

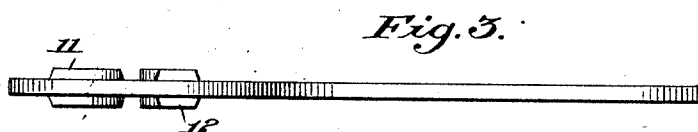
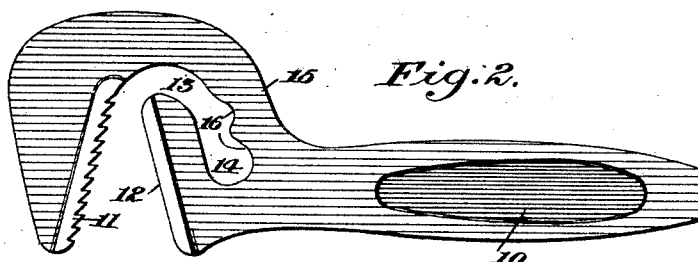
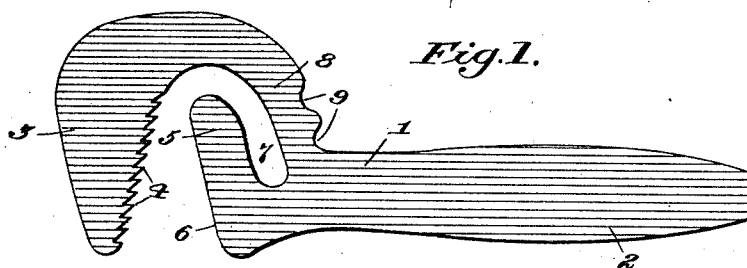
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H. G. NORWOOD

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WRENCH

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UNITED STATES PATENT OFFICE.

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WRENCH.

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This invention relates to new and novel improvements in one piece adjustable wrenches.

The prime object of the invention is to provide a simple, novel, durable, economical and efficient wrench preferably formed from a single piece of spring steel metal possessing sufficient resiliency to accomplish the proper adjustment of the wrench in the operation thereof.

Further objects of the invention are to so construct my improved wrench that the resiliency provided by its novel construction causes the two jaws to firmly set or draw together when brought into contact with pipe, nuts and other objects to be turned, or held, and to provide a handle so disposed as to be substantially on a line parallel with the lower extremity of the double jaw, thereby furnishing a maximum fulcrum during the operation of the wrench.

The foregoing and such other objects as may appear from the ensuing description are accomplished by the precise construction, arrangement and formation of the parts hereinafter more fully described, illustrated in the accompanying drawings and particularly pointed out in the claims appended hereto, it being understood that slight changes in the precise shape, proportions and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming a part of this specification it will be seen that:

Figure 1 represents a side elevation of a wrench constructed in accordance with and embodying my invention.

Figure 2 is a similar view showing a slightly modified form of wrench, and

Figure 3 is a top plan of the type of wrench shown in Fig. 2.

In the embodiment of my invention as illustrated in Fig. 1, the numeral 1 designates the wrench preferably formed by forging or stamping it from a single piece of steel, and comprising a handle 2, an outer main jaw member 3 provided with a series of teeth 4 formed in the inner edge of said jaw, and at the rear of the said member 3 is disposed an inner supplemental or additional jaw member 5, the outer face or edge 6 of the member 5 being inclined upwardly and outwardly in a direction opposite to the inner face or toothed edge 4 of the member 3, and said edge

of the face 6 may be serrated or roughened in any suitable manner, if desired.

At the rear of jaw member 5 is formed a slot 7 extending downwardly and terminating in the body portion of the wrench, while in the neck portion 8 of the jaw member 3 adjacent the body portion and handle is formed a plurality of notches 9 in its outer face or edge, said notches in connection with the slot 7 formed between said neck portion and jaw member 5, providing the desired resiliency for its adjustment during the operation of the wrench, and since the handle member is formed in a plane substantially parallel with the lower level of the jaw members the maximum leverage and power are thereby obtained.

In the modified form shown in Figs. 2 and 3, I provide each side of the handle member with a depressed or recessed portion 10, and the inner face or edge of the main jaw member is provided with a widened toothed gripping surface 11, and the outer face or edge of the supplemental jaw member 5 is also provided with a widened gripping surface 12, and at the rear of said jaw member 5 is a slot formation 13 terminating with an enlargement 14 at its lowermost end, while the inner edge or face of the neck portion 15 of the main jaw member is provided with a plurality of notches 16, which formation is adapted to furnish the desired resiliency for the practical adjustment of the wrench, and permits the two jaws to firmly set or draw together when brought into contact with pipe, nuts and other objects to be turned or rigidly held during the operation of the wrench.

It will be readily perceived that the type of wrench hereinbefore described may be formed from cold rolled steel, or other suitable material, such as tool steel, and in the smaller sizes it will be preferable to stamp them out of a single piece of suitable metal.

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

1. A wrench of the character described, comprising a plurality of jaw members, each jaw member being inclined in a direction opposite to the other, a solid integral handle member, and a slotted formation disposed at the rear of one of the jaw members and terminating at the lower end portion of the inner jaw.

2. A wrench of the character described,

comprising an outer jaw member and an inner jaw member, the inner face of said jaw members being inclined in opposite directions, a solid integral handle member, and a slotted formation disposed at the rear of the inner jaw member and terminating at the lower end portion of said inner jaw at the inner end of the handle member.

3. A wrench of the character described, comprising a main outer jaw member provided with a neck portion and an inner supplemental jaw member, the inner face of each jaw member being inclined in opposite directions, a slotted formation disposed at the rear of the inner jaw member and termi-

nating at the lower end portion of the inner jaw, a solid integral handle member, and a plurality of notches formed at one side of the neck portion of the main jaw member adjacent the inner end portion of the said handle member.

4. A wrench of the character described, comprising an outer jaw member and an inner jaw member, said jaws being inclined in opposite directions, a solid integral handle member, a slotted formation disposed at the rear of the inner jaw member, said handle member being disposed substantially parallel with the lower level of the jaw members.

HARRY G. NORWOOD.