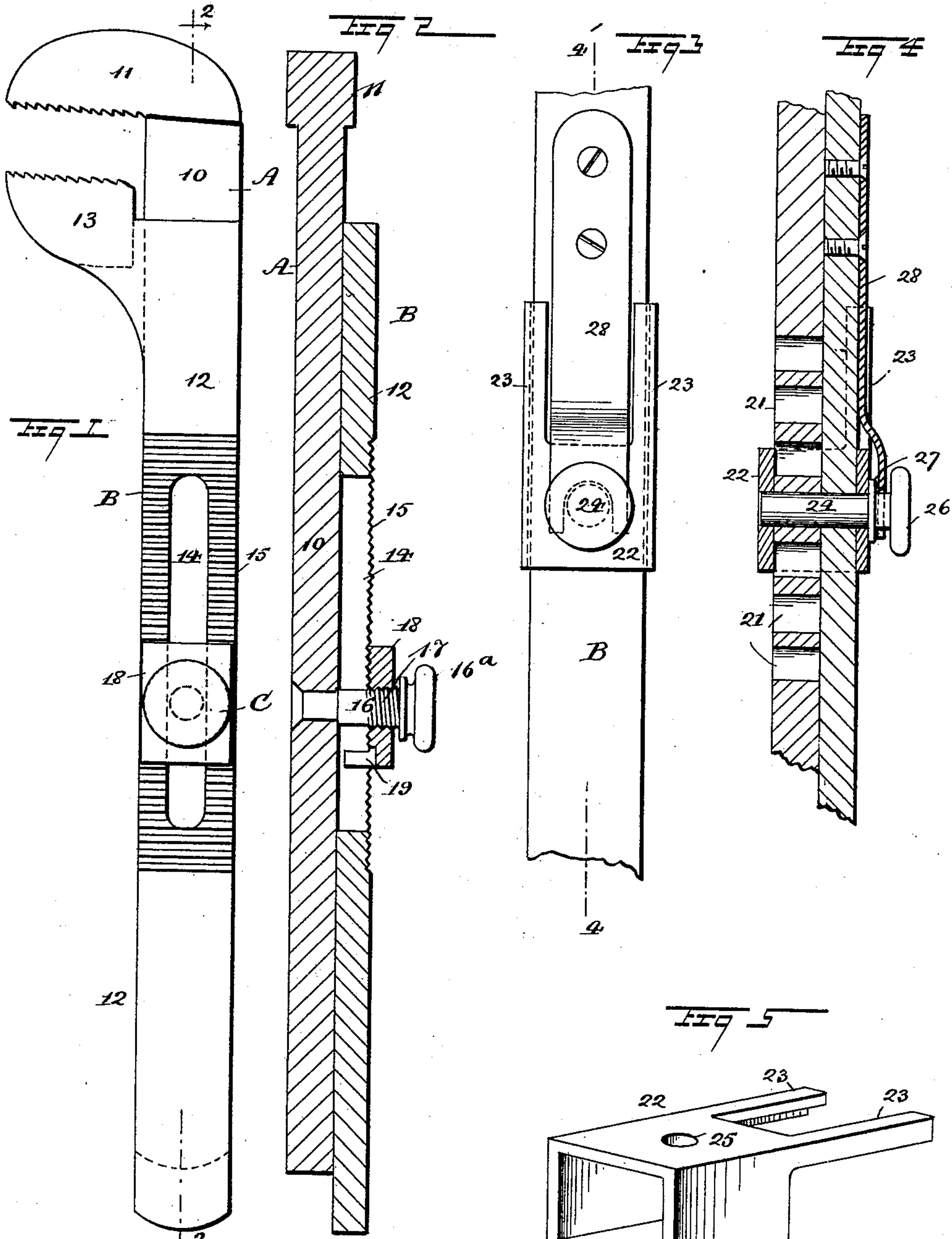


(No Model.)

J. RYAN.
WRENCH.

No. 482,198.

Patented Sept. 6, 1892.



WITNESSES:

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 482,198, dated September 6, 1892.

Application filed July 13, 1892. Serial No. 439,887. (No model.)

To all whom it may concern:

Be it known that I, JOHN RYAN, of New York city, in the county of New York and State of New York, have invented a new and
5 useful Improvement in Wrenches, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wrenches, and especially to an improvement
10 in pipe-wrenches, and has for its object to construct the wrench in a most simple manner and comprising but few parts, each of which will be strong and durable and the entire wrench will be economic as well as simple.

15 A further object of the invention is to construct the wrench in such a manner that it may be used as conveniently as and in all places where the ordinary pipe-wrench is capable of being applied.

20 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
25 drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the wrench.
30 Fig. 2 is a central vertical section taken, practically, on the line 2 2 of Fig. 1. Fig. 3 is a partial side elevation of a modified form of the wrench. Fig. 4 is a vertical section taken, practically, on the line 4 4 of Fig. 3; and Fig.
35 5 is a detail view of the slide employed in the construction of the modified form of the wrench.

