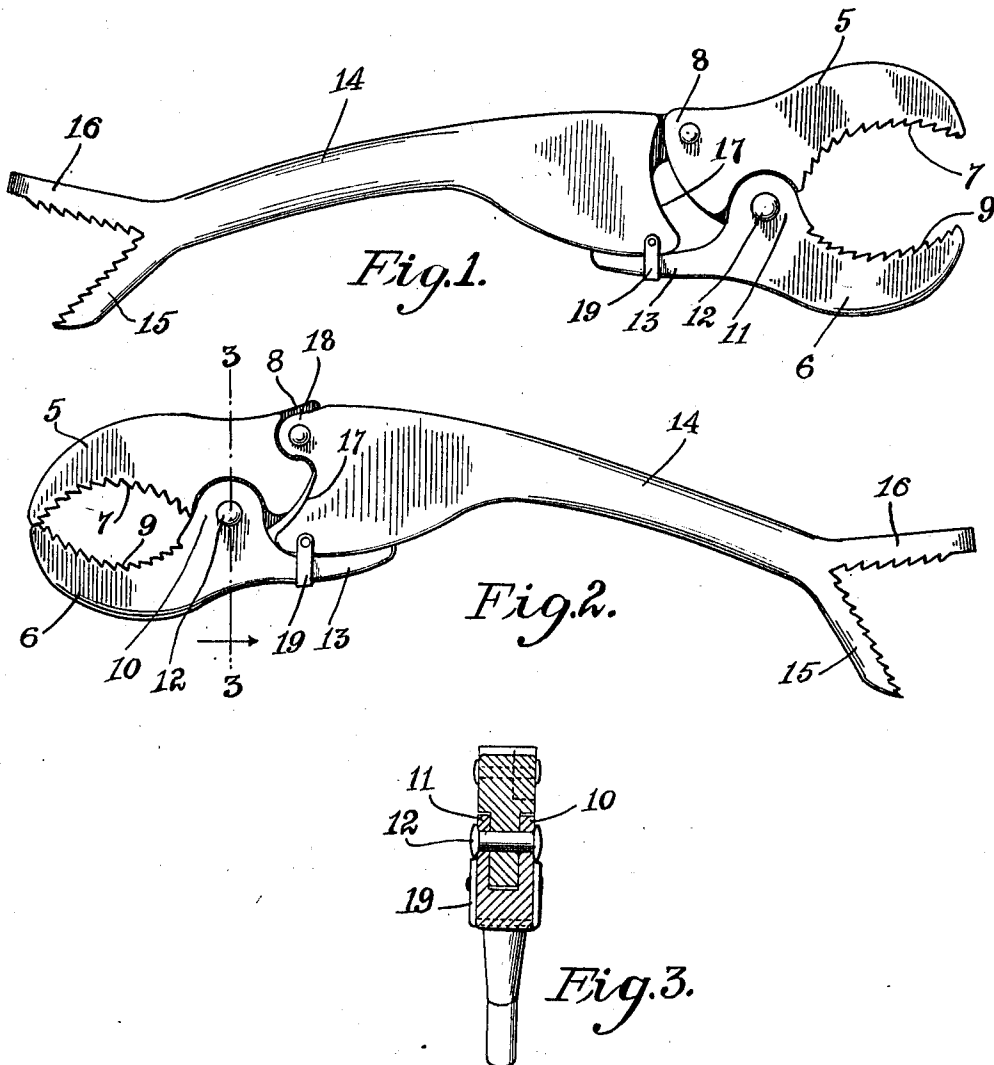


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HAND WRENCH.  
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1,004,353.

Patented Sept. 26, 1911.



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# UNITED STATES PATENT OFFICE.

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## HAND-WRENCH.

1,004,353.

Specification of Letters Patent. Patented Sept. 26, 1911.

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### *To all whom it may concern:*

Be it known that I, LEVI BOSLEY, a citizen of the United States, residing at Cedarville, in the county of Mackinac and State of Michigan, have invented new and useful Improvements in Hand-Wrenches, of which the following is a specification.

This invention relates to improvements in hand wrenches and more particularly to the type of wrenches known as pivoted jaw wrenches.

