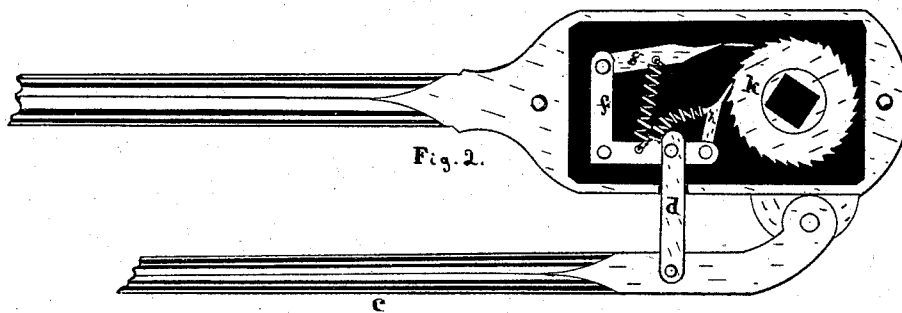
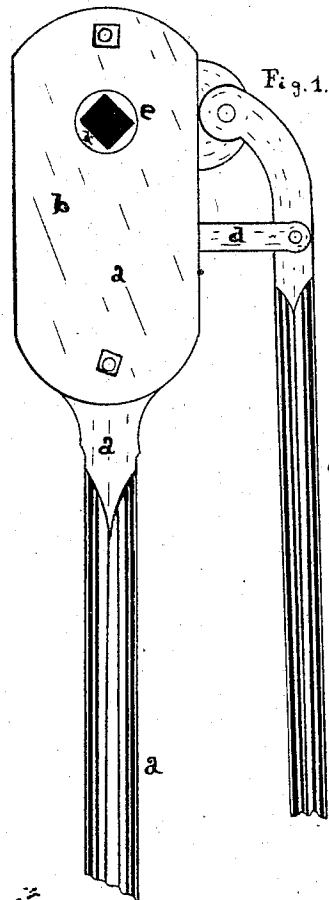


P. E. McINTOSH.

Wrenches.

No. 137,310.

Patented April 1, 1873.



Samuel J. Parker }
Watson E. Earle } Witnesses.

Peter E. McIntosh
for
J. J. Parker
his Attorney
Inventor.

UNITED STATES PATENT OFFICE.

PETER E. MCINTOSH, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **137,310**, dated April 1, 1873; application filed January 4, 1872.

To all whom it may concern:

Be it known that I, PETER ELYEA MCINTOSH, of Chicago, Cook county, in the State of Illinois, have invented certain Improvements in a Double-Action Wrench, of which the following is a specification:

My object is to make a convenient and useful wrench, more readily used than those in common use; and the nature of my invention will be apparent from the following description.

Figure 1 is a side view of my wrench ready for use. Fig. 2 is a view of the same with the cap of the case removed, showing the internal and propelling parts thereof.

In Fig. 1, *a* is the stationary handle, sustaining the enlarged end or case *b*, and *c* is the movable handle, that, by the connecting-rod *d*, moves the parts inclosed in the case *b*, and thus moves the wrench *e*, which projects out of the case on the upper and lower sides thereof, and which wrench is applied to the object to be rotated. In Fig. 2 the cap *b* is removed, disclosing the right-angled lever *f* in pivoted connection with the connecting-rod *d*, and which angled lever *f* has hinged or pivoted to it two clicks, one at one end of the right-angled lever, and the other at the other end of the said lever. The click *g* of the lever is the longest, and is constantly retracted to the lever by its spring, and the other click, *h*, is attached to the end of the

lever nearest the connecting-rod *d*, and is shorter, and is constantly pushed from the lever by its spring. Both clicks act on the ratchet-wheel *k*, whose axis is the wrench, made hollow by a square aperture for the purpose of rotating such objects as it is applied to; and it will be noticed that the action of the two clicks is such that, as one is retracted on the ratchet-wheel, the other is propelled against the teeth of this wheel, and thus rotates the ratchet and wrench, and this is caused by their attachment to the lever, whose hinge or pivot is at *m*, the angle of the lever.

Thus I arrange and construct a neat, simple, and useful tool, which, by various modifications of, and appliances to, the aperture of the ratchet-wrench, is capable of extensive employment in various arts.

The further nature, uses, and advantages of my invention are apparent to those skilled in the art to which it appertains.

Claim.

I claim—

The wrench described, consisting of the cased angled lever *f* and its two clicks and springs, ratchet *k*, movable lever *e*, and connecting-rod *d*, arranged as set forth.

PETER E. MCINTOSH.

Witnesses:

PETER H. WITT,
CALVIN DEWOLF.