

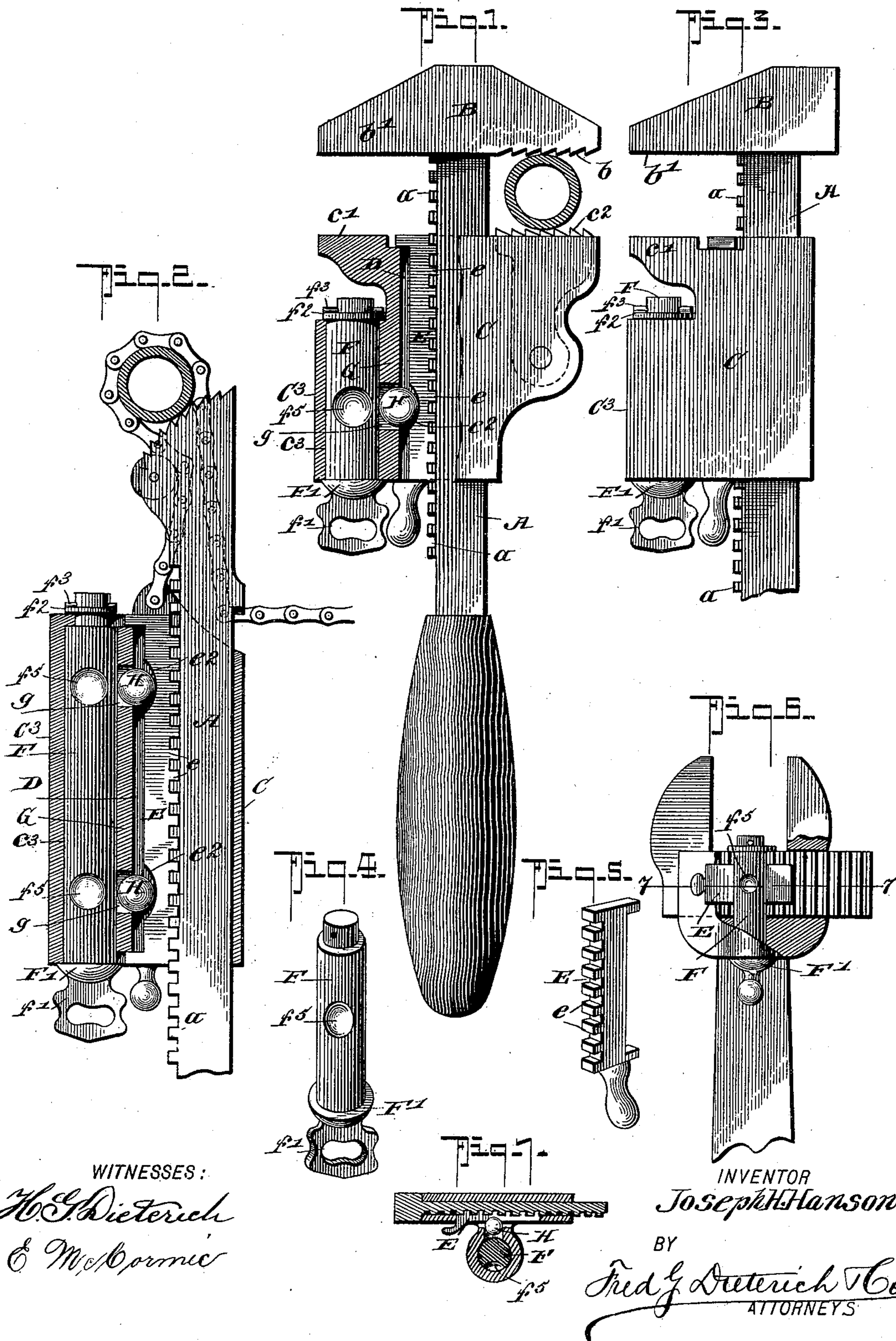
No. 618,506.

Patented Jan. 31, 1899.

J. H. HANSON.
WRENCH.

(Application filed Apr. 21, 1897.)

(No Model.)



UNITED STATES PATENT OFFICE.

JOSEPH H. HANSON, OF CRYSTAL FALLS, MICHIGAN, ASSIGNOR OF THREE-FOURTHS TO SHERMAN T. HANDY AND A. M. DARLING, OF SAME PLACE, AND D. R. BROWN, OF MILLS CENTRE, WISCONSIN.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 618,506, dated January 31, 1899.

Application filed April 21, 1897. Serial No. 633,209. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. HANSON, of Crystal Falls, in the county of Iron and State of Michigan, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention is in the nature of an improved monkey or pipe wrench; and it primarily has for its object to provide a wrench of this character of a very simple and inexpensive construction which can be easily manipulated and which can be readily adjusted without the use of screws or clamp-bolts.

