No. 706,042. Patented Aug. 5, 1902.

# C. C. FIELDS.

## WRENCH.

(Application filed July 27, 1901.)

(No Model.)

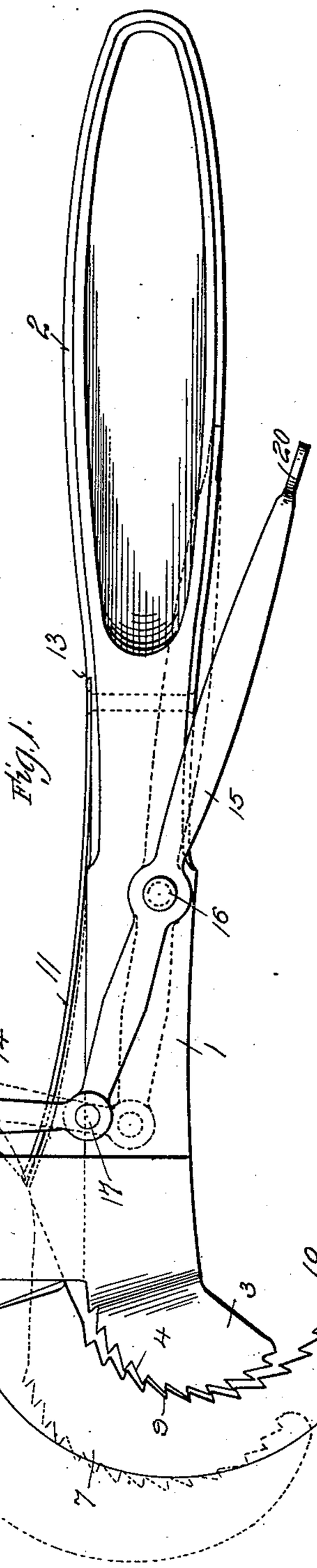


Fig. 1.

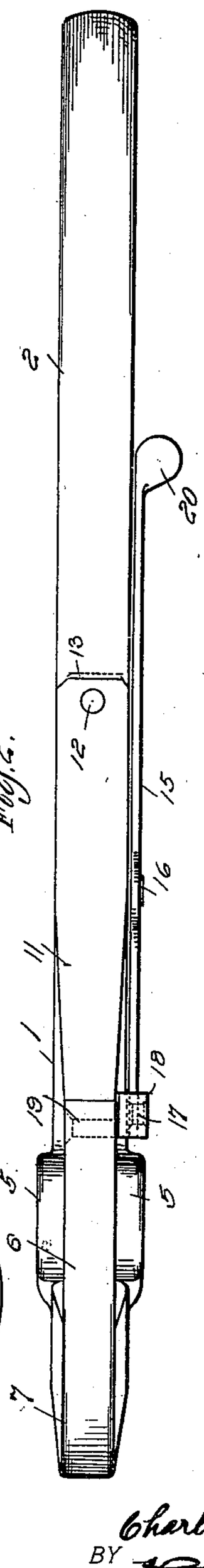


Fig. 2.

WITNESSES:
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# UNITED STATES PATENT OFFICE.

CHARLES C. FIELDS, OF MORRISTOWN, TENNESSEE.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 706,042, dated August 5, 1902.

Application filed July 27, 1901. Serial No. 69,897. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. FIELDS, a citizen of the United States, residing at Morristown, in the county of Hamblen and State of Tennessee, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to wrenches, and has for its object to provide a simple, strong, durable, and inexpensive structure of this character by means of which articles may be readily grasped and released and firmly held during the operation of the wrench.

To these ends my invention consists in certain novel features, which I will now proceed to describe, and will then particularly point out in the claim.

In the accompanying drawings, Figure 1 is a side view of a wrench in one form, and Fig. 2 is an edge or back view of the same.

In said drawings, 1 indicates the body of the wrench, provided with a suitable handle 2, the body and handle being preferably formed of metal in one piece by casting or otherwise. Upon the end of the body opposite to that to which the handle is connected is formed the fixed jaw 3, which is preferably integral with the body and which has an outwardly-rounding or convex gripping-surface provided with teeth or serrations 4, which are inclined toward the mouth of the jaws of the wrench.

