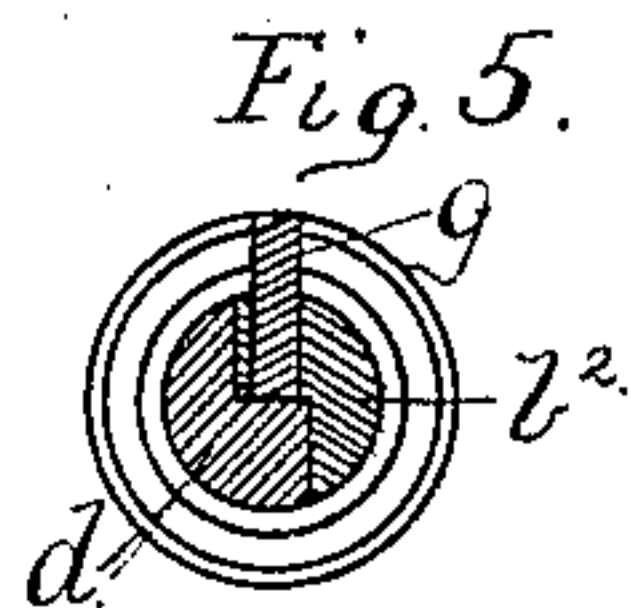
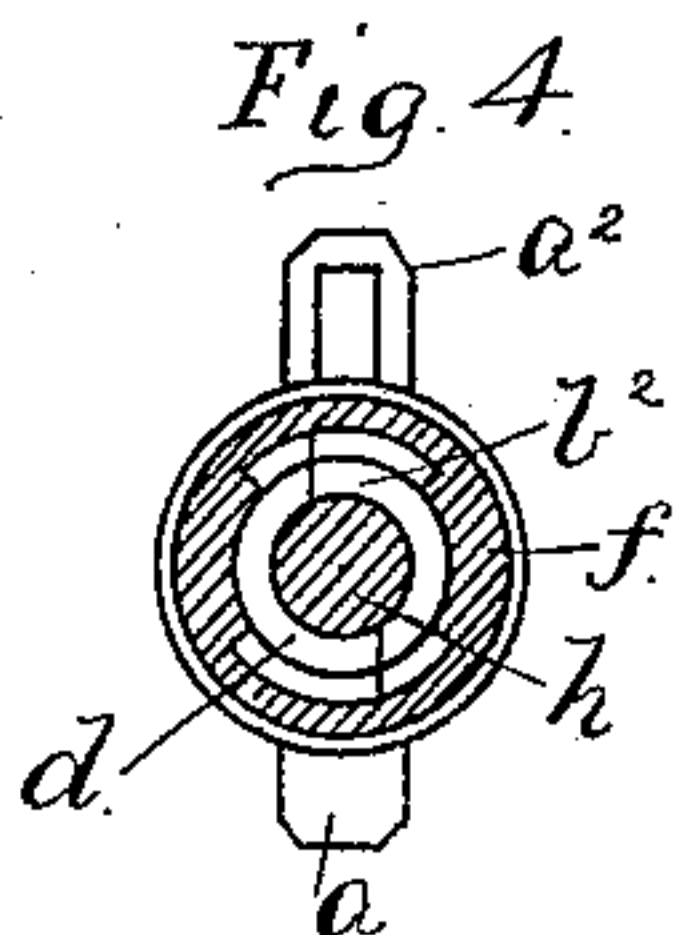
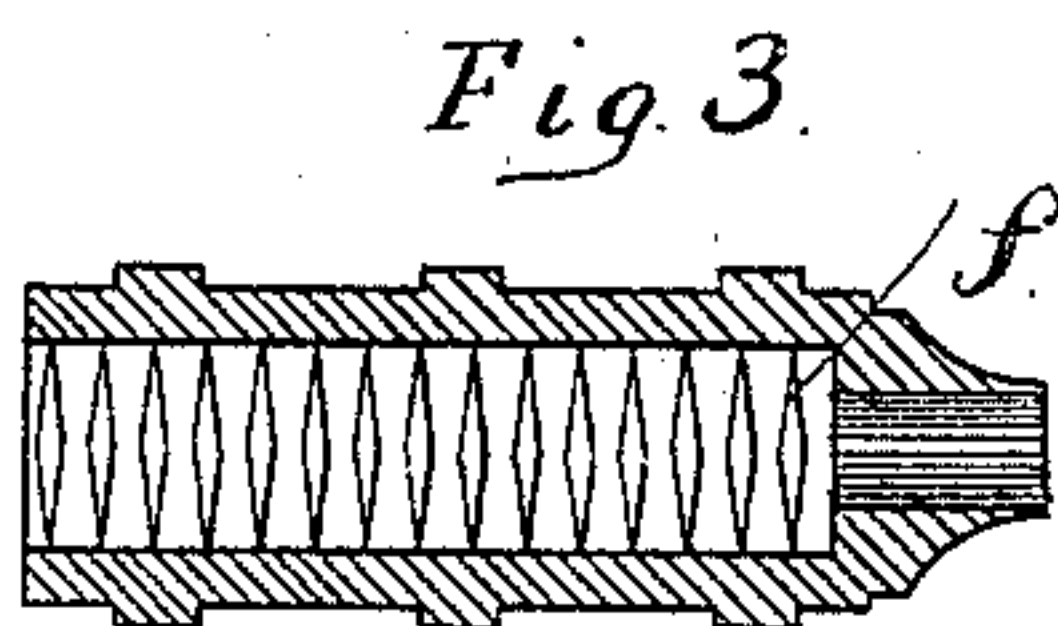