In its subordinate features my invention comprehends the peculiar combination and novel arrangement of parts, such as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 illustrates my improvements as applied to a combined monkey and pipe wrench. Fig. 2 illustrates its application to a chain or tongue wrench, the lock mechanism being of a slightly-modified construction. Fig. 3 illustrates a side elevation of a portion of the monkey-wrench equipped with my improvements. Figs. 4 and 5 are detail views of parts of my improved mechanism. Fig. 6 illustrates a further modification of my improved wrench lock device, and Fig. 7 is a horizontal section taken on the line 7 7 of Fig. 6.

Referring to the accompanying drawings, in which like letters indicate like parts in all the figures, A indicates the shank of the combined monkey and pipe wrench, which has the usual serrated or toothed edge *a* and the fixed top jaw B, having a toothed pipe-engaging member *b* and a flat or nut-engaging member *b'*.

C indicates the sliding jaw of the wrench, provided at the upper end with a jaw portion proper, *c'*, which forms the mate to the member *b'* and which carries at the opposite edge a toothed dog *c²* for engaging the pipe, as shown. The sliding jaw portion C has an elongated slotway D extending its full length, in which is held a lock-bar E, provided at one edge with a rack or serrated face *e*, which is

adapted to be moved into engagement with the toothed or serrated edge *a* of the shank A, as clearly shown in Fig. 1, the opposite edge of such bar E in its simplest form being provided with a single semicircular recess *e²*, for a purpose presently explained. The sliding jaw portion C is also formed with an extension *C³*, having a vertical aperture *c³* to receive a turn-bolt F, which is held from longitudinal movement by the shoulder *F'* of the handle member *f'* at one end and spring-washers *f²* and key *f³* at the other end.

The bolt *f* has a semicircular recess concaved seat *f⁵*, which when brought in line with the opening *g* in the division member G, separating the aperture *c* and the slotway D, forms, in connection with the said opening *g*, a pocket to receive the lock-ball H, which when the ball F is turned to the position shown in Fig. 1 seats in the opening *g* and the recess *e²* in the lock-bar E and holds such bar in a locked engagement with the toothed shank A.

So far as described it will be readily understood that by turning the bolt F to bring the recess *f⁵* in line with opening *g* and pulling the lock-bar E (which has a suitable finger portion *E²* at the lower end) outward the slide portion C of the wrench will be held for free movement on the shank A.

When used in connection with the chain-tongs, the lock-bar E is preferably made with two recesses *e²* and the turn-bolt F with two recesses *f⁵*, two balls H being used in this arrangement, as clearly shown in Fig. 2.

In Figs. 6 and 7 is shown a further modification of my ball lock mechanism as applied to wrenches having a laterally-movable sliding jaw. In this construction the slide-jaw has rack-faces with which the toothed slot-bar E engages and is held locked thereto so long as the bolt and balls are set, as shown in Fig. 7, it being manifest that as the bar E has free back play when the ball is turned with its concaved recess *f⁵* to receive the ball said bar E can be readily moved out of engagement with the toothed jaw.

From the foregoing description, taken in connection with the accompanying drawings,

it is thought the advantages and complete operation of my improvement will be readily understood without further description.

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

1. An improved wrench having a lock mechanism, comprising a shank having a toothed edge; a lock-bar having a toothed portion adapted to be moved into engagement with the toothed edge of the shank, said bar being movable to disengage the shank and having one or more recesses or depressions; a lock ball or balls adapted to seat in such recesses and a turn-bolt for holding such balls in a locked engagement with the shank member, substantially as shown and for the purposes described.

2. In an improved wrench, the combination with the casing having a slotway, a rotary lock-bolt held in such casing having a recess; of the shank member having a rack-face; a toothed bar movable sidewise in the slotway of the casing, said bar having one or more recesses; one or more lock-balls movably held

in the casing and adapted to move into the recesses of the lock-bar and holding such bar from vertical movement, and to move into the recesses of the rotary lock-bolt when such bolt is adjusted to receive it, said casing and shank member being arranged for vertical adjustment relative to each other, substantially as shown and for the purposes described.

3. As an improvement in wrenches; in combination; a toothed shank; a sliding-jaw casing having slotways separated by a division-wall, said wall having an opening; a toothed lock-bar adapted to be engaged with the toothed shank and being movable in one of the slotways of the sliding-jaw casing, said bar having a recess; a rotary bolt operating in the other slotway of the sliding-jaw casing and having a recess; and a ball H, all being arranged substantially as shown and for the purposes described.

JOSEPH H. HANSON.

Witnesses:

S. T. HANDY,

JOHN TROMBLAY.