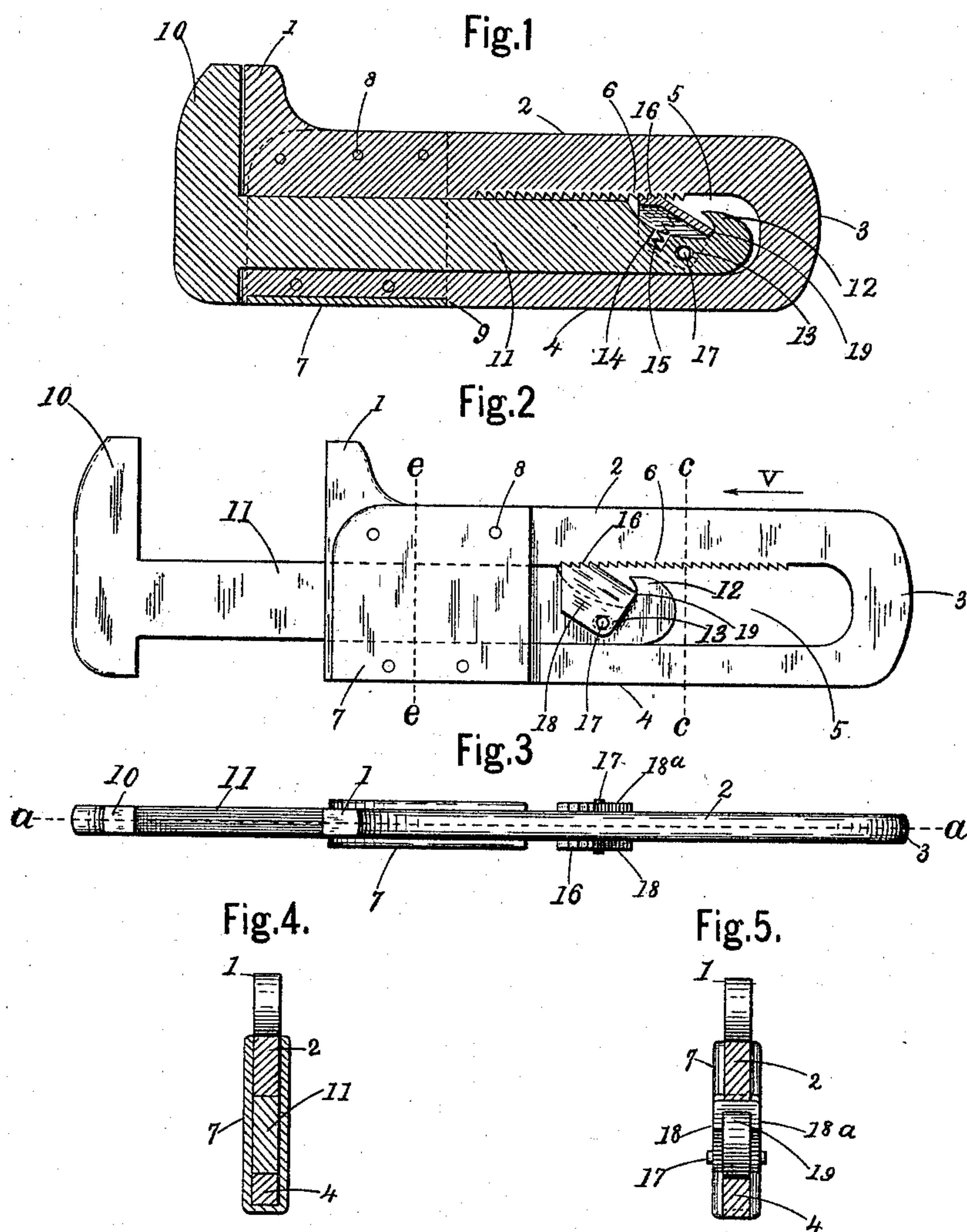


(No Model.)

W. DICKS.
WRENCH.

No. 540,353.

Patented June 4, 1895.



Witnesses:

Harriet Johnson
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UNITED STATES PATENT OFFICE.

WILLIAM DICKS, OF BUFFALO, NEW YORK.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 540,353, dated June 4, 1895.

