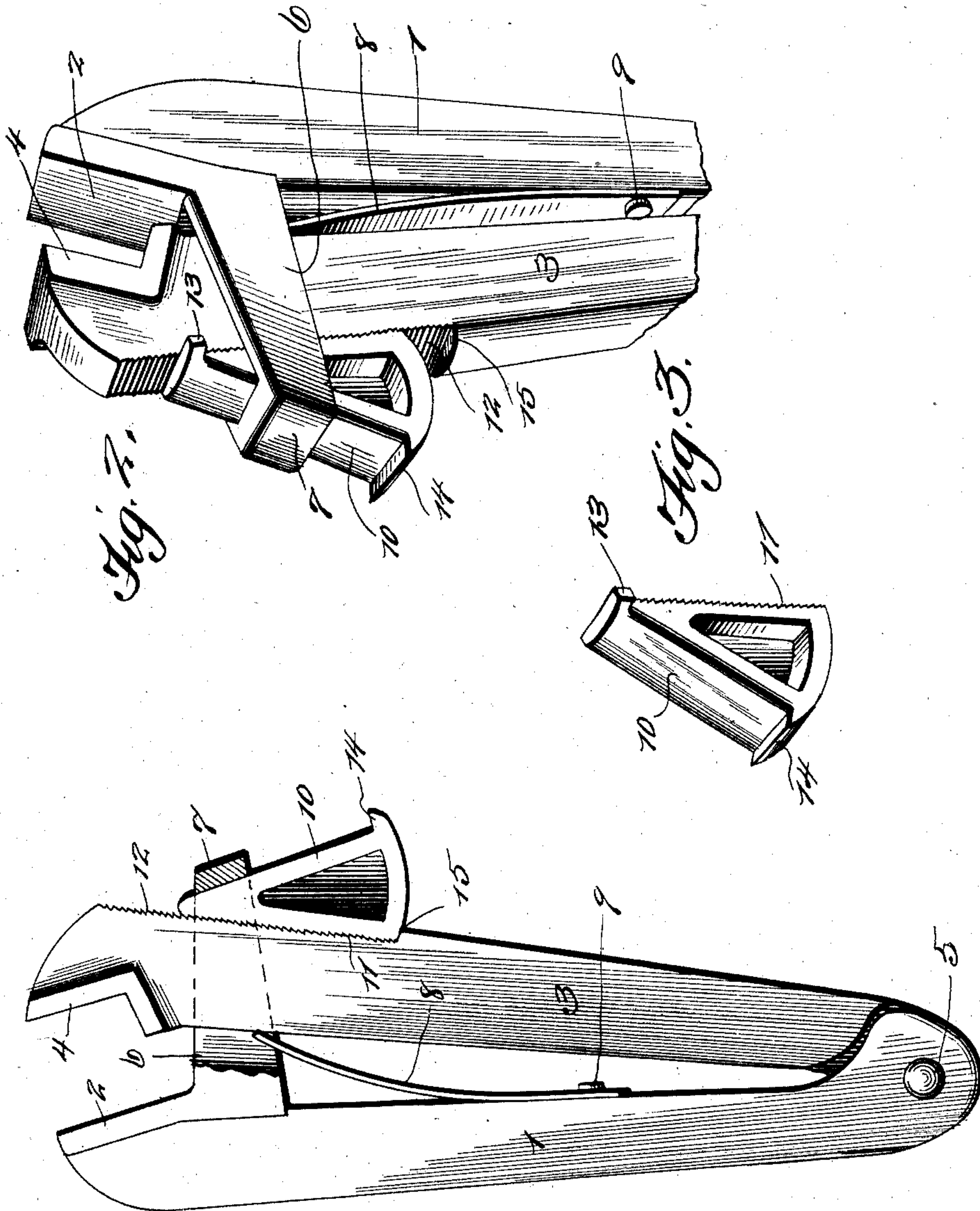


No. 864,805.

PATENTED SEPT. 3, 1907.

M. SCHWENDNER.
ENGINEER'S WRENCH.
APPLICATION FILED FEB. 6, 1907.



Witnesses

W. A. Bowser.
M. A. Bond.

Inventor

Max Schwendner.

By

E. H. Bond

Attorney

UNITED STATES PATENT OFFICE.

MAX SCHWENDNER, OF READING, PENNSYLVANIA.

ENGINEER'S WRENCH.

No. 864,805.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed February 6, 1907. Serial No. 355,987.

To all whom it may concern:

Be it known that I, MAX SCHWENDNER, a citizen of the United States of America, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Engineers' Wrenches, of which the following is a specification.

This invention relates to certain new and useful improvements in wrenches of that class known as engineers' wrenches in which is employed a wedge for holding the parts in their adjusted position.

The present invention has for its objects among others to provide an improved wrench of this general character in which screws, yokes, and other extraneous means are dispensed with for holding the wedge to place. In lieu thereof I provide the wedge with a lateral lug or projection adapted to engage the yoke in which the pivoted jaw is guided, so as to prevent falling out of the wedge when the jaws are pressed together and the wedge drops into its inoperative position. The adjacent faces of the wedge and the shank of the movable jaw are provided with fine teeth so that most accurate adjustment can be obtained and the wedge held in adjusted position by engagement of said teeth, aided by the outward pressure of the spring. The outer face of the wedge at its wider end is provided with a lug or projection to engage the under side of the loop to limit the inward movement of the wedge, and the outer face of the shank of the movable jaw is provided with a shoulder with which the bottom edge of the inner face of the wedge coacts to limit the downward movement of the wedge in case the lug or projection upon the upper or smaller face should be broken.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings which, with the numerals of reference marked thereon, form a part of this specification, and in which

Figure 1 is a side elevation of my improved wrench, with a portion broken away, and a part in section. Fig. 2 is a perspective detail showing the parts embodying my invention. Fig. 3 is a perspective view of the wedge.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings 1 designates the shank of the fixed jaw 2, and 3 the shank of the movable jaw 4, the latter being of the form usual in this class of wrenches, and the two jaws pivotally connected together at one end upon a suitable pivot 5.

