A. FALK.

QUICK ACTING WRENCH.

APPLICATION FILED FEB. 8, 1911.

995,337. Patented June 13, 1911.

Fig. 1.

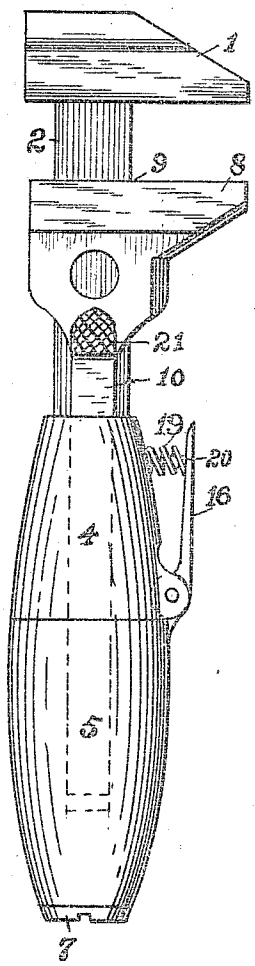


Fig. 3.

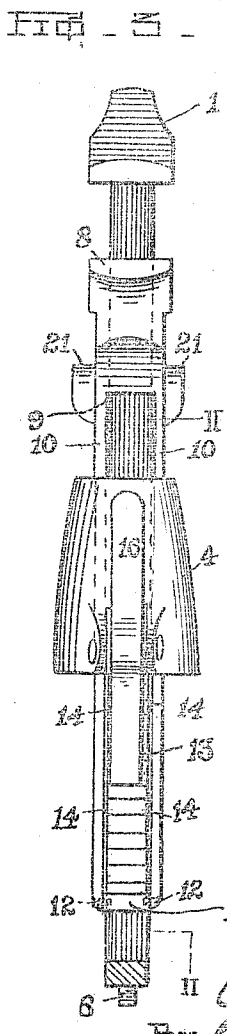
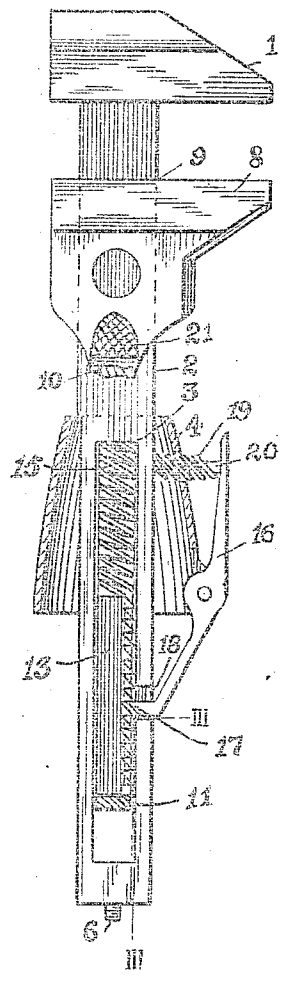


Fig. 2.



WITNESSES:

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ANDREW FALK, OF NORTH BRADDOCK, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO HELM H. CAHILL, OF ALLEGHENY COUNTY, PENNSYLVANIA.

QUICK-ACTING WRENCH.

995,337. Specification of Letters Patent. Patented June 13, 1911.

Application filed February 8, 1911. Serial No. 607,292.

To all whom it may concern:

Be it known that I, ANDREW FALK, a subject of the Emperor of Germany, and residing in the borough of North Braddock, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Quick-Acting Wrenches, of which the following is a specification.

My invention consists in a new and improved quick-acting wrench which is, in structure, strong, durable and inexpensive, and which can be readily clamped upon or released from a nut, bolt or other article to be engaged, with the hand with which the wrench is held.

The sliding jaw is normally held retracted away from the fixed jaw by means of a spring concealed in the handle of the wrench, and the sliding jaw is forced up into engagement with the nut by the fingers against the action of said spring and locked in such engagement by means of a spring latch mounted on the handle and engaging a rack on the shank of the sliding jaw.

In the accompanying drawings, Figure 1 is a side elevation of my improved wrench; Fig. 2 is a similar view with the lower portion of the handle removed and the parts partially broken away along the line II—II in Fig. 3, while Fig. 3 is a front elevation of the wrench with the lower portion of the handle removed and the parts partially broken away along the line III—III in Fig. 2.

