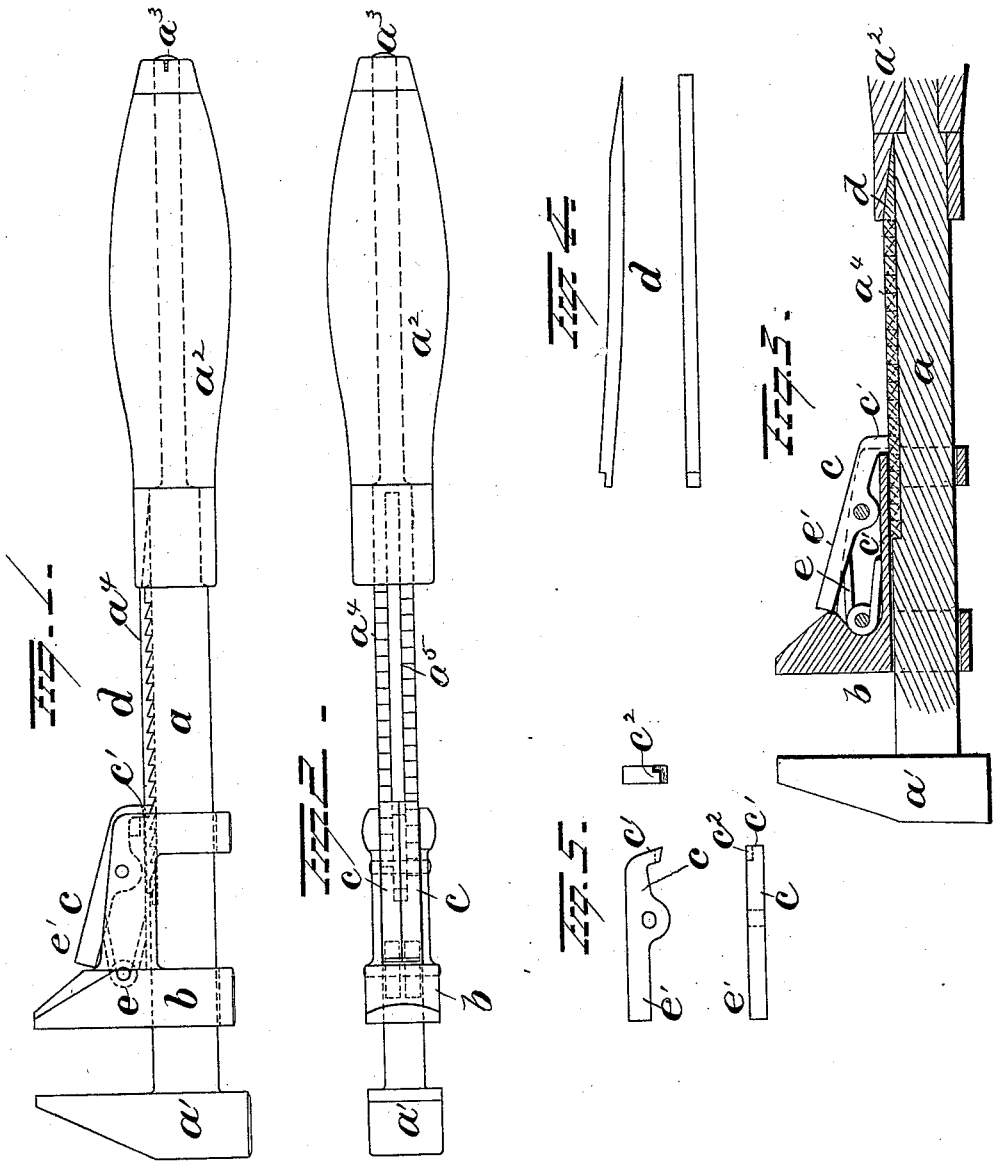
(No Model.)

O. P. FOOTE.

WRENCH.

No. 422,516. Patented Mar. 4, 1890.



