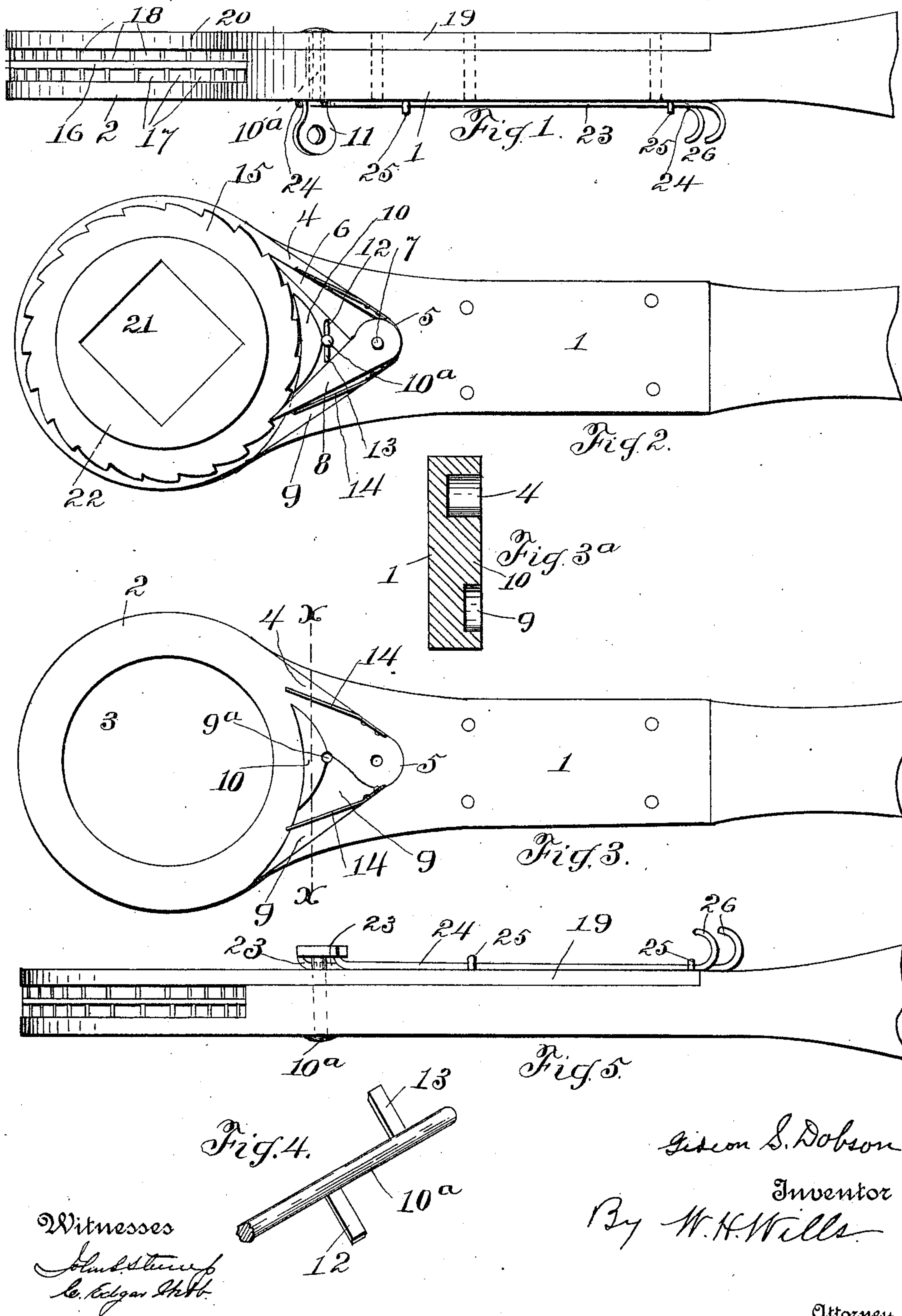


(No Model)

G. S. DOBSON.
WRENCH.

No. 582,622.

