

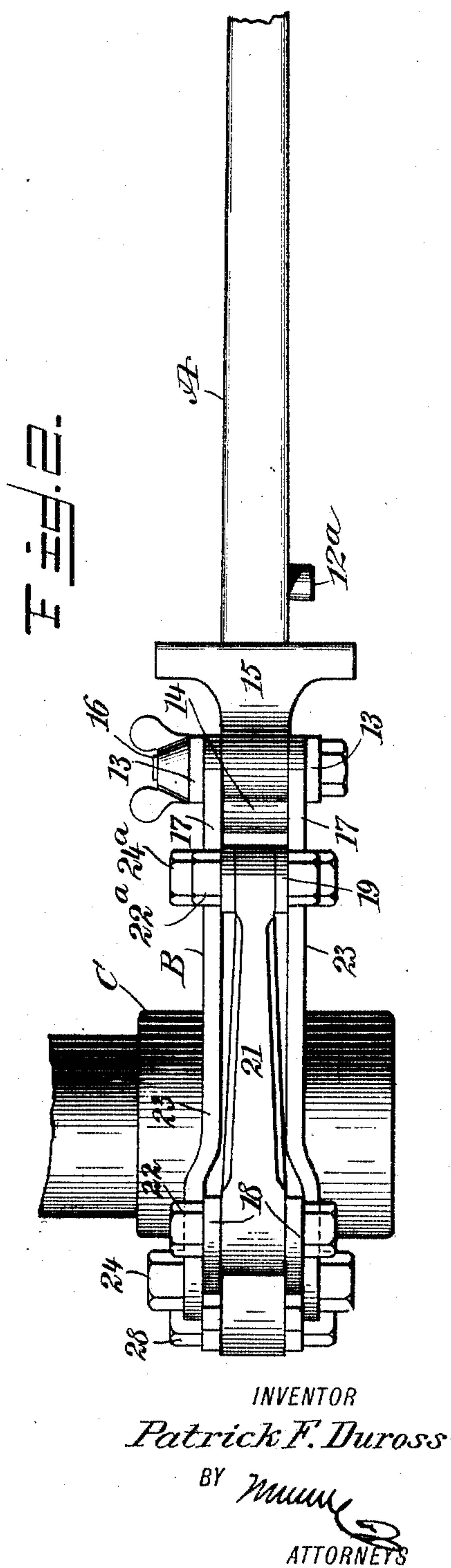
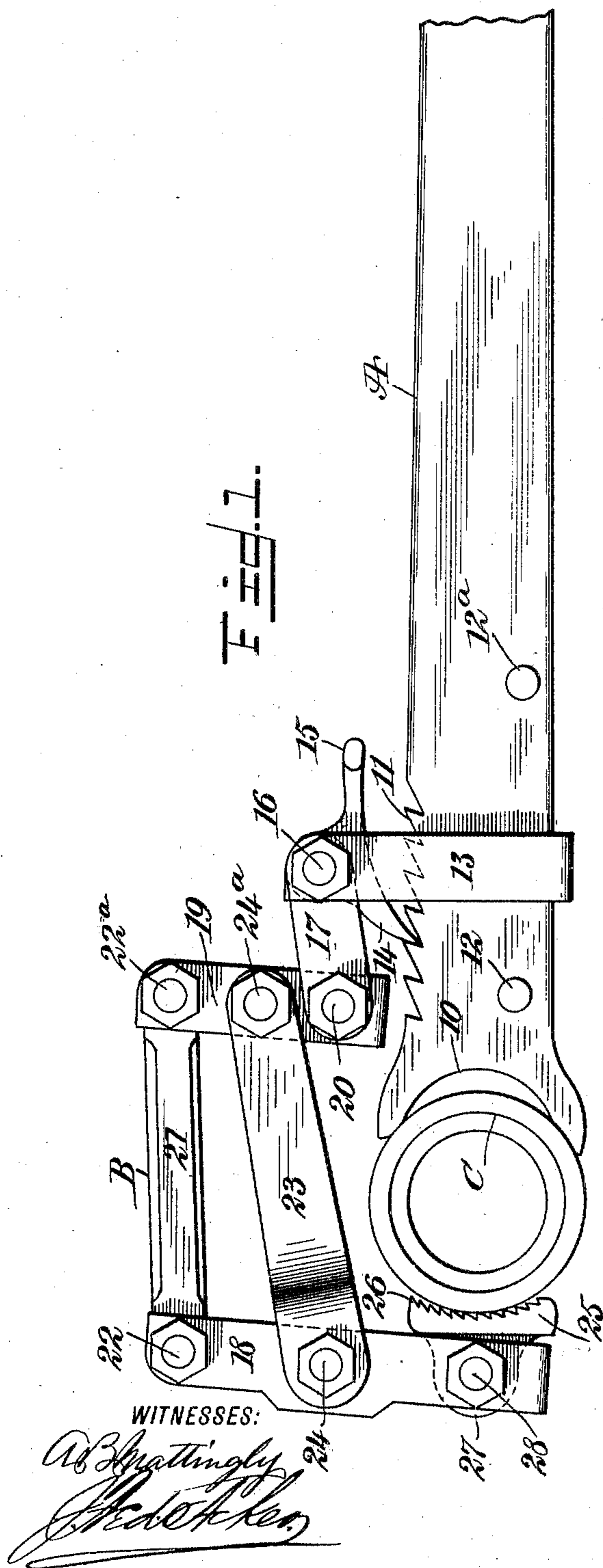
No. 777,009.

