

(No Model.)

F. MOSSBERG.
WRENCH.

No. 482,021.

Patented Sept. 6, 1892.

Fig 2

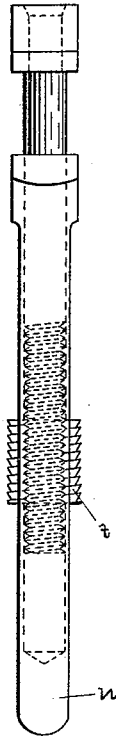
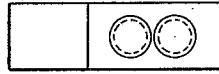


Fig 3

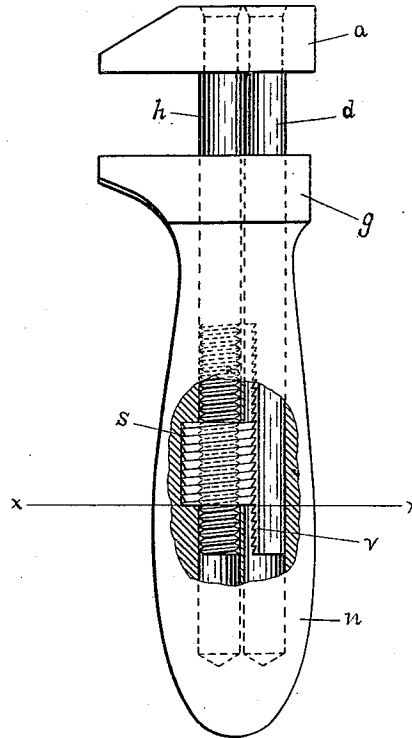


Fig 1

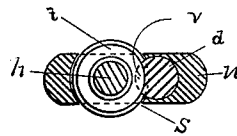


Fig 4

WITNESSES

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FRANK MOSSBERG, OF ATTLEBOROUGH, MASSACHUSETTS, ASSIGNOR TO THE
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WRENCH.

SPECIFICATION forming part of Letters Patent No. 482,021, dated September 6, 1892.

Application filed December 26, 1891. Serial No. 416,168. (No model.)

To all whom it may concern:

Be it known that I, FRANK MOSSBERG, of Attleborough, in the county of Bristol and State of Massachusetts, have invented certain
5 new and useful Improvements in Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference
10 marked thereon, which form a part of this specification.

This invention relates to that class of adjustable wrenches used to turn screw-nuts, and refers more especially to the devices for
15 effecting the adjustment of the wrench to different sizes of nuts and to the construction of those parts by which that adjustment is accomplished.

It is fully illustrated in the accompanying
20 drawings.

Figure 1 is a side elevation of the wrench with a portion of the handle broken away to show the construction and arrangement of the parts inside. Fig. 2 shows a view from
25 the inner side of the wrench-head or outer jaw. Fig. 3 is an edge view of the wrench as represented in Fig. 1. Fig. 4 is a vertical cross-section taken on line *xx* in Fig. 1, with the end of nut in elevation.

This wrench is intended for one of the short
30 pocket or kit wrenches, which are usually shortened up in length as much as possible by having the movable jaw and handle in as close proximity to each other as may be or by
35 making them in one piece, as in this case. It consists of the head or outer jaw *a*, made in the usual monkey-wrench form, and a shank constructed of two parallel bars *h d*, firmly inserted in the jaw *a* in the position
40 usually occupied by the rectangular shank of the monkey-wrench. The other jaw *g*, usually considered the movable or adjustable one, is preferably made in one piece integral with the handle *n*, which is shaped in the most
45 suitable form to hold in the hand. This jaw *g* and handle *n* are preferably made of steel in one drop-forging, with an opening at *s*, extending through it sidewise. This forging is
50 finished on its outer surface and has two parallel holes drilled nearly through it lengthwise from the jaw end, the centers of which

holes agree in distance from each other with the centers of the two parallel bars *h d* and are made of proper size to let these bars slide snugly in them. One of the bars, preferably
55 *h*, (the one that comes nearest to a nut when the wrench is used,) has a screw-thread made on that end that slides into the handle for about one-half its length, and a round nut *t* has a hole made through it, with a screw-
60 thread in it fitting on the threaded part of the bar *h*. The nut *t* also has a screw-thread made on its periphery, agreeing in pitch with the threads inside of the nut, and a portion
65 of the other parallel bar *d* has that side of it toward the bar *h* cut away to form a concave face *v*, (see Fig. 4,) and a section of screw-thread is cut in this concave side, agreeing with the thread on the outside of the nut *t*,
70 that when that nut is screwed onto the threaded part of the bar *h* the threads on its outside will fully engage in the threads in the concave side of the bar *d*. As the two parallel bars *h d* are held in the holes in the
75 handle in which they slide, so that they cannot spread apart, the threads on the outside of the nut and the threads on the concave side of the bar *d* are held firmly in engagement with each other. By this arrangement
80 the wrench is made to utilize the full breadth covered by the two bars in resisting any strain tending to open the jaws. This resistance is very much the same as though the two bars *h d* were made solidly fast in both
85 jaws, for when the wrench is applied to a nut to turn it the strain tends to open the jaws and draw the bar *h* out of the handle, which is resisted by the thread in the nut. At the same time the strain tends to push the bar *d*
90 into the handle, which is resisted by the thread on the outside of the nut *t*, which balances the strain of the other bar on the inside of the nut in the other direction. This makes a very strong wrench, which from its
95 construction can be made, mainly, of the best stock bar-steel with the least amount of labor, especially in the case of the head-jaw and parallel bars, which constitute that portion of the wrench that has the most of the
100 work to do.

In putting the wrench together the nut *t* is inserted in the openings *s* in the handle and the

parallel bars *h d* inserted in their respective
holes in the end of the movable jaw and han-
dle and pushed down until they reach the
nut *t*, which is then turned to engage with
5 the screw on the bar *h*, and at the same time
run the thread on its periphery into the thread
on the concave side of the bar *d* and the
wrench is ready for use. The section of
screw-thread made on the concave face of
10 the rod *d* and on the outside of the nut *t* may
be made ratchet shape, as shown in the
drawings, to obviate the side-thrust of a V-
thread.

Having thus described my improvements,
15 I claim as my invention—

1. A wrench having a shank consisting of
two parallel bars, in combination with an ad-

justing-nut having an internal screw-thread
fitting into a screw-thread on one of said
bars and a screw-thread on its outside fitting 20
into a section of screw-thread made on the
concave milled side of the other of said bars,
substantially as specified.

2. In a wrench, the combination of the fol-
lowing elements, viz: an outer jaw, to which 25
are secured two parallel bars which extend
into the inner jaw and handle, with means
for holding and adjusting them lengthwise
in said handle, substantially as herein speci-
fied.

FRANK MOSSBERG.

Witnesses:

BENJ. ARNOLD,
E. B. READ.