P. CHAPIN, Sr.

WRENCH.

No. 186,197. Patented Jan. 16, 1877.

Fig. 1.

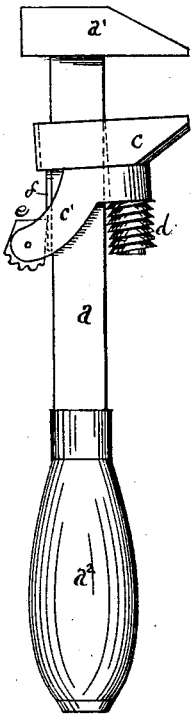



Fig. 2.

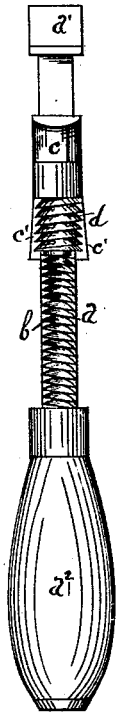
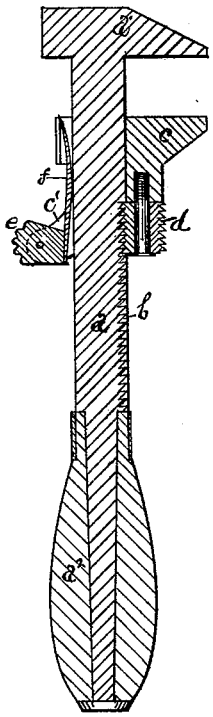



Fig. 3.




WITNESSES:

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# UNITED STATES PATENT OFFICE.

PHILIP CHAPIN, SR., OF PINE MEADOW, CONNECTICUT.

## IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **186,197**, dated January 16, 1877; application filed December 8, 1876.

*To all whom it may concern:*

Be it known that I, PHILIP CHAPIN, Sr., of Pine Meadow, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements pertaining to Adjustable Wrenches, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a side view, with the screw-threads out of mesh. Fig. 2 is a front view. Fig. 3 is a view in central longitudinal section, with the screw-threads in mesh.

This wrench is one in which the sliding jaw can be moved up to and against the object to be grasped with a single movement of the hand, the operating-screw then thrown in mesh, and the sliding jaw caused to grasp the object with any required pressure by revolving the operating-screw.

The letter *a* denotes the wrench bar; $a^1$, the wrench-head, and $a^2$ the handle. On the front of the bar are cut the screw-thread serrations *b*. The letter *c* denotes the sliding jaw, the mortise through which—in which lies the wrench-bar—broadens toward the lower end so as to give the lower end some back-and-forth play, so that the screw *d*, borne on the sliding jaw, may be thrown in or out of mesh with the screw thread serrations *b*.

Within the arms *c′ c′* (part of jaw *c*) is pivoted the cam *e*, so shaped (and the shape is shown in the drawings) that when this cam is in position shown in Fig. 1 the screw-threads are out of mesh, and the sliding jaw can be moved freely on the wrench-bar.

By rotating the cam to position shown in Fig. 3 the threads are held in mesh, and then the sliding jaw can be operated by the revolution of screw *d*.

The function of the spring is to pull screw *d* backward into mesh. It can be omitted and cam *e* allowed to bear directly on the wrench-bar. By using a plain bar or cross-piece in the place of cam *e*, this cam may be omitted. The spring will pull screw *d* into mesh, and the downwardly-shelving shape of serrations *b* will hold it there.

I claim as my invention—

1. The wrench-bar *a*, provided with screw-serrations *b*, the sliding jaw *c*, having arms *c′ c′*, and carrying the screw *d* and the cam *e*, all combined and arranged substantially as described, and for the purposes set forth.

2. The wrench-bar *a*, provided with screw-serrations *b*, the sliding jaw *c*, having arms *c′ c′*, and carrying the screw *d*, cam *e*, and spring *f*, all substantially as described.

PHILIP CHAPIN, SR.

Witnesses:
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