PATENTED DEC. 6, 1904.

P. F. DUROSS.  
WRENCH.

APPLICATION FILED DEC. 1, 1903.

NO MODEL.



# UNITED STATES PATENT OFFICE.

PATRICK F. DUROSS, OF NEW YORK, N. Y.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 777,009, dated December 6, 1904.

Application filed December 1, 1903. Serial No. 183,340. (No model.)

*To all whom it may concern:*

Be it known that I, PATRICK F. DUROSS, a citizen of the United States, and a resident of the city of New York, (Flushing, borough of Queens,) in the county of Queens and State of New York, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide a wrench which is primarily a pipe-wrench and is of simple, durable, and economic construction, the said wrench being so constructed that it may be quickly and conveniently adjusted to take various sizes of nuts or different sizes of pipes and so that it will act with a maximum of power on the article gripped, but without a tendency to unduly mutilate or mar the article.

A further purpose of the invention is to construct the wrench in such manner that the pressure exerted thereon in operation will serve to cause the jaws of the wrench to firmly bind or grip the article to which they are applied, such jaws being readily disengaged from the article as soon as the handle is relieved from pressure.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of the improved wrench, and Fig. 2 is a plan view of the same.

The handle A for the wrench is provided with a concaved surface at its outer end, forming a jaw 10, and is further provided with teeth 11 at its upper edge and with studs 12 and 12<sup>a</sup>, ordinarily located adjacent to its lower edge.

A yoke-strap 13, open at the top, is made to loosely straddle the handle A and has free movement between the studs 12 and 12<sup>a</sup>. A pawl 14 is located at the open end of the strap 13, adapted to engage with the teeth 11 on the handle, and the said pawl is provided with a handle-section 15, whereby it may be quickly raised from engagement with the

teeth 11, and a pivot-pin 16 is passed through the open end of the yoke-strap 13, acting as a fulcrum for the pawl 14 and likewise as a fulcrum for two forwardly-extending arms 17.

The body B of the wrench is of link construction and is formed as follows: The said body consists of a long forward yoke-head 18 and a shorter rear yoke-head 19, both heads being closed at their ends which are adjacent to the handle, being open at their opposite ends. The arms 17 are pivoted, preferably exteriorly, at the lower side portions of the shorter or rear head 19 by means of a suitable pivot-pin 20. The two heads 18 and 19 are connected at their outer or open ends by a connecting-bar 21, which is carried between the members of the heads and is pivoted to the forward or longer head 18 by a pivot-pin 22 and to the rear or shorter head 19 by a corresponding pivot-pin 22<sup>a</sup>. Links 23 also connect the two heads 18 and 19 at points about centrally between their ends. These links engage with the outer faces of the heads 18 and 19 and are pivoted to the head 18 by means of a suitable bolt 24 or its equivalent, while a corresponding bolt 24<sup>a</sup> serves to pivot the said links to the rear and shorter head 19.