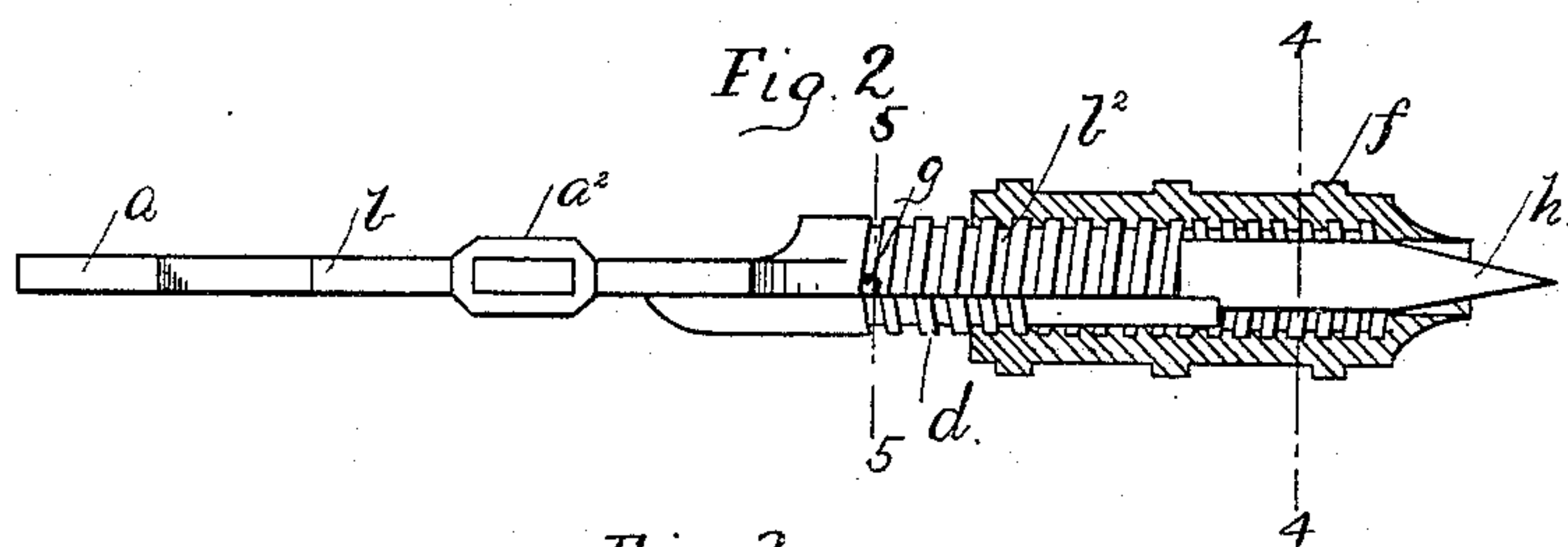
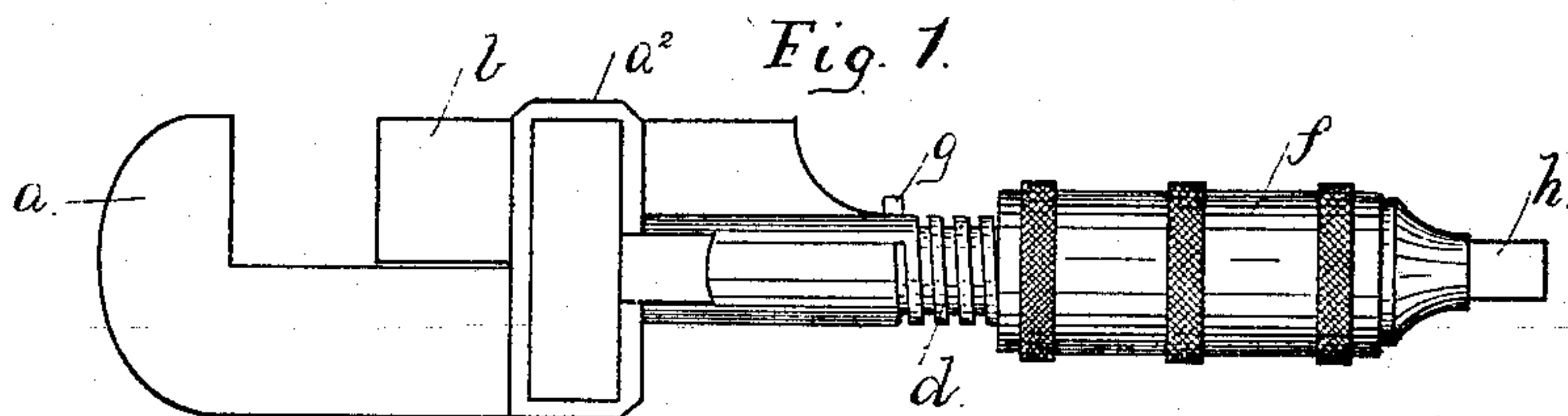


