(No Model.)

J. A. ABBOTS.

WRENCH.

No. 451,991. Patented May 12, 1891.

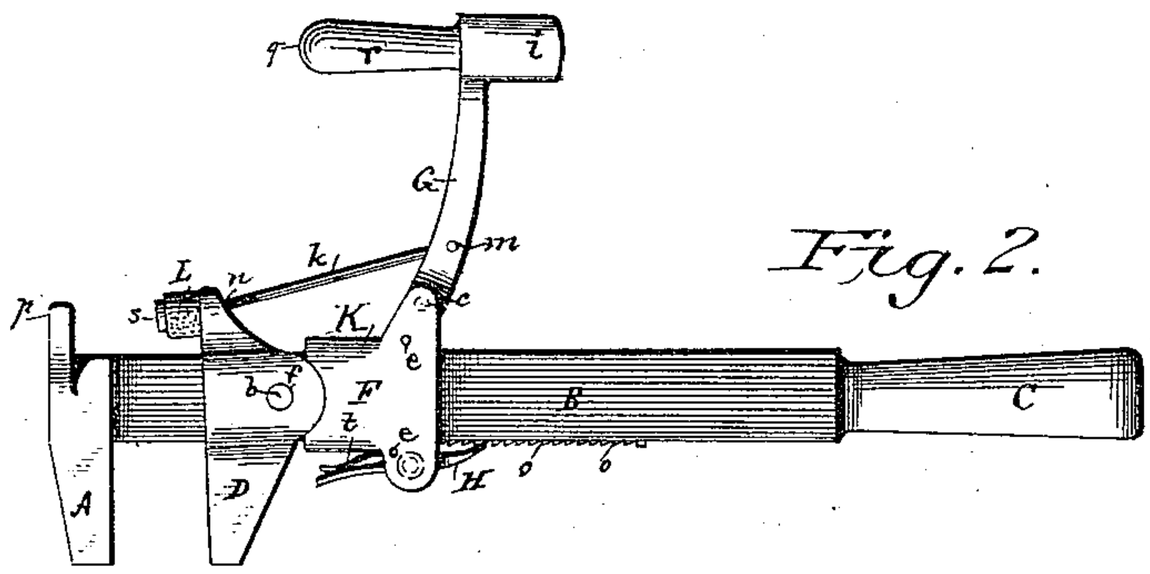

Fig. 2.

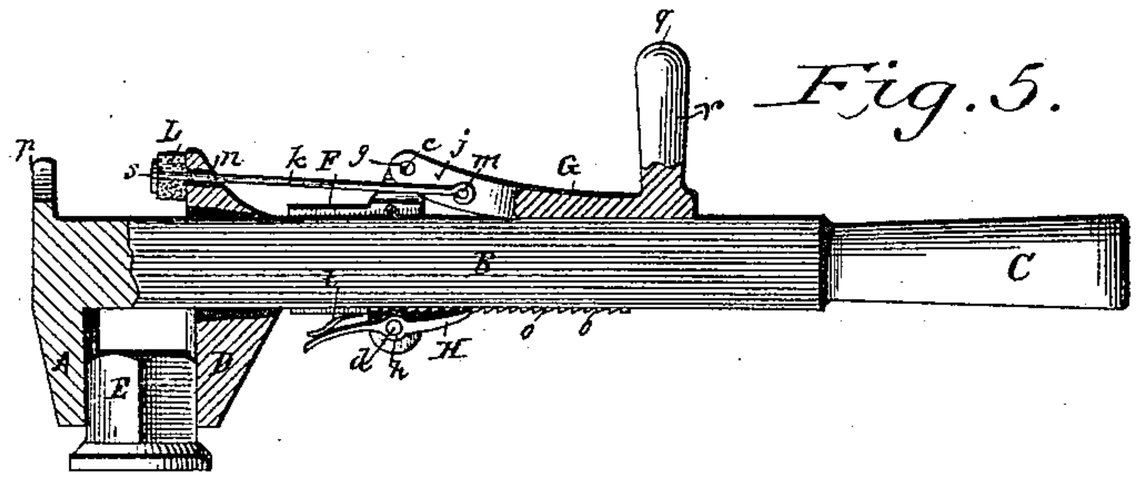

Fig. 5.

