E. H. GOTSHALL.

WRENCH.

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956,074. Patented Apr. 26, 1910.

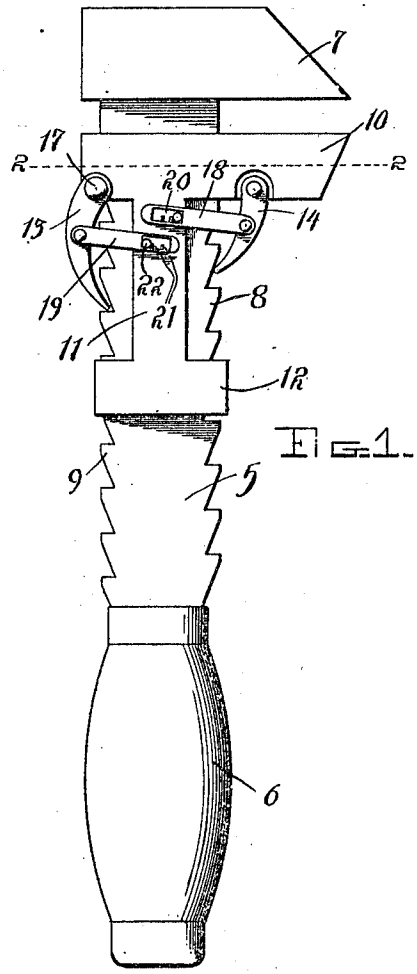

Fig. 1.

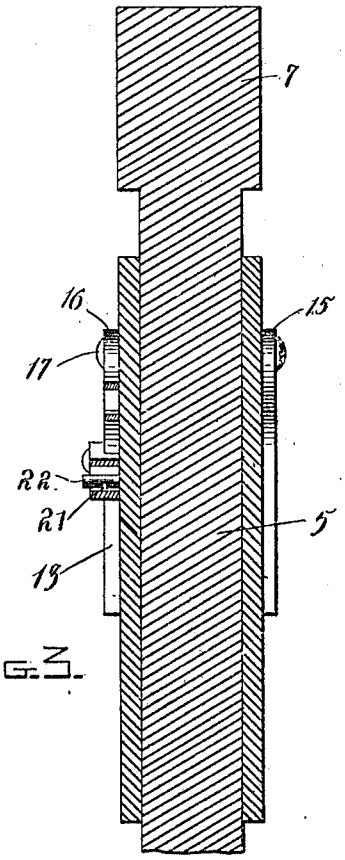

Fig. 3.

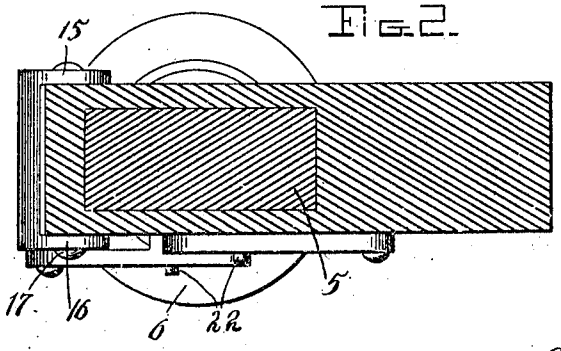

Fig. 2.

Witnesses
Alan F. Garner
John A. Donegan.

Inventor
Eddie H. Gotshall

By Dawson & Dawson

Attorneys

ANDREW B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDDIE H. GOTSHALL, OF BLOOMINGDALE, OHIO.

WRENCH.

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To all whom it may concern:

Be it known that I, EDDIE H. GOTSHALL, a citizen of the United States, residing at Bloomingdale, in the county of Jefferson, State of Ohio, have invented certain new and useful Improvements in Wrenches; and I do hereby 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.

This invention relates to improvements in wrenches and more particularly to the sliding jaw type.

It has for its object the provision of a device of that kind which may be readily adjusted to the diameter of the object to be gripped.

Another object is the provision of a means for holding the movable jaw against movement after the latter has been adjusted on the object to be gripped.

A further object is the provision of a means for releasing the catch on the movable jaw, whereby the latter may be moved from engagement with the gripped object.

With these and other objects in view as 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 is to be understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification:—Figure 1 is a side elevation of the device. Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1. Fig. 3 is a longitudinal sectional view of the device.