The following is a detailed description of the drawings.

1 is the fixed jaw provided with a shank 2. The shank 2 is provided with a longitudinal slot 3 extending to a short distance from the lower or handle end of the shank.

4 is the handle ferrule secured to the shank 2 and concealing the upper portion of slot 3, and 5 is the lower handle or hand-grasp which is hollow to slide on the shank 2. The element 5 may be made of wood, as is usual with wrenches. The lower end of shank 2 is provided with a threaded stud 6 which is engaged by the flat nut 7 screwing up tight against the element 5 to hold it in place. The ferrule 4 telescopes over the upper portion of element 5.

8 is the sliding jaw provided with an opening 9 by means of which it is slidingly mounted on shank 2 of the fixed jaw 1. The sliding jaw 8 is provided with two depending flat arms 10—10 which are in contact with the slotted sides of the shank 2 and are connected together at their lower ends by a cross-head or block 11 secured by rivets or screws 12—12 and intersecting the slot 3. Within slot 3 and resting upon block 11 is a rack block 13 secured in place by rivets or screws 14—14 passing through the arms 10—10. In slot 3 is mounted the coiled spring 15 which bears at its upper end against the end of said slot and at its lower end against the top of the rack block 13, thus tending to force the sliding jaw 8 downwardly away from the fixed jaw 1.

Pivoted on ears carried by the ferrule 4 is a latch 16 whose lower end is formed as a bifurcated tooth 17 which is adapted to engage the teeth on the rack block 13, the material of shank 2 being notched, as at 18, to permit the passage of said bifurcated tooth. The element 5 is cut away to permit the action of said latch 16. The upper end of said latch 16 is in convenient reach of the fingers of the hand grasping the element 5 and is normally pressed outwardly by a coiled spring 19 which is attached to an inwardly extending stud 20 on latch 16, passing through a hole in ferrule 4, and bearing against the shank 2 of the fixed jaw 1.

21—21 are finger blocks integral with the sliding jaw by means of which the jaw may be slid upwardly by the fingers of the hand grasping the element 5, while the latch 16 trails over the teeth of the rack block 13.

The operation of the wrench is as follows. When a nut or bolt is to be clamped by the wrench, the fixed jaw 1 is placed against the far side of the nut, the fingers are pressed upwardly against the blocks 21—21 sliding the jaw 8 up toward the jaw 1 against the action of the coiled spring 15, the latch 16 trailing over the teeth of block 13. When the jaw 8 has been snugly forced up against the nut, the latch 16, engaging the adjacent tooth on the block 13, prevents the loosening of the sliding jaw from the nut. To loosen the wrench from the nut, the upper end of the latch 16 is depressed against the spring 19, releasing the tooth 17 of the said latch from the tooth of the block 13, whereupon the spring 15 will slide the jaw 8 down the shank 2 away from the fixed jaw 1, thus releasing

the wrench from the nut. The latch 16 permits the sliding jaw to be moved upwardly toward the fixed jaw but prevents its retreat from the fixed jaw, unless the latch is released from the rack block. Upon the release of the latch, the spring 15 automatically releases the wrench from the nut.

It is evident from the above that my wrench is in every sense of the word "quick-acting", being easily engaged with or disengaged from the nut, so that it may be used on work where a wrench requiring both hands of the workman could not be used at all. Its construction is simple, cheap and durable.

What I desire to claim is—

In a quick-acting wrench, the combination of a shank having a fixed jaw on one end thereof and a longitudinal slot in the body thereof, a movable jaw slidingly mounted on said shank, depending arms attached to said movable jaw and in sliding contact with the slotted faces of said shank, a rack bar secured between said arms and adapted to slide in said slot, a spring actuated latch carried by said shank and adapted to engage said rack bar to prevent the retreat of said movable jaw from said fixed jaw, and a spring mounted in said slot between the upper end of said rack bar and the upper end of said slot whereby said movable jaw is caused to retreat from said fixed jaw when said latch is released from said rack bar, for the purpose described.

Signed at Pittsburg, Pennsylvania, this 4th day of February, 1911.

ANDREW FALK.

Witnesses:

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A. W. FORSYTH.