(No Model.)

H. J. HANCOCK.
WRENCH.

No. 604,391.

Patented May 24, 1898.



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SPECIFICATION forming part of Letters Patent No. 604,391, dated May 24, 1898.

Application filed August 19, 1897. Serial No. 648,780. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. HANCOCK, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

My invention relates to wrenches, and has for its object the production of one of the above-described tools, which, by reason of its construction and arrangement of parts, can be so adjusted to a nut as to adhere firmly thereto while in use without danger of stripping the angle edges of said nut.

A further object is to produce a wrench which will be simple in construction, efficient in operation, and inexpensive to manufacture.

The invention consists in the novel features of construction hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a side view of my improved wrench; Fig. 2, a front view thereof, partly in section. Fig. 3 is a longitudinal central section of the nut; Fig. 4, a section on the line 4 4 of Fig. 2, and Fig. 5 a section on the line 5 5 of Fig. 2.

Like letters refer to like parts throughout the several views.

Referring to the drawings, *a* denotes the upper jaw of the wrench, which is provided with a parallel cross-bar *a*², secured thereto at any desired distance from the lower surface thereof, having a groove, slot, or passage therein adapted to receive and reinforce the lower jaw *b*.

The upper jaw is provided with a shank *d*, which, with a similar shank *b*² of the lower jaw *b*, forms a true cylindrical shank for the wrench. Each of the shanks *b*² and *d* is provided with two vertically-extended bearing-surfaces on parallel planes with each other, connected by an approximately perpendicular bearing-surface. The bearing-surface on each of the said shanks is such that the shanks may be brought into such relation as to form a perfect cylinder, the abutting par-

allel surfaces preventing a lateral movement of either shank, while the perpendicular surfaces will prevent the two jaws from oscillating longitudinally, the said surfaces tending to distribute the strain instead of permitting the shanks to slide by each other longitudinally when strain occurs on either jaw. Each of the shanks *b*² and *d* is also provided with a segmental screw-thread, turned in a direction opposite to that of the other, so that said jaws may be reciprocated in opposite directions simultaneously, the above-described bearing-surfaces permitting this movement. Acting simultaneously on both of said screw-threaded shanks is a cylinder *f*, which is provided interiorly thereof with two screw-threads—one right hand and the other left hand—by means of which the jaws may be brought against a nut and held firmly in this relation. At the upper end of the screw-thread on one of said shanks, as *b*², is a protruding check-screw *g*, which prevents such continued rotation of the cylinder as to eject the other shank *d*, and thus remove the cylinder from this composite shank, thus practically limiting the extent of the reciprocation of said jaws.

Attached to the extremities of the shank of one of the jaws is a screw-driver *h*, of ordinary construction, which, when said jaws are closed or opened, as the case may be, is projected from the end of said cylinder.

