H. E. McDONALD.

PIPE WRENCH.

APPLICATION FILED MAY 8, 1906.

900,191. Patented Oct. 6, 1908.

FIG. 1

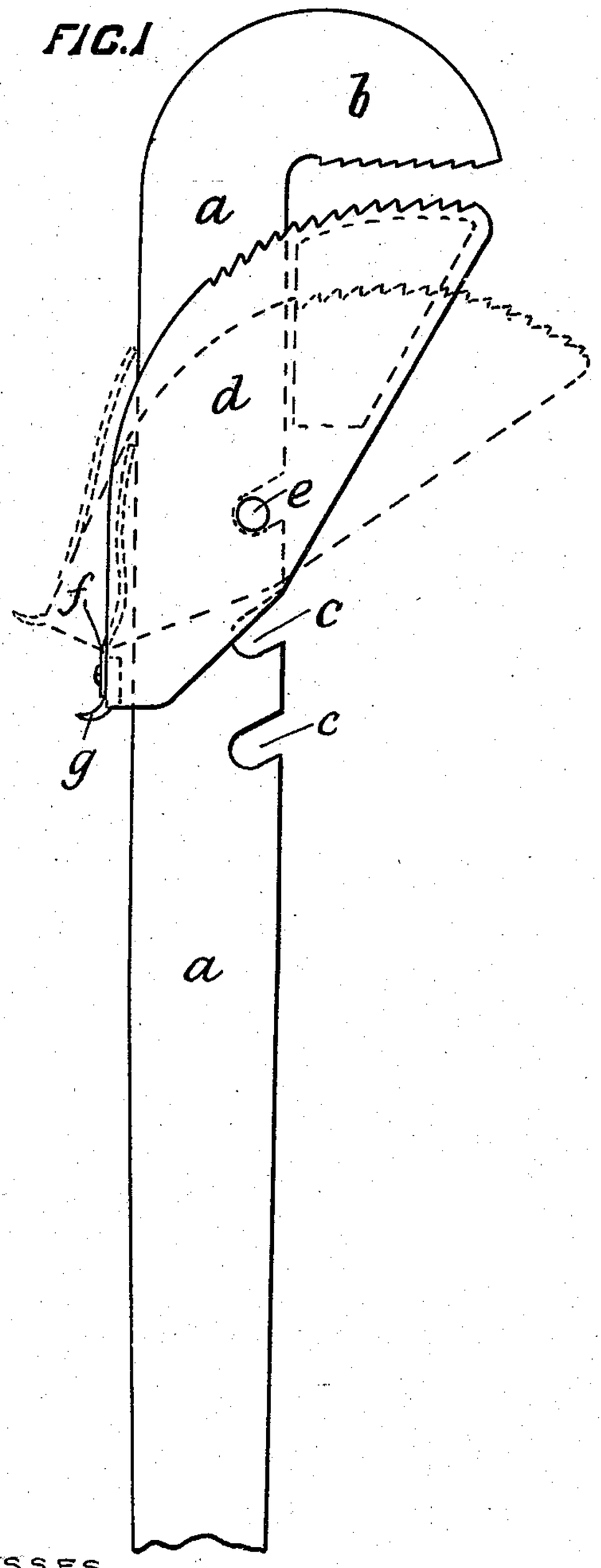
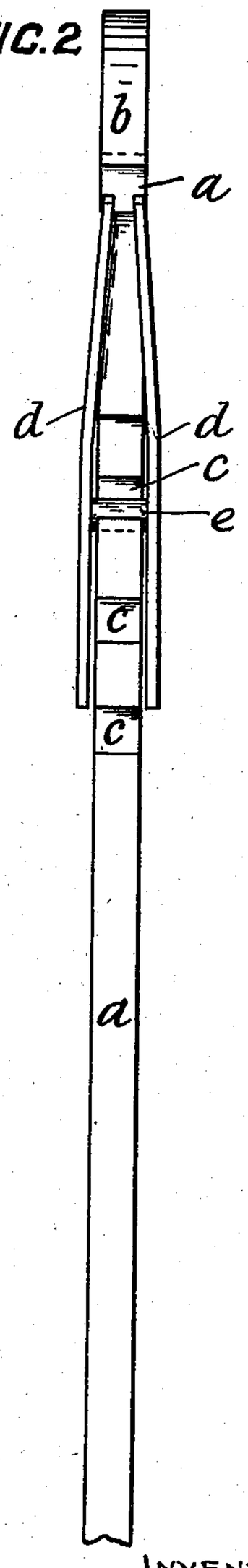


FIG. 2



WITNESSES;

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PIPE-WRENCH.