6 is a yoke rigid with the shank 1 and between the side bars of which the shank 3 is movable and guided,

being limited in its movement by the cross portion 7 of said yoke.

8 is a spring secured at 9 to the shank 1 and acting at its free end against the inner face of the shank 3 within the loop 6, as seen clearly in Fig. 1.

10 is the wedge. It is arranged between the outer face of the shank 3 and the cross portion 7 of the yoke, as seen in Figs. 1 and 2. The face adjacent the shank is toothed, as shown at 11, the teeth being very fine so as to provide minute adjustment, the coacting portion of the shank 3 being provided with corresponding teeth 12. This wedge at its smaller end is provided with a lateral projection or lug 13, as seen in Figs. 2 and 3, which is adapted to coact with the upper face of one of the side portions of the yoke 6, as will be understood from Fig. 2, and thus serve to prevent the disengagement of the wedge from the yoke when the jaws are pressed together. The wedge is provided at its wider end upon the outer face with a lug 14 which is adapted to engage the under face of the cross portion 7 of the loop to limit the inward movement of the wedge. The shank 3 is provided at the base of its toothed portion with a shoulder 15 against which the inner lower edge of the wedge engages, as seen best in Fig. 1.

The mode of use will be apparent. The adjustment can be made instantly; by pressing the wrench together against the tension of the spring the wedge is released and allows the jaws to open. By simply placing the wrench on the nut or other article and pushing the wedge tightly into place with the thumb the wrench is ready for action. The jaws are held firmly in their adjusted position by the wedge, and the wedge is held in operative contact with the teeth of the shank 3 by the outward pressure of the spring on said shank; the wrench is practically as stiff as a solid wrench, is simple, durable and efficient, and the wedge cannot drop from its operative relation with the other parts, because such action is prevented by the lug or projection 13.

It will be noticed that the wedge is entirely disconnected from the shank of the movable jaw and from the yoke so as to be pendulous and free to swing upon the projection at its smaller end, resting on one of the side bars of the yoke.

What is claimed as new is:—

1. A wrench comprising a pair of jaws having shanks pivotally connected at one end, a yoke on the shank of one jaw, a spring between the shanks, and a wedge disconnected from said yoke and the adjacent shank and disposed between the yoke and shank and held in adjusted position by the tension of said spring, said wedge having a lateral projection at its smaller end to engage said yoke.

2. A wrench comprising a pair of jaws having shanks pivotally connected at one end, a yoke on the shank of one jaw, a spring between the shanks, and a wedge disconnected from said yoke and the adjacent shank and disposed between the yoke and shank and held in adjusted

position by the tension of said spring, said wedge having a projection extending from its outer face at its larger end to engage said yoke.

3. A wrench comprising a pair of jaws having shanks
5 pivotally connected at one end, a yoke on the shank of one jaw, a spring between the shanks, a wedge disconnected from said yoke and the adjacent shank and disposed between the yoke and shank and held in adjusted position by the tension of said spring, said wedge having
10 a lateral projection at its smaller end to engage said yoke, and a projection extending from its outer face at its larger end to engage said yoke.

4. In a wrench of the character described, the combination with the fixed jaw and its shank provided with a
15 yoke, of the movable jaw, its shank guided in said yoke and having teeth, and a wedge pendulously mounted and movably held between the outer face of the shank of the movable jaw and the cross portion of said yoke, and having its inner face toothed said wedges being bodily loose
20 from the adjacent shank at all points.

5. In a wrench of the character described, the combination with the fixed jaw and its shank provided with a yoke, of the movable jaw, its shank guided in said yoke and provided with teeth upon its outer face, and a wedge
25 pendulously mounted and movably held between the outer face of said shank and the cross portion of said yoke, and provided upon its inner face with teeth engaging the teeth of said shank and with a lateral projection adapted to engage said yoke.

30 6. In a wrench of the character described, the combination with the fixed jaw and its shank, of the yoke on said shank, a movable jaw, its shank guided by said yoke, and

a wedge pendulously mounted and movably held between the outer face of said shank and the cross portion of the yoke and having a projection to engage said yoke to limit
35 its endwise movement said wedge being bodily loose from the adjacent shank at all points.

7. In a wrench of the character described, a fixed jaw and its shank, a movable jaw and its shank, a yoke on the one jaw-shank and guiding the other shank, the shank of
40 the movable jaw having toothed portion and shoulder, and a wedge pendulously mounted between the yoke and the shank of the movable jaw and having a toothed face co-acting with the toothed portion of said shank and adapted to coöperate with said shoulder said wedge being bodily
45 loose from the adjacent shank at all points.

8. In a wrench of the character described, a fixed jaw and its shank, a movable jaw and its shank, a yoke on the one jaw-shank and guiding the other shank, the shank of
50 the movable jaw having toothed portion and shoulder, and a wedge pendulously mounted between the yoke and the shank of the movable jaw and having a toothed face co-acting with the toothed portion of said shank and adapted to coöperate with said shoulder and a projection to engage
55 the cross portion of the yoke to limit the endwise movement of the wedge said wedge being bodily loose from the adjacent shank at all points.

Signed by me at Washington D. C. this 30th day of Jan. 1907.

MAX SCHWENDNER.

Witnesses:

JOHN D. KINNEY,
E. H. BOND.