Patented May 18, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 582,622, dated May 18, 1897.

Application filed October 27, 1896. Serial No. 610,206. (No model.)

To all whom it may concern:

Be it known that I, GIDEON S. DOBSON, a citizen of the United States, residing at Live Oak, in the county of Suwanee and State of Florida, 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.

This invention relates to nut-wrenches, and particularly to wrenches of this class known as "ratchet-wheel."

The prime object of the invention is to provide a new and improved means for controlling a double ratchet-wheel in order to lock the latter with the body of the wrench or to release and permit it to be turned either to the right or to the left, and to provide a novel and improved means for operating a lever from the wrench-handle to control the movement of the ratchet-wheel.

The invention consists in the novel construction and arrangement of parts, as will be hereinafter more fully described, and set up in the appended claim.

In the accompanying drawings, forming part of this application, Figure 1 is an edge elevation of my improved wrench. Fig. 2 is a plan view with the removable portion detached. Fig. 3 is a similar view with the pawls and the thumb-lever removed. Fig. 3^a is a section on the line X X, Fig. 3, with the springs removed. Fig. 4 is an enlarged perspective view of the thumb-lever, partly broken away. Fig. 5 is an edge view of the wrench, showing means connected to the lever and reaching to the handle portion of the wrench for operating the lever.

The same numeral references denote the same parts throughout the several figures of the drawings.

The body 1 of the wrench has a projecting circular flange 2, provided with a central opening 3, and contiguous with said flange, flush with its inner face, is formed a cavity 4, which terminates in a bearing 5 for one of the pawls 6, which is operated in said cavity upon a pivot 7. The other pawl 8 is operated upon the pivot 7 in a cavity 9, extending out-

wardly at an angle from said bearing 5 at an elevation above the plane of the said cavity 4 and the surface of the flange 2, leaving a lug 10 projecting centrally above the said two cavities. This lug 10 has an aperture 9^a, through which the thumb-lever 10^a extends, the latter being provided with a suitable head 11 and an arm 12 upon one side to engage the pawl 6 and a like arm 13 upon the opposite side to engage the pawl 8.

Secured in the wall of each cavity 4 and 9 opposite the lug or projection 10 is a plate-spring 14, which keeps both pawls engaged with the teeth of the ratchet-wheel 15, unless the thumb-lever is turned in either direction, when either one or the other of the pawls will be carried out of engagement with the wheel-teeth by one or the other of the lever-arms forcing the pawl away from the wheel.

The ratchet-wheel 15 has a central circular ridge or rim 16, which divides the one set of teeth 17 from the other set 18, the deep and shallow portions of each set of teeth ending contiguous one set to the other with the slant of the teeth of one set in the opposite direction to the slant of the teeth of the other set, so that the wheel may be turned in either direction by operating the thumb-lever, as hereinbefore described, without removing or turning the wrench, and the wheel may be made rigid with the wrench-body by simply not operating the thumb-lever.

A detachable cap or cover 19 for the wrench is provided, having a projecting flange 20 with a central opening like the flange 2.

The ratchet-wheel has an opening 21 in accordance with the shape of the nut to be operated, and is surrounded by a journal-bearing 22 upon each side of the wheel; which are held in the openings in the flanges 2 and 20 when the cover 19 is secured to the body of the wrench. Secured to the head of the lever 10^a are pull wires or rods 23 and 24, working through staples 25 and having eyes or hooks 26 reaching into convenient reach from the handle portion of the wrench, so that when it is desired to operate either one or the other of said pawls the operator simply inserts his finger into one of the said eyes and pulls the wire which turns the lever.

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

5 The combination with the opposed double-toothed ratchet-wheel, and a wrench-body having flanges in which the wheel is revolvably held, of spring-controlled pawls, the lever having arms to operate the pawls separately, and

the pull-wires for turning said lever, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GIDEON S. DOBSON.

Witnesses:

C. L. MILLS,

J. B. JOHNSON.