The wrench comprises, virtually, three parts only, namely: a body portion constructed in
40 two sections A and B and a fastening device C. The section A of the body comprises the a shank 10 and has formed at its upper end the upper jaw 11 of the wrench. The section B comprises likewise a shank-section 12, and this shank is adapted to slide upon the
45 shank of the section A, and is ordinarily and preferably made of the same length and width, especially the latter. The shank 12 of the section B has formed at its upper end the
50 lower jaw 13 of the wrench. This jaw is attached at one side of the shank member, instead of at its upper end, as in the shank of

the section A. The lower jaw is formed at the side of the shank in order that its upper face may be brought immediately beneath 55 the under face of the upper jaw 11, and the inner end of the lower jaw faces the inner side of the shank of the section A. The shanks of the two sections, as heretofore stated, are capable of sliding readily one upon 60 the other, but the section B is the adjustable section, and to that end it is provided with a longitudinal slot 14 in the shank and with a series of the teeth 15, formed transversely upon its outer face above and below and at 65 each side of the slot.

The adjusting device consists of a pin 16, which is mounted to turn loosely in the shank of the stationary section A, as shown in Fig. 2. This pin passes loosely through the slot 14 in 70 the shank of the sliding section B and beyond the outer face of said shank, terminating at its outer end in a knob 16^a, and near its projecting end the pin is threaded as shown as 17. A combined guide and locking plate 18 75 is employed to rest upon the toothed portion of the sliding section, and this plate is provided with teeth upon its under face to engage with the shank-teeth 15. The plate is further provided, preferably at one end, with 80 a tongue 19, which enters the slot 14 in the sliding section of the wrench. The locking-plate is provided with a threaded opening through which the threaded portion of the pin 16 passes. The teeth in the locking-plate 85 and the teeth upon the shank of the sliding section of the wrench are so made that while an engagement between the two may be effected, when such engagement is made the sliding section will have a limited lateral 90 movement upon the fixed section of the wrench, so as to accommodate itself to the pipe placed between the jaws.

The wrench is used in the following manner: By turning the knob of the pin 16 the 95 locking-plate is raised from the threaded surface of the sliding section of the wrench and said section may be carried in either direction—that is, in direction of either end of the fixed section that may be necessary to cause 100 the jaws to close around the pipe. When the jaws have grasped the pipe, the adjusting-pin is turned in the contrary direction, the locking-plate engages with the teeth 15, and the

two body-sections of the wrench are thus held firmly together, while the lower jaw may have a slight lateral movement.

In the modifications shown in Figs. 3, 4, and 5 the shank of the fixed section A is provided with a series of apertures 21, longitudinally arranged, and a sleeve 22 (shown in Fig. 5) is adapted to slide over the shanks of both of the sections. The body portion of this sleeve is rectangular in general contour, and at its upper end, upon one face, two legs 23 are formed, essentially L-shaped or triangular in cross-section, one leg being at each corner. When the sleeve is placed over the shanks of the body-sections, the legs slide upon the edge portions of the adjustable section of the wrench, as shown in Fig. 3, and sufficient play is permitted laterally when the sleeve is in position, to admit of the lower jaw moving to and from the shank of the upper jaw.

The locking is effected by means of a pin 24, which is passed loosely through an opening 25 in the body of the sleeve and through one of the apertures 21 in the fixed section of the wrench and likewise through an opening produced in the sliding section. This pin extends beyond the sliding section and is provided with a head 26 and a flange 27 below the head, the said flange being adapted to engage with the sleeve, as shown in Fig. 4, and the pin is held in place by means of a spring 28, secured at its upper end to the outer face of the sliding section, the lower end of the spring being curved outwardly and forked to engage with the pin between the head and the flange thereof, as is likewise shown in Fig. 4.

In the operation of this wrench to slide one section upon the other the pin is removed, and after the adjustment has been made the spring at its free end is manipulated in a manner to permit the pin to be passed through the opening in the sleeve, the opening in the sliding section, and into one of the apertures 21 in the fixed section.

It will be observed that this wrench com-

prises but very few parts, that each part may be economically and durably made, and that when all the parts are assembled the wrench is capable of being expeditiously and conveniently manipulated and may be used wherever a pipe-wrench is to be employed.

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

1. A wrench the body portion of which consists of two sections, a fixed and a sliding section, the fixed section comprising a shank and an upper jaw, and the sliding section a shank held to slide upon the fixed section, carrying at its upper end the lower jaw of the wrench and provided with a longitudinal slot and teeth around said slot, and a locking device consisting of a pin turning in the shank of the fixed section and passing through the slot of the sliding section, and a toothed locking-plate engaging with the teeth of the sliding section and carried by the pin, substantially as described.

2. A pipe-wrench constructed in two body-sections, each comprising a shank and a jaw formed at the upper portion thereof, the upper jaw being formed at the top of its shank and the lower jaw at the side of its shank below the upper jaw, the shank carrying the lower jaw being provided with a slot and the outer surface of the slotted shank being toothed, and a locking device consisting of a toothed locking-plate engaging with the toothed surface of the shank of the lower jaw and provided with a threaded aperture, a pin loosely mounted in the unslotted shank and passed through the slot in the sliding shank and through the aperture in the locking-plate, that portion of the pin being threaded, and means for turning the pin, substantially as shown and described.

JOHN RYAN.

Witnesses:

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