

J. F. BOSSERMAN.
 RATCHET WRENCH.
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1,029,271.

Patented June 11, 1912.

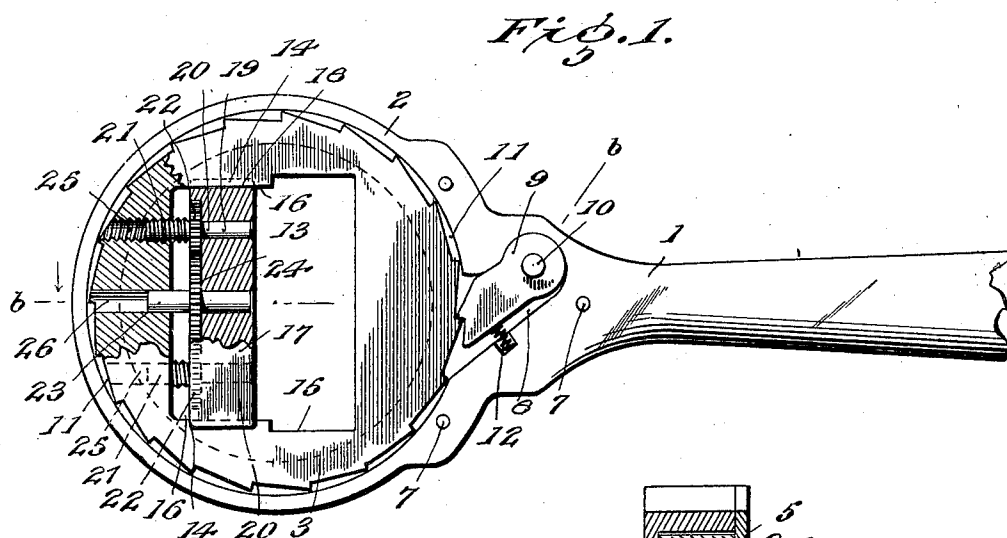


Fig. 2.

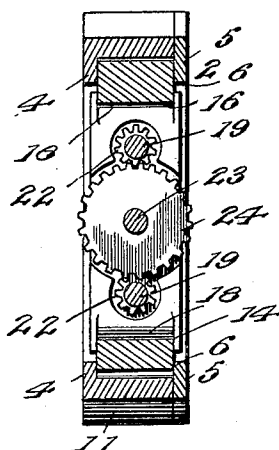
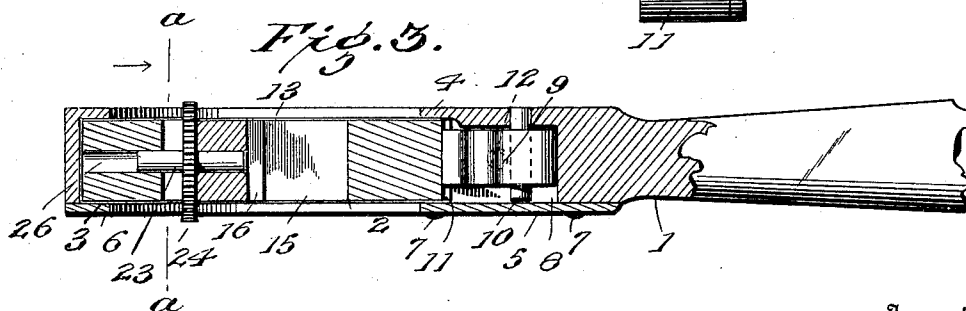


Fig. 3.



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JOSEPH FRANKLIN BOSSERMAN, OF STAUNTON, VIRGINIA.

RATCHET-WRENCH.

1,029,271.

Specification of Letters Patent.

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Application filed August 26, 1911. Serial No. 646,192.

To all whom it may concern:

Be it known that I, JOSEPH FRANKLIN BOSSERMAN, a citizen of the United States, residing at Staunton, in the county of Augusta and State of Virginia, have invented certain new and useful Improvements in Ratchet-Wrenches, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention is an improved ratchet wrench and consists in the construction, combination and arrangement of parts hereinafter described and claimed.