No. 900,191. Specification of Letters Patent. Patented Oct. 6, 1908.

Application filed May 8, 1906. Serial No. 315,737.

To all whom it may concern:

Be it known that I, HENRY EDWIN McDONALD, subject of the King of Great Britain, residing at Petone, Wellington, in the colony of New Zealand, have invented a new and useful Pipe-Wrench; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to that class of pipe wrench in which one of the gripping jaws is formed by an overhanging top end of the bar constituting the handle, and the other jaw is pivoted on the bar so as to be capable of approaching to or receding from the fixed jaw. These wrenches hitherto, have been mostly constructed with holes at regular intervals apart throughout the length of the bar piece, which holes are adapted to receive the pivot pin by means of which the movable jaw is pivoted on the bar, thereby providing for the wrench being adjusted for different diameters of pipes. This manner of attaching the pivoted jaw while satisfactory so far as the operation of the wrench is concerned, is unsatisfactory because of the amount of time involved in shifting the jaw from one pivot point to another.

The object of the present invention is to so construct the wrench that the movable jaw may be adjusted with ease and celerity.

In carrying out the invention, the inner edge of the bar is formed with slots extending inwards and downwards at desired intervals apart in its length. The movable jaw, which is formed as ordinarily, with two side members which pass one on each side of the bar, is provided with a pin extending across between the two members. This pin is adapted to enter any one of the slots and when in such a position will form the pivot upon which the jaw may turn to open from or approach towards the fixed jaw. A flat spring is secured at one of its ends to the portion joining the back edges of the jaw together, and this spring extends along and engages against the back face of the wrench bar. The spring thus serves to keep the movable jaw from moving out of its pivot slot and also to close such jaw when it has been opened.

In the accompanying drawings, which illustrate the invention,—Figure 1 is an elevation, and Fig. 2 a side elevation of the wrench.

(*a*) is the bar portion which constitutes a handle and one end of which is formed with the overhanging portion (*b*), the lower edge of which is serrated, and which forms the fixed jaw of the wrench.

(*c*) are the slots formed upon the inner edge of the bar (*a*) and which extend inwards and downwards from such edge.

(*d*) is the adjustable movable jaw which is formed as ordinarily, of two side members which pass one on each face of the bar (*a*) and are joined together by cross pieces at the front and back thereof, so as to loosely confine the bar within it and to provide for the jaw moving freely longitudinally along the bar.

(*e*) is the pin which passes across the space inclosed by the two side members of the jaw (*d*), and is adapted to pass into and rest within any one of the slots (*c*) in the edge of the bar (*a*). When thus resting in one of the slots, it will form a pivot upon which the jaw may be turned in the usual manner to open and close it. By placing the pin (*e*) in any desired slot, the distance between the jaws of the wrench may be adjusted.

(*f*) is a flat spring, the lower end of which is securely fastened to the back edge of the jaw (*d*), while its other end bears against the back edge of the bar (*a*) so as to tend to keep the pin (*e*) within the slot into which it has been passed. It is of such a strength, however, as to allow for the pin being drawn out when the jaw is moved sidewise.

By reason of the incline in the slots (*c*), the pin (*e*) will be capable of sliding out of one slot into another when the jaw (*d*) is pushed upwards towards the fixed jaw, thereby allowing for the wrench being quickly adapted for any size of pipe, or other article to be gripped. In like manner, the jaw (*d*) may be moved away from the fixed jaw by drawing its pin out of the slot, against the pressure of the spring (*f*), and sliding the jaw down the bar (*a*). The spring (*f*) will also serve to provide for the jaw (*d*) when it has been opened in the manner shown by dotted lines in Fig. 1, closing again upon any object placed between it and the fixed jaw, thereby insuring that a grip will be obtained upon such object immediately and without any loose play.

In use, the stress upon the bottom jaw will be inward from its periphery on to the pin (*e*) so that, if the slots are made of such a length as to receive the whole diameter of the pin, there will be no danger of the pivot point of the jaw giving way.

The back bottom edge of the jaw (*d*) is provided with a small thumb piece projection (*g*) by an upward pressure on which, the jaw may be opened as desired.

What I do claim as my invention, and desire to secure by Letters Patent, is:—

In a pipe wrench, a stem having slots formed at intervals along its inner edge and extending downwardly, a jaw fixed on said stem and overhanging its inner edge, a jaw slidable along the stem and provided with a pivot adapted to enter and rest within any one of the slots, and a flat spring carried by the sliding jaw and bearing against the outer edge of the stem.

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

HENRY EDWIN McDONALD.

Witnesses:

WILMOT BOCLASE,

WALTER ALEXANDER.