One object of the invention is the provision of a wrench including a pair of pivoted jaws and a handle united to said jaws in such manner that when turned it will operate to open and close said jaws.

With these and other objects in view, which will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claim; it being understood that various changes in the form, proportion, size, and minor details of the device may be made, within the scope of the appended claim, without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, forming a part of the specification;—Figure 1 is a side elevation of the device. Fig. 2 is a similar view of the opposite side. Fig. 3 is a sectional end elevation on the line 3—3 of Fig. 2 looking in the direction of the arrows.

Similar numerals of reference are employed to designate corresponding parts throughout.

The jaws of the wrench are designated by the numerals 5 and 6 and since these members are somewhat different in structure a detail description of each will be given.

The jaw 5 which may be properly called the movable jaw is substantially crescent-shaped in contour having on its concave surface a plurality of indentations constituting teeth 7, and further provided adjacent one of its ends and on its convex surface with a lateral extension 8.

The jaw 6 comprises an elongated body corresponding in width approximately to the jaw 5 and curved inwardly from its inter-

mediate portion to one end, the said inwardly curved portion corresponding to the shape of a crescent or substantially so, and provided on its inner surface with teeth 9. The intermediate portion of the jaw 6, is provided on its inner face with a pair of spaced lugs 10 and 11, the space therebetween receiving that end portion of the jaw 5 adjacent to the lateral extension 8. The end portion of the jaw 5 arranged between the lugs 10 and 11 is provided with a transverse opening to aline with similar openings formed in the lugs 10 and 11, these openings receiving a pivot pin 12 upon which the jaws turn. That portion of the jaw 6 extending in advance of the lugs 10 and 11 has its inner face reduced from the said lugs 10 and 11 to its outer end, as shown at 13. This portion of the jaw projects considerably in advance of the convex side of the jaw 5 when the said jaws are in closed position, and is formed with an arcuate inner edge which constitutes a bearing surface for the handle, to be presently described.

The handle includes a shank portion 14, one end of which is formed to provide a fixed jaw wrench the sides of which are designated by the numerals 15 and 16. The opposite end portion of the shank terminates in a widened cam head which is offset slightly from the shank. The projecting side of the offset corresponds in length approximately to the length of the reduced end 13, and when the jaws are in closed position bears on the said bearing surface. The cam head is slightly concaved, as shown at 17 and bears on the convexed extremity of the lateral extension 8 of the jaw 5 when the jaws are in closed position. The outer edge of the cam head of the handle 14 is formed with a convex surface to engage the concave surface of the reduced end 13. Connection between the jaw 5 and handle is established by means of a lug 18 one end of which is pivoted to one side of the lateral extension 8 of the jaw 5, while the opposite end is secured to one face of the head of the handle and adjacent to that side opposite to the side which bears on the bearing surface 13. Connection between the handle and opposite jaw 6 is established by means of a strap 19 which straddles the portion of the jaw 6 extending rearwardly from the lugs 10 and 11 and has its opposite ter-

minals secured to the head and at a point directly below the point to which the rear end of the lug 18 is secured.

With this construction it will be manifest that when the jaws are in closed position and the handle turned rearwardly the jaw 5 will turn on its pivot 12 and also on the pivot uniting it with the lug 18. When the handle is moved in the opposite direction the jaws will move to closed position.

From the foregoing, it is evident that I have provided a device which is comparatively simple in structure and inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be reduced to a minimum.

I claim:—

In a wrench, a pair of jaw members pivoted to each other between their ends, one of said members having a reduced end formed with an arcuate inner edge surface and the other member having its end ter-

minating inwardly of said reduced end, a handle member pivoted to the short end and formed with a cam offset on its pivoted end and having a convex edge surface to contact with the concave surface of the reduced end, whereby the pivoted movement of the handle member in one direction will move the short end and the reduced end of the jaw members apart and move the gripping ends of said jaw members toward each other, and a strap pivoted to the cam offset of the handle member and embracing the reduced end of the jaw member to hold said reduced end and cam offset in normal contact with each other.

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

LEVI BOSLEY.

Witnesses:

MAURICE E. NEWMAN,  
AUGUST WARD.

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