A jaw 25, which is opposed to the jaw 10 on the handle, is carried by the lower portion of the forward or long yoke-head 18, being pivoted in the said head by means of a suitable pin 28, passed through an extension 27 from the said jaw 25. The jaw 25 is usually provided with teeth 26 at the face opposite the jaw 10 on the handle, and the toothed or gripping surface of the jaw 25 may be straight or may be curved, as desired.

It will be readily observed that the jaw 25 is removable and may be replaced whenever desired by a jaw best adapted for the work at hand.

In the drawings I have illustrated a pipe C as held between the two jaws 10 and 25, and it will be observed the more pressure that is exerted upon the handle in direction of the pipe the more firmly will the jaws 10 and 25 take hold of the pipe, owing to the link connections between the two heads of the body and the connection between the body and the handle. It is furthermore obvious that the

wrench may be adjusted to take any sized pipe within a large range of sizes, as it is simply necessary in adjustment to raise the pawl 14 and draw the handle forward or backward until the desired distance is obtained between the two jaws, at which time the pawl 14 is made to engage with a convenient tooth 11 on the handle.

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

1. In a wrench, a body consisting of opposing longitudinal heads, a link connecting said heads at their upper ends, a second link connecting the heads between said first link and their lower ends, a handle extending at right angles to said heads, a strap through which said handle has endwise movement, a link connecting said strap with the lower end of one of said heads, a jaw on the opposing lower end of the other head, the inner end of the handle being adapted to cooperate with said jaw, and means for locking said strap in adjusted position on said handle.

2. A wrench consisting of opposing heads, a long and a short head, a jaw removably and pivotally carried by the longer head, link connections between the two heads, a handle having teeth in one edge and a jaw formed at one end, a strap in which the handle has movement, a link connection between the strap and the shorter head of the body, and a pawl carried by the said strap for engagement with the teeth on the handle, as described.

3. A wrench consisting of a body, comprising a long and a short yoke-head, a jaw pivotally and removably carried by the longer head, links pivotally connecting the two heads, a handle having teeth at one edge and a jaw formed at one end, a yoke-strap in which the handle has limited movement, links pivotally connecting the yoke-strap with the shorter head of the body, and a pawl pivoted in the

said strap for engagement with the teeth on the handle, for the purposes set forth.

4. In a wrench, a handle having a jaw on one end thereof, a body consisting of opposing yoke-heads, link connections pivotally uniting the heads, a jaw carried by one of the yoke-heads to cooperate with the jaw on the end of the handle, a strap in which the handle has movement, a link connection between the said strap and the other one of said yoke-heads, and a locking device for the body.

5. A wrench consisting of a handle, a jaw on the forward end thereof, ratchet-notches on said handle at the rear of said jaw, a strap having longitudinal movement on said handle, a pawl carried by said strap and adapted to engage said ratchet-notches, a long and a short yoke-head, a link connecting said heads together at their upper ends, a second link connecting said heads between their ends, a jaw pivotally and removably carried by the longer yoke-head at its free end, and a link pivotally connecting the free end of the shorter head with said handle-strap.

6. In a wrench, a handle having a jaw on one end thereof, a body consisting of opposing yoke-heads, link connections pivotally uniting the heads, a jaw carried by one of the yoke-heads to cooperate with the jaw on the end of the handle, a strap in which the handle has movement, a link connection between the said strap and the other one of said yoke-heads, and a locking device for the body, as described.

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

PATRICK F. DUROSS.

Witnesses:

LAWRENCE FOGARTY,  
GEORGE E. HEBEL.