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OMER P. FOOTE, OF NEWARK, OHIO.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 422,516, dated March 4, 1890.

Application filed February 21, 1889. Serial No. 300,659. (No model.)

To all whom it may concern:

Be it known that I, OMER P. FOOTE, of Newark, in the county of Licking and 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.

My invention relates to an improvement in wrenches, and more particularly to that class known as "sliding-jaw wrenches."

The object is to provide a powerful wrench consisting of as few parts as is practicable, united in a compact and durable form, disposed in position to be easily manipulated without the constant danger of the parts becoming worn, unreliable, and slow in action, which frequently attends the use of wrenches of similar character.

With this end in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved wrench. Fig. 2 is a front elevation. Fig. 3 is a longitudinal sectional view through the sliding jaw of the wrench. Fig. 4 shows side and edge views of the spring-plate, and Fig. 5 shows similar views of the spring-dog.

The letter a represents the main portion or stem of the wrench, on one end of which the usual rigid jaw a' is formed. The handle a^2 is secured on the opposite or restricted end of this shank, where it is held by a rivet, screw, or other means a^3. The stem is provided on its front edge or face with a double row of ratchet-teeth a^4, which are by preference about an eighth of an inch in length and located out of alignment with each other—that is to say, so that the points of the teeth in one row fall opposite the middle of the teeth in the other row. The purpose of this will be explained hereinafter, and it may be mentioned here that this is not the necessary construction, although it is desirable. Between these rows of teeth the groove a^5 is formed.

The letter b indicates the sliding jaw. This jaw is loosely mounted on the shank of the wrench and naturally would slide freely thereon; but as it is not desirable that the jaw should have free sliding movement in either direction dogs and springs are employed to hold it in the proper position and yet admit of its position being readily changed. A pair of dogs c c are pivoted in the sliding jaw b, side by side, and these dogs are provided at one end with a toe c' c', adapted to bear on the teeth a^4, where they are normally held by the expansive action of the springs e e, which latter bear on the jaw at one end and on the thumb-levers e' e' at the other. The toes c' c' have notches c^2 therein, and a spring d, pointed at one end, inserted in the handle and lying in the groove a^5, extends through these notches c^2 and into the jaw b. This plate is curved slightly upwardly, so as to bear upon the jaw. The object of this spring-plate is twofold: first, it prevents the jaw b from accidentally sliding toward the rigid jaw when the wrench is turned up endwise, and, second, it protects the teeth a^4 from being bruised.

In using the wrench the thumb-levers e' e' are depressed until the toes c c' are out of engagement with the teeth a^4. The sliding jaw may be then drawn back as far as necessary. Now, by placing the wrench on the nut the sliding jaw is pushed up to the nut, the dogs sliding over the teeth and one of them at a time engaging a tooth in the stem. This locks the jaw fast against backward movement. The object of the arrangement of the teeth, as set forth and shown, is now made obvious. As one dog is sufficiently strong to hold the sliding jaw in place, by having a double row of teeth arranged as shown, just double the number of adjustments is admitted and the length of each adjustment is reduced one-half.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the particular construction herein set forth; but,

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

1. In a wrench, the combination, with a toothed stem, a rigid jaw thereon, and a slid-

ing jaw, of a spring-dog and a spring-plate secured at one end, its free end extending into the sliding jaw, substantially as set forth.

2. In a wrench, the combination, with the stem having a rigid jaw thereon, and a double row of ratchet-teeth with grooves between them, of a sliding jaw, a pair of spring-dogs pivoted thereto and bearing on the teeth, and a spring-plate located in the groove and extending into the sliding jaw, substantially as set forth.

3. In a wrench, the combination, with a rigid jaw having a toothed and grooved shank, and a sliding jaw having dogs adapted to engage the teeth on opposite sides of the groove, of a curved spring-plate located within said groove and secured at one end and bearing at its opposite end against said sliding jaw, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

OMER P. FOOTE.

Witnesses:
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