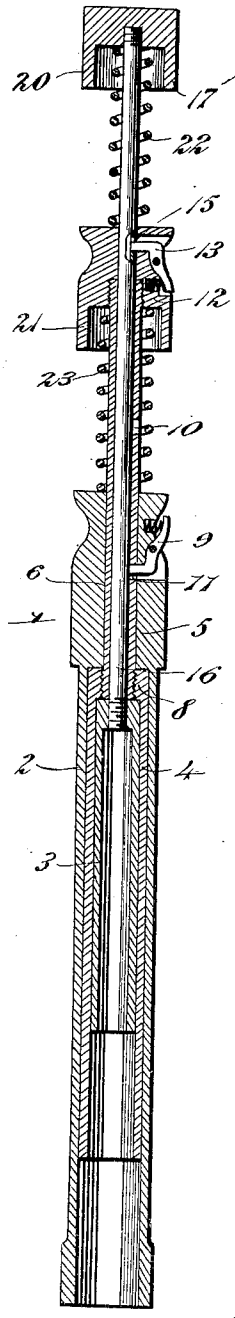
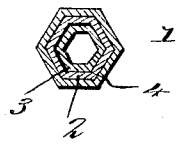


Fig. 6.



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UNITED STATES PATENT OFFICE.

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WRENCH.

1,089,249. Specification of Letters Patent. **Patented Mar. 3, 1914.**

Application filed May 24, 1913. Serial No. 769,633.

To all whom it may concern:

Be it known that I, EDGAR T. MOOSE, a citizen of the United States, residing at Fellows, in the county of Kern and State of California, have invented new and useful Improvements in Wrenches, of which the following is a specification.

The present invention relates to improvements in socket wrenches, the object being to provide a wrench having a plurality of sockets, varying in size, whereby a single wrench may be employed for operating upon a number of nuts or bolts which vary in size.

Another object of the invention is the provision of means whereby any of said sockets can be brought into engagement with the work upon which it is to operate.

With the above and other objects in view, the improvement resides in the construction, combination and operative arrangement of parts set forth in the following specification and falling within the scope of the appended claims.

In the drawings: Figure 1 is an elevation of a wrench constructed in accordance with the present invention, Fig. 2 is a central vertical longitudinal sectional view of the same, Fig. 3 is a similar sectional view illustrating one of the socket members being raised to permit of the second sized socket operating upon a nut or the like, Fig. 4 is a similar view illustrating the second sized wrench in a raised position and in contact with the head of the smaller wrench to permit of the largest wrench operating upon a suitable nut or bolt, Fig. 5 is a similar sectional view but showing the arrangement of parts after the catch member which retains the head of the smaller socket wrench against the head of the second socket wrench has been operated to permit of the said head being raised above the second socket from the position shown in Fig. 3, and Fig. 6 is a detail sectional view on the line 6—6 of Fig. 2.

While in the accompanying drawings I have illustrated a wrench in which only three sizes of nuts may be operated upon, it is to be understood that any number of sockets for various sizes of nuts may be employed, and further while I have illustrated the sockets as being each of a hexagonal shape or formation, the said socket members may be of any desired cross sectional formation to accommodate the various nuts, etc., upon which the wrench is to operate.

Referring now to the drawings in detail, the numeral 1 designates my wrench in its entirety. The wrench comprises an outer socket member 2, an inner socket member 3 and an intermediate socket member 4. All of these sockets are of a hexagon formation in cross section, the socket 4 fitting snugly within the socket 2, and the socket 3 fitting snugly within the socket 4. The outer socket 2 has its upper extremity formed with an interior enlargement 5, the same being provided with a central longitudinally arranged rounded passage 6 for the reception of the hollow shank 7 which is removably secured upon an interiorly formed enlargement 8 provided upon the socket 4. The enlargement 5 provides the head for the socket 2, and may be gripped by a wrench or other tool when the said socket 2 is engaged with a nut, so as to rotate the socket. The head 5 is formed with a suitable opening which communicates with its bore or passage 6, as well as with a depression which communicates with the opening, the said opening and depression being adapted for the reception of a spring pressed catch 9, the same having its finger or engaging portion arranged within an annular groove provided adjacent the top wall of the head 5.

The hollow shank 7 of the socket 4 is provided with a pair of spaced slots or depressions 10 and 11 respectively, the slot 10 being engaged by the catch 9 when the socket is in the position illustrated in Figs. 2 and 3 and the said catch engages with the depression 11 when the socket is raised to the position illustrated in Figs. 4 and 5. The hollow shank 7 has its upper extremity provided with a head 12, which may be removably secured thereto, and the said head is adapted to receive the jaws of a suitable instrument, whereby the shank 7 as well as the socket 4 may be rotated, when the socket is in the position illustrated in Figs. 2 and 3. The head 12 is formed with an opening which enters its bore, and with a depression which communicates with the opening, and pivotally secured within the depression is a spring pressed catch 13, which has its engaging portion or tooth normally forced to within the passage or bore of the head. The shank 16 is provided with a pair of spaced openings 14 and 15 respectively, and the

catch 13 is adapted to be received within the opening 14 when the socket 3 is to be in nut-engaging position as illustrated in Fig. 2 or in the position illustrated in Fig. 4 of the drawings, and to be received within the depression 15 when the socket is raised, as illustrated in Figs. 3 and 5 of the drawings. The depression within which the catch 13 is pivoted is of sufficient depth to prevent the tail piece or finger engaging end of the catch from projecting beyond the perimeter of the said head, so that the said catch will not be in the path of interference when the head is engaged by an instrument, such as a wrench.

The heads 17 and 12 have their lower extremities provided with continuous flanges 20 and 21 respectively, and surrounding the shanks 7 and 16, are helical springs 22 and 23, the spring 22 exerting a tension between the heads 5 and 12, while the spring 23 exerts a tension between the heads 12 and 17. The springs, when compressed, are wholly inclosed by the flanges 20 and 21, and from the above description, taken in connection with the drawings, the simplicity of the device as well as the advantages thereof will, it is thought, be perfectly apparent to those skilled in the art to which such inventions appertain without further detailed description.

Having thus described the invention, what I claim as new is:

1. In a socket wrench, a plurality of sockets disposed one within the other, the outer socket having a head provided with a bore, the remaining sockets being provided with shanks which telescope one within the other, and the outermost of which passing through the bore of the head of the first mentioned socket, each of the shanks being provided with a head, catch members upon each of the heads for sustaining all or any of the interior sockets in a plane with the exterior socket, and spring members arranged between the heads for raising any of said sockets when the catches are operated to raise the said socket above the plane of the engaging end of the outer socket.

2. In a wrench of the class set forth, a plurality of sockets arranged for slidable movement one within the other, the outer socket being formed with a head having a longitudinal passage therein, each of the remaining sockets being provided with shanks telescoping one within the other, each of the shanks being provided with heads having continuous flanges, spring members between each of the heads, a spring catch member for the heads and entering the bores of the heads, and each of the hollow shanks of the interior sockets being provided with a pair of spaced openings whereby the socket may be retained by the shank in nut-receiving position when one of the catches engages with one of the depressions and to be raised by the spring and to be retained in said raised position when one of the catches engages within the second depression.

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

EDGAR T. MOOSE.

Witnesses:
W. J. HOLLAND,
OTTO KRAMER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."