Upon the back of the body 1 adjacent to the fixed jaw 3 are formed two parallel lugs 5, between which is pivoted the shank 6 of the movable jaw 7, the pivot being indicated at 8. This movable or pivoted jaw has a concave working or gripping face 9, provided with teeth or serrations 10, which are directed inward away from the mouth of the jaws or in a direction opposite to that of the teeth 4 of the fixed jaw. This movable jaw is of considerably greater length than the fixed jaw, so as to adapt the implement to the grasping of objects of considerable size. The pivoted jaw is forced normally toward the fixed jaw by means of a suitable spring, and I have shown for this purpose a flat or leaf spring 11, secured to the back of the body 1. The connection at this point is preferably made by means of a rivet 12 and beveled shoulder 13 on the body of the wrench, underneath which the correspondingly-beveled end of the spring is inserted. The free end of the spring bears on the under side of the shank 6 of the pivoted jaw, and the end of said shank is rounded off, as indicated at 14, to increase the range of movement of the pivoted jaw.

A lever 15 is pivoted between its ends, as indicated at 16, to the side of the body of the wrench and moves in a plane parallel to the plane of the body. To the forward end of this lever is pivoted at 17 one end of a link 18, the other end of which is pivoted at 19 to the tail of the shank of the pivoted jaw. The other end of the lever adjacent to the handle is provided with a pressure-plate or enlargement 20 at right angles to the plane of the body of the wrench and lying close to the side of the same, as shown in Fig. 2, where it may be conveniently reached by the thumb of the operator as he grasps the handle of the wrench. By locating the lever and its pressure-plate at one side of the body of the wrench instead of in the plane thereof at the back or front the lever may be conveniently operated by the thumb or forefinger of the operator without in any way requiring that the grip of the same hand upon the handle be shifted or relaxed to any material extent.

The wrench-jaws are shown closed in full lines in Fig. 1, but may be readily moved to the open position shown in dotted lines by grasping the handle of the wrench in the usual manner and pressing upward upon the thumb-plate 20 of the lever 15. The jaws may be thus opened to receive and grasp the article to be operated upon, and when the article is thus grasped a pressure on the thumb-plate 20 of the lever 15 in the opposite direction serves to lock the jaws firmly in engagement with the article and prevent their slipping. By manipulation of the lever 15 the jaws may be opened to again release the article, and the spring 10 will serve to automatically close the jaws around the article to be grasped as soon as the lever 15 is released. Said lever thus serves not only as a means for manipulating the jaws in grasping and releasing the objects to be operated upon, but also as a locking device to more firmly hold the jaws in engagement with the work.

I do not wish to be understood as limiting myself strictly to the precise details of construction hereinbefore described, and shown in the drawings, as it is obvious that these details may be modified without departing from the principle of my invention.

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

A wrench comprising a body portion, having at one end an integral handle or hand-grasp and at the other end an integral fixed jaw provided with a convex gripping-surface having outwardly-inclined teeth, said body portion also having, adjacent to the fixed jaw, rearwardly-projecting parallel lugs formed integral therewith, a movable jaw having a concave gripping-surface with inwardly-inclined teeth, and a shank pivotally mounted between the lugs of the body and extending beyond the same, said extension being curved or cut away, as described, a leaf-spring secured at one end to the back of the body of the wrench and having its free end bearing against the extension of the shank of the pivoted jaw, a lever pivoted between its ends on the side of the body of the wrench, moving in a plane parallel with and immediately adjacent to the side of said body, and having one end located immediately adjacent to the handle or hand-grasp, in position to be operated by the thumb or fingers of the hand without shifting the grasp, being provided with a finger-plate at right angles to the plane of the body of the wrench, and a link pivotally connected at one end to the other end of the lever, the other end of said link being pivoted to the extension of the shank of the pivoted jaw, substantially as described.

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

CHARLES C. FIELDS.

Witnesses:
GEORGE C. KELLY,
E. O. HAGAN.