Application filed August 2, 1894. Serial No. 519,238. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DICKS, a subject of the Queen of Great Britain, (but having declared my intention to become a citizen of the United States,) residing in Buffalo, (Kensington Station,) in the county of Erie and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to certain improvements in wrenches whereby quickness of adjustment, great simplicity of construction, and strength and durability are obtained, and it will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal section on or about line *a a*, Fig. 3, showing the jaws of the wrench closed. Fig. 2 is a side elevation of the wrench complete, showing the jaws of the wrench open. Fig. 3 represents a top or plan view of the wrench, showing the jaws open, as in Fig. 2. Fig. 4 represents a transverse section through the wrench in or about line *e e*, Fig. 2, looking in the direction of the arrow V. Fig. 5 is also a transverse section through the wrench in or about line *c c*, Fig. 2, looking in the direction of the arrow V.

Referring to the drawings in detail, 1 represents the stationary jaw of the wrench. It is connected with and forms a part of the handle which consists of the parts 2, 3 and 4, the whole forming substantially a U shaped portion having a longitudinal opening 5, in which the sliding portion carrying the movable jaw operates. On one side of the opening 5, is a series of ratchet teeth 6.

This portion of the wrench is preferably constructed of sheet or plate steel although any suitable material may be used, and is formed in one integral piece, being cut in a die and completed by recutting in the well known way.

To rigidly secure the parts at the end carrying the stationary jaw, a metal plate 7, bent in the form of a U, is passed over each and secured by rivets 8. A recess 9, (see Fig. 1) in the under side of the part 4, allows this plate 7, to fit even with the bottom edge, substantially as shown in Figs. 1 and 2. The movable jaw 10, is formed in one piece with the

sliding portion 11, and is constructed in a similar manner, of the same kind of material.

The slideway portion 11, is made so as to fit nicely and slide easily in the longitudinal opening 5, in the handle, and is provided with a hook shaped portion 12 at its rear end having an elongated or oval opening 13, and a small opening 14, adapted to receive a spiral spring 15. I have shown a spiral spring but any well known spring may be used.

A ratchet pawl provided with a series of ratchet teeth 16, (adapted to engage with the teeth 6,) is pivoted by a pin 17, which passes through the elongated hole 13, in the portion 11. The ratchet pawl is made so that its sides 18 and 18^a extend over each side of the slideway portion 11, and is fitted so as to move easily thereon.

The spiral spring 15, is but a slight spring and is interposed between the inner top side of the pawl and the slideway portion.

The pawl is so formed see Fig. 1, that its rear end 19, extends into the hook and receives all the force from the wrench when in use, thereby taking all the strain from the small pin 17, the elongated hole 13, allowing sufficient longitudinal movement to the pin for that purpose. By means of this construction the pawl always operates easily on the pin 17, and no pressure is brought upon said pin however much force may be exerted against the jaws of the wrench while operating with it.

The sides 18 and 18^a, of the pawl project outward each way from the sides of the wrench to allow the fingers to grasp them easily when it is desired to throw the pawl out of engagement with the teeth 6, and separate the jaws of the wrench which is very easily and quickly done.

I claim as my invention—

1. A wrench consisting of a handle carrying the stationary jaw, U shaped metal plates riveted to the ends of said handle for strengthening the same, and also preventing the sliding jaw portion from entirely leaving the slide-way, a slide-way located on the inner side of the handle in which the sliding portions carrying the movable jaw move, a ratchet pawl pivoted to the rear end of the sliding portion, having a series of teeth adapted to engage with teeth cut in one side

of the handle slide-way and means for keeping said pawl in engagement, substantially as set forth.

2. A wrench consisting of a handle carrying
5 the stationary jaw, a slideway located in said handle provided with a series of ratchet teeth on one side, and means for connecting the open ends of the handle, in combination with
10 a sliding portion carrying the movable jaw, a hook shaped portion at the rear end of the sliding portion and a ratchet pawl pivoted to the rear end of the sliding portion by a pin

passing through an elongated opening so as to allow the pawl a slight longitudinal movement, and so that the rear end of the pawl 15 will rest in and against the hook portion and prevent the strain from coming on the pivot pin, while operating the wrench, substantially as described.

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Witnesses:

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