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

As shown, the device consists of a movable and fixed jaw. The shank of the stationary jaw is designated by the numeral 5 and terminates at one end in a handle 6, while at its opposite end the stationary jaw head 7 is formed. The latter may be of any well known structure and is provided with a flat gripping surface. The shank 5 is rectangular in cross section and on its opposite longitudinal sides is provided with a plurality of spaced teeth 8 and 9 arranged in staggered relation which extend from the handle 6 to a point adjacent the gripping face of the jaw 7.

The sliding or movable jaw is designated by the numeral 10 and corresponds in length and width to the stationary jaw 7. The movable jaw is provided adjacent one end with a recess which receives the shank 5, the opening being of an area to permit the jaw to slide on the shank. The opposite end of the jaw extends to a point in alinement with the engaging end of the stationary jaw 7 and its inner face is flattened to provide a flat gripping surface corresponding to the gripping surface of the jaw 7. Extending from the opposite sides of the sliding jaw 10 and directed toward the handle 6 are a pair of guide plates 11. These members are somewhat less in width than the width of the shank 5 and extend parallel with and bear on the opposite flat faces of the latter. The guide plates 11 terminate in a rectangular shaped sleeve 12 which encircles the shank and is of a size to slide over the teeth 8 and 9. With this construction it is obvious that the movable jaw may be slid to opposite ends of the shank and adjusted to the diameter of the object to be gripped.

In order that the movable jaw may be held in any of its adjusted positions on the shank 5, the following construction is employed:—By referring now to Figs. 1 and 2 it will be seen that a pair of pawls 13 and 14 are provided. These members extend in advance of that side of the movable jaw remote from the gripping surface and are adapted to engage with the teeth 8 and 9 of the shank, thus preventing movement of the movable jaw in one direction. The pawl 14 is located between the engaging end of the movable jaw and shank 5 and has its inner end pivoted in a recess formed in that side of the movable jaw remote from the gripping surface. The pawl is of sufficient length to engage the teeth when its engaging end is moved toward the shank 5. The opposite pawl 13 has at its inner end a pair of ears 15 and 16, which straddle the movable jaw 10. Said pawl 13 is pivotally connected to said movable jaw by a pivot bolt 17, which extends through the said ears 15 and 16, and the said movable jaw. Connection between

the pawls 13 and 14 and one of the guide plates 11 is established by means of a pair of links 18 and 19. Each of these members is preferably formed of a single piece of metal, oblong in contour and having one end secured to the intermediate portion of one face of the pawl while the opposite or free end is provided with an elongated slot or opening 20 which receives a pin 22 extending laterally from the guide plate 11. The links 18 and 19 are so positioned that their inner or free ends will lie in the same plane, the inner end of the link 18 being arranged nearer to the movable jaw 10 than the opposite link 19. By referring now to Fig. 1 it will be seen that projecting inwardly from one side of the recess 20 in each of the links are a pair of leaf springs 21. These members are arranged in spaced relation and are embedded in the side wall of the recess and are of a length to engage with the pin 22 when the link is moved so as to bring the pin to either end of the recess. The length of the slots 20 corresponds to the distance each pawl will move in order to be brought into and out of engagement with the teeth. Thus it will be seen that when the link 19 is moved so as to bring that end of the recess adjacent its secured end to bear on the pin 22 the free end of the pawl will be moved into engagement with the teeth 9 and will be yieldingly held in such engagement by the spring 21 bearing on the pin 22. When the link is moved in the opposite direction the pawl will be moved from engagement with the teeth and will be held in this position by the spring in the opposite end of the recess.

Owing to the staggered relation of the teeth it will be seen that the jaws may be adjusted to accommodate the various diameters of bolts, or other objects to be gripped and may be more accurately adjusted to the various sizes of nuts and similar objects than if the teeth were arranged directly opposite each other.

Thus it will be seen that I have provided a device which is exceedingly simple in structure and comparatively inexpensive to manufacture, embodying few parts and these so arranged that the danger of derangement will be small.

Having thus described my invention what is claimed as new, is:—

A wrench comprising a fixed jaw member having a shank provided with oppositely disposed teeth arranged in staggered relation, a sliding jaw member disposed on said shank, a pair of pivoted pawls carried by said sliding jaw member, laterally extending pins arranged on said sliding jaw member, links having their outer ends secured to said pawls and their inner ends provided with recesses for the reception of said pins and leaf springs disposed in said recesses and adapted to engage said pins and serving to hold the pawls in and out of engagement with said teeth.

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

EDDIE H. GOTSHALL.

Witnesses:
CHAS. P. BROBSTON,
SAMUEL VORHES.