The object of my invention is to provide 15 an improved ratchet wrench embodying a revoluble head having an opening to receive the work, a movable jaw arranged for operation in the opening of the head, to vary the effective area of the said opening 20 and improved means for operating the said movable jaw.

In the accompanying drawings, Figure 1 is a plan of a ratchet wrench embodying my improvements; Fig. 2 is a transverse sectional view of the same on the plane indicated by the line *a-a* of Fig. 3; and Fig. 3 is a sectional view of the same.

The handle 1 of my improved wrench is provided at one end with an annular enlargement 2 in which a circular head 3 is fitted for revolution, the head being held in place in the annular enlargement by a flange 4 at one side of the latter and a plate 5 which is secured on the opposite side of the handle which has an annular portion 6 that forms a flange to bear on the corresponding side of the circular head. This plate is detachably secured in place by suitable means here shown as screws 7. The 40 handle of the wrench is also provided with a recess 8 which is oblique to the radii of the opening formed by the annular enlargement 2. In this recess is mounted a pawl 9 which has a pivot 10 and the outer end of which is shaped to engage the peripheral ratchet teeth 11 of the circular head. This pawl is normally held in engaged position by means of a spring 12. The head 3 has a work receiving opening 13 which is wider 50 at one side than at the other so as to form a pair of guide shoulders 14. The widest part of the opening 13 is indicated at 15 the narrower portion thereof at 16. A movable jaw 17 which operates in the opening 13 and is movable therein and from one side thereof, is provided in its ends with re-

cesses 18 which receive the shoulders 14 so that the said jaw is guided by the said shoulders. A pair of studs 19 are carried by the jaw 17. Each of the said studs has 60 a cylindrical portion 20 swiveled in the jaw and a screw threaded portion 21 which projects from the rear side of the jaw. Each of the said studs is also formed with a pinion or gear 22 which is recessed in the rear side of the jaw and the diameter of which 65 is less than the thickness of the jaw. A shaft 23 is swiveled in the jaw at a point mid-way between the studs 20, has a rearwardly extending portion and is also provided with a gear 24 which is recessed in the rear side of the jaw and engages the 70 gears 22. The diameter of this gear 24 exceeds the thickness of the jaw so that opposite sides of the said gear project from the corresponding sides of the jaw and hence 75 the said gear is adapted to be grasped by the thumb and finger of the user of the wrench and readily turned so as to cause the coacting gears 22 to revolve the screw studs 80 19. The circular head 3 of the wrench is provided in one side of the opening 13 with threaded openings 25 for engagement by the screw studs of the jaw and is also provided with an unthreaded opening 26 85 for the reception of the shaft 23. Hence it will be understood that by turning the screws by the means hereinbefore described, the movable jaw may be advanced or retracted as may be desired. When it is de- 90 sired to remove the movable jaw from the head of the wrench this may be done by turning the screws a sufficient distance to entirely disengage them from the threaded openings 25 and then moving the jaw into 95 the enlarged portion 15 of the opening 13 so as to clear the guide shoulders 14.

It is thought the operation and advantages of my improved wrench will be fully understood from the foregoing description 100 and by reference to the drawings.

Having thus described this invention, I claim:

A ratchet wrench having a head provided with a work receiving opening, a jaw in said 105 opening, movable toward and from one side thereof, a pair of adjusting screws mounted for revolution in and carried by said jaw and each having a gear, and an operating gear mounted in and carried by the jaw and 110 disposed between and engaging the gears of the screws, the diameter of the said operat-

ing gear exceeding the width of the jaw so
that the said gear projects beyond opposite
sides of the gear and is thereby adapted to
be revolved manually the said head of the
5 wrench being provided with threaded open-
ings at one side of the work receiving open-
ing for engagement by the adjusting screws.

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

JOSEPH FRANKLIN BOSSERMAN.

Witnesses:

J. W. LEECH,

GEO. L. KEISTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
