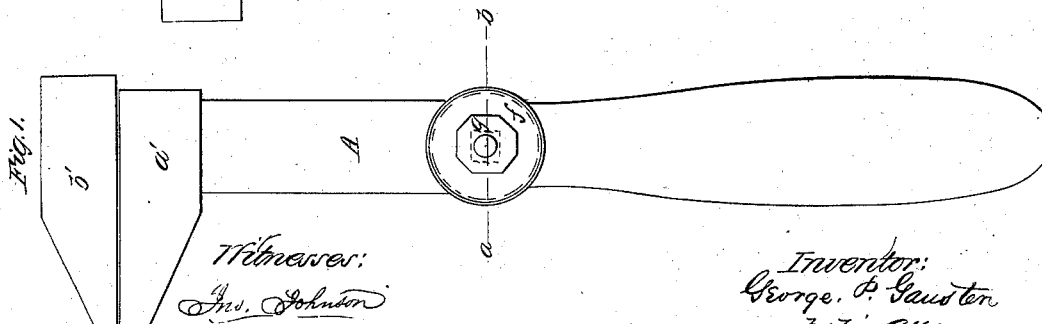
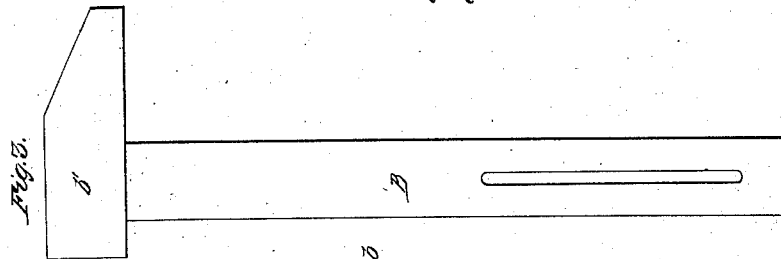
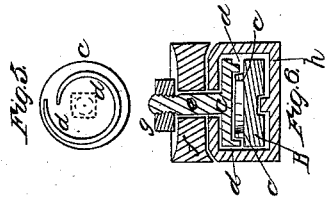
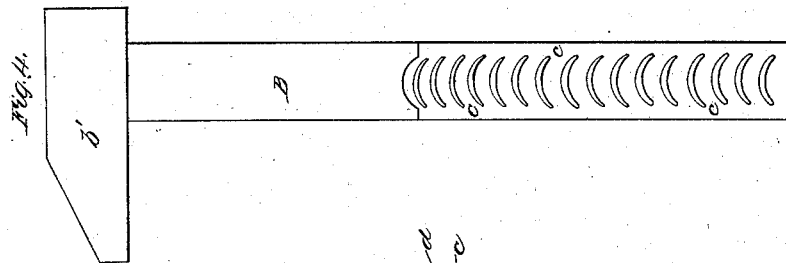
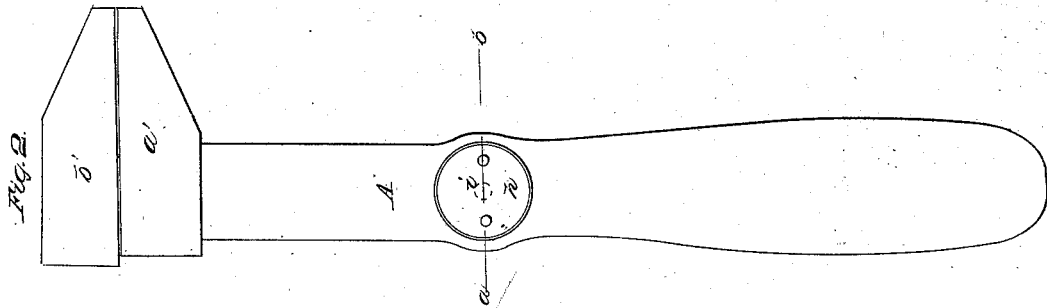


G. P. Ganster, Nut Wrench.

N^o 54,888.

Patented May 22, 1866.



Witness:
Jas. Johnson
Theodore Lang

Inventor:
George P. Ganster
by his Attorney,
S. S. Bachusbeck

UNITED STATES PATENT OFFICE.

GEORGE P. GANSTER, OF NEW YORK, N. Y.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 54,888, dated May 22, 1866.

To all whom it may concern:

Be it known that I, GEORGE P. GANSTER, of the city, county, and State of New York, have invented a new and Improved Wrench; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which like letters designate like parts in the several figures.

The nature of my invention consists in constructing a neat, durable, and economical wrench, one bar of which attached to movable jaw working inside of the fixed bar and jaw.

Figure 1 represents a side view of my wrench; Fig. 2, a similar one of the reverse side; Figs. 3 and 4, sides of sliding bar; Fig. 5, a top view of the volute cam or wheel; Fig. 6, a section on line *a b*, Figs. 1 and 2.

A represents the main frame or handle; *a'*, its jaw fixed. *B* is the rack-bar of sliding jaw *b'*. *B* works inside of or through *A*.

On one side of *B* there are a number of curved teeth, *c*, which engage with the tooth *d* of wheel *C*, and a revolution of this latter raises or lowers the rack-bar *B* one tooth or interval. This wheel corresponds to an ordinary pinion-wheel, has an axis, *e*, passing

through one side of *A*, and to which is secured a thumb-wheel, *f*, a nut, *g*, serving to hold the parts together.

On the reverse side of *A* there is a circular screw-piece, *h*, and a small projection, *i*, upon it enters a slot in *B*, acting as a kind of guide to it and limiting its movement. The circular hole in *A*, which *h* fills, permits the volute cam or wheel to be introduced from that side.

The operation of my wrench simply consists in turning the thumb-wheel *f*, which can easily be done while holding the handle of the wrench, using for that purpose the thumb of that hand.

My wrench is not only simple in construction, but the works are concealed, well protected from injury and dirt.

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

A wrench constructed of the hollow frame or handle, *A*, the movable rack or hammer-bar *B*, and the volute toothed wheel *C*, these several parts being combined and arranged in the manner substantially as set forth, and operating as described.

GEORGE P. GANSTER.

Witnesses:

M. WIARD,
REUBEN H. PLASS.