No. 793,201. PATENTED JUNE 27, 1905.

E. KRITZER.

WRENCH.

APPLICATION FILED FEB. 16, 1905.

Fig. 1.

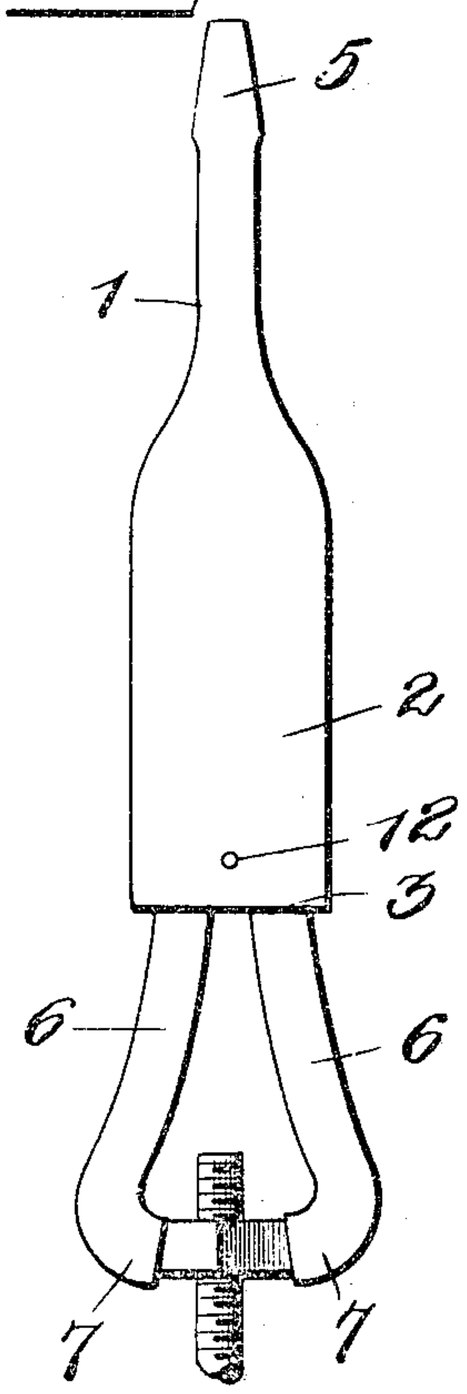


Fig. 2.

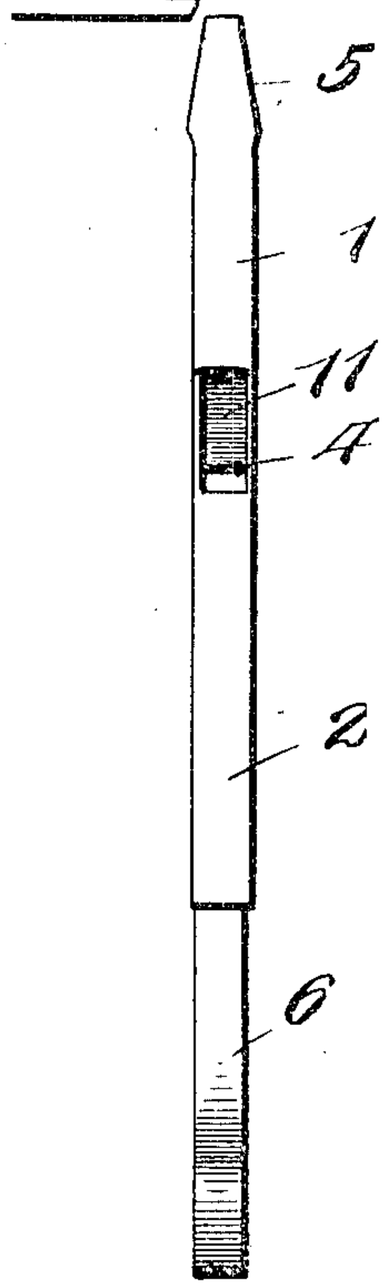


Fig. 4.