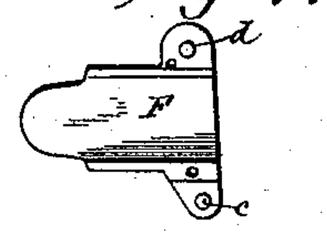

Fig. 7.

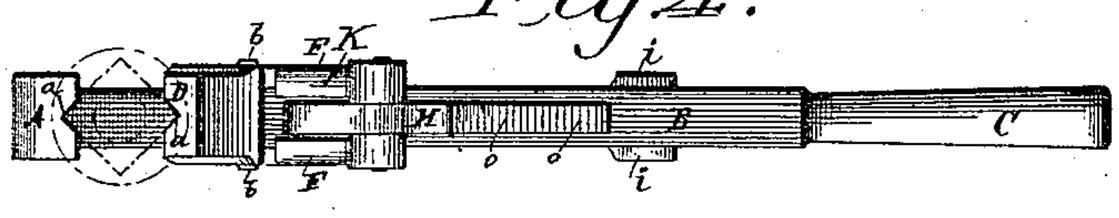

Fig. 4.

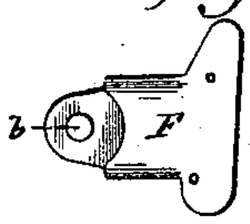

Fig. 6.

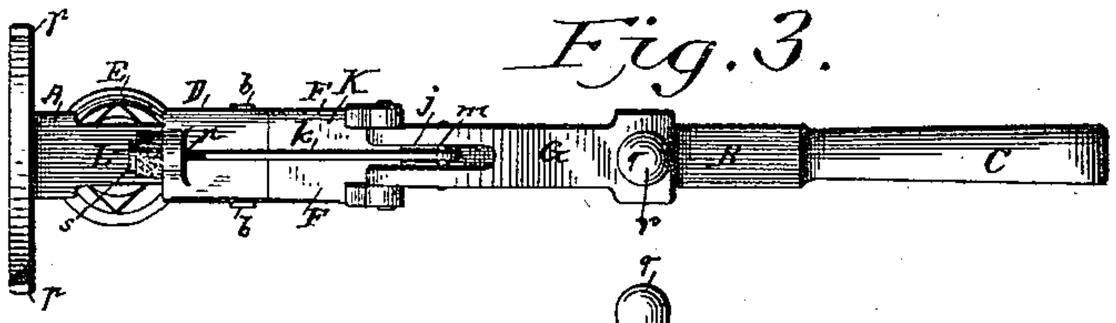

Fig. 3.

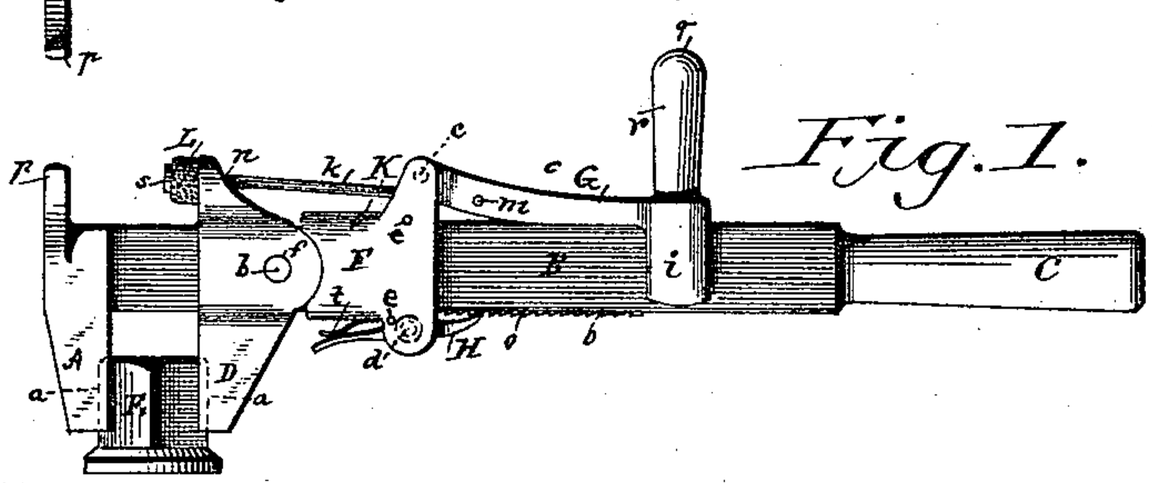

Fig. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

JAMES A. ABBOTS, OF SEEKONK, MASSACHUSETTS, ASSIGNOR TO HIMSELF, AND SARAH E. HILTON AND DAVID NELSON RYDER, OF PROVIDENCE, AND RICHARD HENRY RYDER, OF PAWTUCKET, RHODE ISLAND.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 451,991, dated May 12, 1891.