The operation of my improved wrench is as follows: The lower jaw *b* having been inserted in the slot in the bar *a*², the cylinder *f* is adjusted by means of its double screw-thread to each of the screw-threads on the respective shanks of the jaws *a* and *b*. By revolving the cylinder the jaws of the wrench are simultaneously reciprocated in opposite directions and brought together, and when pressure is brought upon the handle of the wrench to turn the nut the opposite screw-threads tend to bind firmly against the interior of the cylinder *f* and prevent any give to the jaws *a* and *b*, and thus reduce to a minimum the dangers of stripping the angled edges of the nut. As the cylinder *f* revolves the screw-driver *h* is drawn within the same or projected therefrom ready for use.

By the above-described means the objects of my invention are attained. The tool is sim-

ple in construction and inexpensive to manufacture, and by reason of the double-screw-threaded split shank, composed of the shanks of the respective jaws, and the interiorly
 5 right-handed and left-handed screw-threaded cylinder *f*, cooperating with the threads on said shank, the jaws may be bound firmly against any nut and not be susceptible of sufficient variation to release said nut, thus
 10 stripping the edges thereof. The location and operation of the screw *h* are such as to prove convenient, while in no way interfering with the use of the wrench proper.

It is to be observed that there may be many
 15 minor details of construction which are not herein described, but which come within the scope of my invention.

Having fully described my invention, I claim as new and desire to secure by Letters
 20 Patent—

1. In a wrench, two independent jaws provided respectively with a screw-threaded shank, the threads on each shank being turned in the opposite direction to the other, and a
 25 revoluble cylinder adapted in cooperation with said shanks to reciprocate the jaws of the wrench in opposite directions simultaneously, substantially as described.

2. In a wrench, two independent jaws provided respectively with a screw-threaded shank, the threads on each shank being turned in the opposite direction to the other, and means in conjunction with said threads whereby the said jaws are simultaneously reciprocated in opposite directions, substantially as
 35 described.

3. In a wrench, an upper and a lower jaw provided respectively with a screw-threaded shank, the thread on each shank being turned in the opposite direction to the other, means
 40 in conjunction with said threads whereby said jaws are simultaneously reciprocated in opposite directions and means whereby the extent of such reciprocation is limited, substantially as described.

4. In a wrench, an upper and a lower jaw provided respectively with a screw-threaded shank, the thread on each shank being turned in the opposite direction to the other, means
 50 in conjunction with said threads whereby said jaws are simultaneously reciprocated in opposite directions, and a check-screw secured to one of said shanks whereby the extent of such reciprocation is limited, substantially as described.

5. In a wrench, the combination with inde-

pendent movable jaws provided respectively with a shank, having a screw-thread thereon and a bearing-surface adapted to abut against a corresponding bearing-surface of the other
 60 whereby longitudinal oscillation of the jaws is prevented, of means in conjunction with said screw-thread whereby said jaws are reciprocated, said threads being turned in opposite directions whereby said jaws will be reciprocated simultaneously in opposite directions, substantially as described.

6. In a wrench, two independent jaws provided respectively with a screw-threaded shank, the threads on each shank being turned in the opposite direction to the other, a revoluble cylinder, interior screw-threads thereon whereby in cooperation with the screw-threads on said shanks, said jaws are simultaneously reciprocated in opposite directions, and a screw-driver attached to one of said shanks and adapted to be drawn within said cylinders, substantially as described.

7. In a wrench, two independent jaws provided respectively with a screw-threaded shank, the screw-threads on each shank being turned in the opposite direction to the other, said shanks being provided with abutting bearing-surfaces whereby longitudinal oscillation of said jaws is prevented, and a
 85 revoluble cylinder having right and left screw-threads on the interior thereof whereby said jaws are simultaneously reciprocated in opposite directions, substantially as described.

8. In a wrench, an upper and a lower jaw provided respectively with a screw-threaded shank, the screw-threads on said shank being turned in opposite directions said shanks being provided respectively with a bearing-surface adapted to abut against a corresponding
 95 bearing-surface of the other, a cross-bar having a guide-groove therein whereby said jaws are maintained in the proper relative position, and an interiorly-screw-threaded, revoluble cylinder, the threads therein being turned in
 100 opposite directions whereby said jaws are simultaneously reciprocated in opposite directions, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 18th
 105 day of August, 1897.

HENRY J. HANCOCK.

Witnesses:

C. GERST,
 T. CARR.