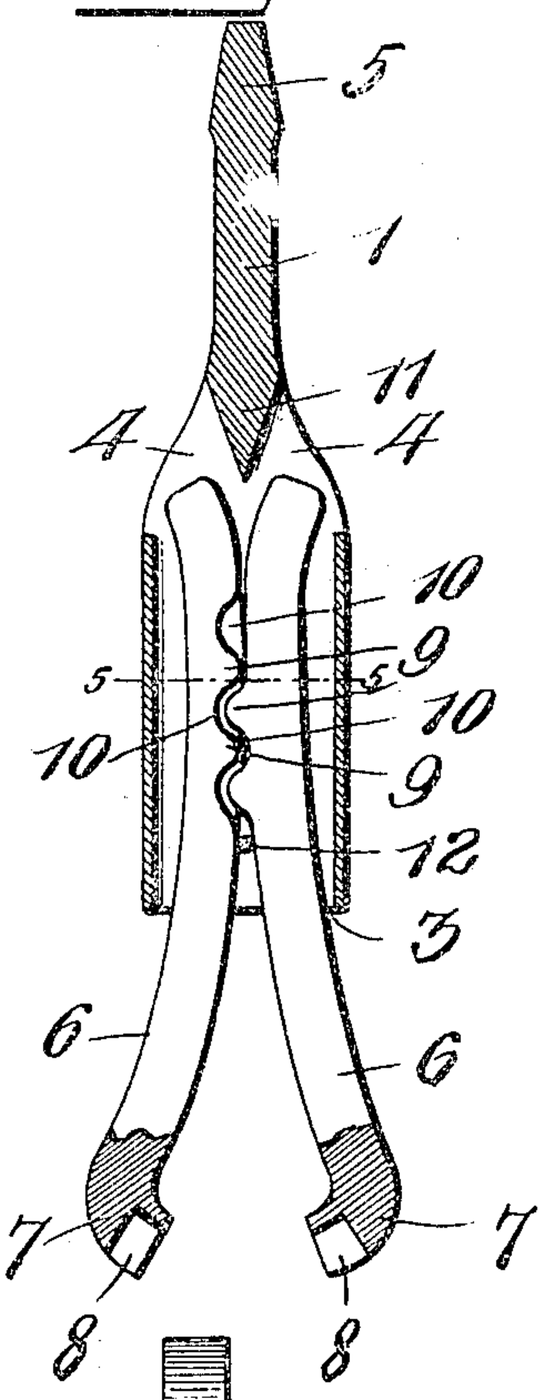


Fig. 3.

Fig. 5.

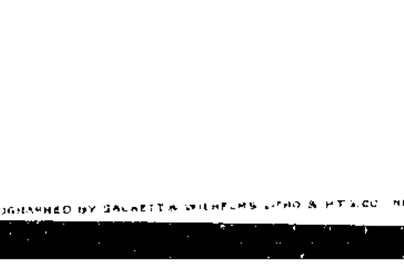
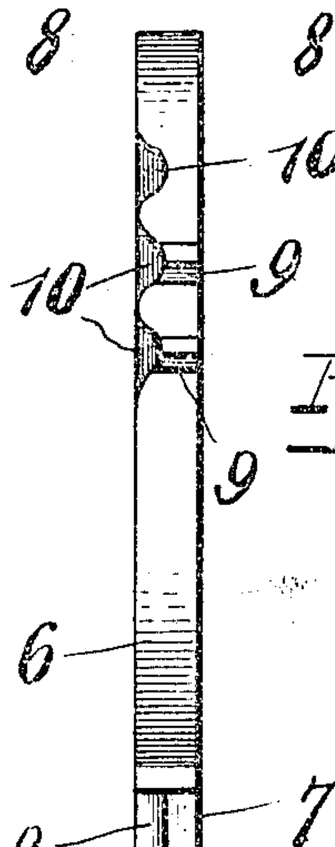


Fig. 6.



Witnesses
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No. 793,201. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

ELLSWORTH KRITZER, OF MAHAFFEY, PENNSYLVANIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 793,201, dated June 27, 1905.

Application filed February 16, 1905. Serial No. 245,922.

To all whom it may concern:

Be it known that I, ELLSWORTH KRITZER, a citizen of the United States, residing at Mahaffey, in the county of Clearfield and State of Pennsylvania, 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.

My invention relates to improvements in wrenches of the self-adjusting socket type; and it consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

The object of the invention is to provide a simple, inexpensive, durable, and convenient device of this character in which the jaws will be wedged together or into engagement with a nut by a downward pressure upon the shank or body portion of the wrench and which is well adapted for use in a bit-brace.