Application filed April 30, 1890. Serial No. 350,108. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. ABBOTS, a citizen of the United States, residing at Seekonk, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

My invention is designed more particularly for a carriage-wrench; and it consists in the improved construction and arrangement of the parts of the wrench, as hereinafter fully set forth.

Figure 1 represents a side elevation showing the wrench as closed upon the nut. Fig. 2 represents the same as thrown open for releasing the nut. Fig. 3 represents a view of the outer side of the wrench in its closed condition. Fig. 4 represents a view of the inner side of the same. Fig. 5 represents a detail longitudinal section. Figs. 6 and 7 are detail views illustrating one of the parts of the slide-box of the movable jaw.

In the accompanying drawings, A represents the stationary jaw of the wrench, which is formed integral with a shank B and handle C, the said jaw being provided with a longitudinal groove *a*, adapted to receive one corner of the carriage-nut. The movable jaw D is also provided with a longitudinal groove *a*, adapted to embrace the opposite corner of the nut E, and is pivoted to the slide-box K, which is preferably formed of two opposite pieces F, (shown in Figs. 6 and 7,) the said slide-box pieces being preferably made of malleable iron and provided with the pivot-pin *b*, cast integral with the piece F, and the pivot-pins *c* and *d*.

The slide-box pieces F F are held together to form the slide-box K by means of the rivets *e e*, the pivot-pins *b b* entering the pivot-holes *f f* in the movable jaw, the pivot-pins *c c* entering the pivot-holes *g* in the hand-lever G, and the pivot-pins *d d* entering the pivot-hole *h* in the ratchet-catch H. The hand-lever G is provided with opposite guiding-ears *i i*, which are adapted to embrace the shank B, and with an open slot *j*, adapted to receive the rod *k*, which is pivoted at one end to the pin *m*, which passes from side to side across the slot *j*, and at the other end passes through a perforation *n*, made in the outer end of the movable jaw D; and upon the projecting end of the rod *k*, under the head *s*, is placed the spring L, which may be made of rubber or other suitable material. The forward side of the shank B is provided with the notches *o o*, which are preferably made about one-eighth of an inch apart and are adapted to receive the engaging-edge of the ratchet-catch H to hold the jaw D in its set position. The lateral projections *p p* at the forward end of the wrench serve, with the end *q* of the hand-lever G, to hold the wrench in an inclined position, whereby the nut will be kept clean and free from sand or grit when the wrench and contained nut must be laid down for the purpose of removing the carriage-wheel.

In operating the wrench the engaging-edge of the ratchet-catch H is to be inserted into the proper notch *o*, according to the size of the nut to be operated upon, with the hand-lever G in its raised position, as shown in Fig. 2; then by placing the grooves *a a* of the jaws A D over the opposite corners of the nut and bringing the hand-lever G to the position shown in Fig. 1 the rod *k* will be carried below the line of the pivot-pins *c c*, so that the spring L will cause the hand-lever G to maintain its position at the side of the shank B, and the jaw D will be turned upon its pivot-pins *b b* against the corners of the nut to hold the same firmly, so that the nut when removed from the axle will not be liable to drop from the wrench and thus become covered with sand or dirt. The handle *r* of the hand-lever G provides convenient means for turning the wrench rapidly when screwing the nut on or off of the end of the axle, and also serves as a conjoint support with the lateral projections *p p* to keep the removed nut in an elevated position and free from grit, which would interfere with the free movement of the nut upon the screw-thread of the axle.

Instead of the ratchet-catch H, which is operated by the spring *t*, other well-known means can be employed for holding the jaw D in its forward position, subject to the supplemental movement imparted by the hand-lever G.

I claim as my invention—

In a wrench, the combination, with the stationary jaw and the shank, of the pivoted movable jaw having a longitudinal groove, the slide-box, the hand-lever on the slide-box, the pivoted rod between the movable jaw and the lever, the spring between the movable jaw and the end of the rod engaging therewith, and means for adjustably holding the movable jaw in its proper position for engagement, substantially as described.

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Witnesses:
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