The above and other objects, which will appear as the nature of my invention is better understood, are accomplished by means of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a wrench constructed in accordance with my invention, its jaws being shown engaged with a nut. Fig. 2 is an edge view of the same. Fig. 3 is a view of the lower or outer end of the wrench. Fig. 4 is a longitudinal sectional view. Fig. 5 is a transverse sectional view taken on the line 5 5 of Fig. 4, and Fig. 6 is a detail view of one of the jaws.

Referring to the drawings by numeral, 1 denotes the shank or body portion of my improved wrench, which has at one of its ends a casing 2 of substantially rectangular form. This casing has an open bottom or lower end 3 and side openings 4 adjacent to its upper end, and it may be formed integrally with or secured upon the lower end of the shank 1, as desired. As shown in the drawings, the upper end of the shank 1 is formed with a tapered polygonally-shaped head 5, which is adapted to enter and be secured in the socket of a bit-brace; but it will be understood that a cross-handle or any other suitable operating device may be applied to the upper end of said shank.

Slidably mounted within the casing 2 is a pair of oppositely-curved jaw members 6, which have their opposite ends projecting through the openings 3 and 4 in said casing. These members 6 have at their lower outer ends nut-engaging jaws 7, which, as shown, are formed with V-shaped recesses 8, adapted to engage the corners of a nut, bolt-head, or the like, as clearly shown in Figs. 1 and 3. The opposing or adjacent faces of the jaw members 6 are formed with meshing cog-teeth 9 and recesses 10, by means of which said members are caused to move together. As shown in Figs. 5 and 6, the cog-teeth and recesses on each jaw member are in alinement with each other, so that the cogs of one jaw member enter the recesses on the other. Owing to the shape of the jaw members 6 and the disposition of a wedge 11, located within the casing between the upper ends of said members, it will be seen that as the latter are moved into and out of the lower end of the casing the jaws 7 will be moved toward and from each other to permit them to engage nuts of different sizes. This wedge 11 also limits the upward or inward movement of the jaw members 6, and their downward movement is limited by a stop 12, which is preferably in the form of a pin or rivet passed transversely through the casing 2 between the lower ends of said jaw members.

The construction, operation, and advantages of my improved wrench will be readily understood from the foregoing description, taken in connection with the accompanying drawings. It will be seen that when the wrench is held with its end 3 downwardly the jaws or jaw members 6 will drop by gravity to their open position, so that they may be readily placed over a nut or the like, and that by pressing the shank or body 1 downwardly the jaw members will be moved into the casing 2 and the jaws 7 will be wedged into engagement with the corners of the nut. It will be seen that the greater the pressure exerted upon the body or shank the tighter the jaws will grasp the nut. A wrench constructed as

described is well adapted for use in a bit-brace, since it can be dropped into a hole, corner, or any inaccessible place for the purpose of tightening or loosening a nut which may be therein.

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

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

1. A wrench comprising a body or casing, a pair of oppositely-curved jaws slidably mounted therein, meshing cog-teeth and recesses upon the adjacent faces of said jaws, and a wedge within said body or casing between said jaws, substantially as described.

2. A wrench comprising a shank having a casing at one of its ends, curved jaw members slidably mounted in said casing and projecting through the same, nut-engaging jaws upon the outer ends of said jaw members, meshing cog-teeth and recesses upon the adjacent faces of said jaw members, a wedge in said casing, between the upper ends of said jaw members, and a transversely-disposed stop pin or rivet in said casing between the lower ends of said jaw members, substantially as described.

3. A wrench comprising a body or shank, curved jaws slidably mounted in said body or shank and having meshing cog-teeth and recesses upon their adjacent faces to cause them to move together, and a stop-pin for limiting the movement of said jaws.

4. A wrench comprising a shank having one end adapted for engagement with a bit-brace, a hollow body or casing at the other end of said shank, curved jaws slidably mounted in said casing and projecting through the same, meshing cog-teeth and recesses formed in the adjacent faces of said jaws for causing them to move simultaneously into and out of said body or casing, a wedge in said body or casing coacting with said jaws, and a stop in said body or casing for limiting the movement of said jaws, substantially as described.

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

ELLSWORTH KRITZER.

Witnesses:
W. L. De Haas,
A. W. Bloom.