H. A. FRENCH.
Wrench.

No. 220,134. Patented Sept. 30, 1879.

Fig. 1

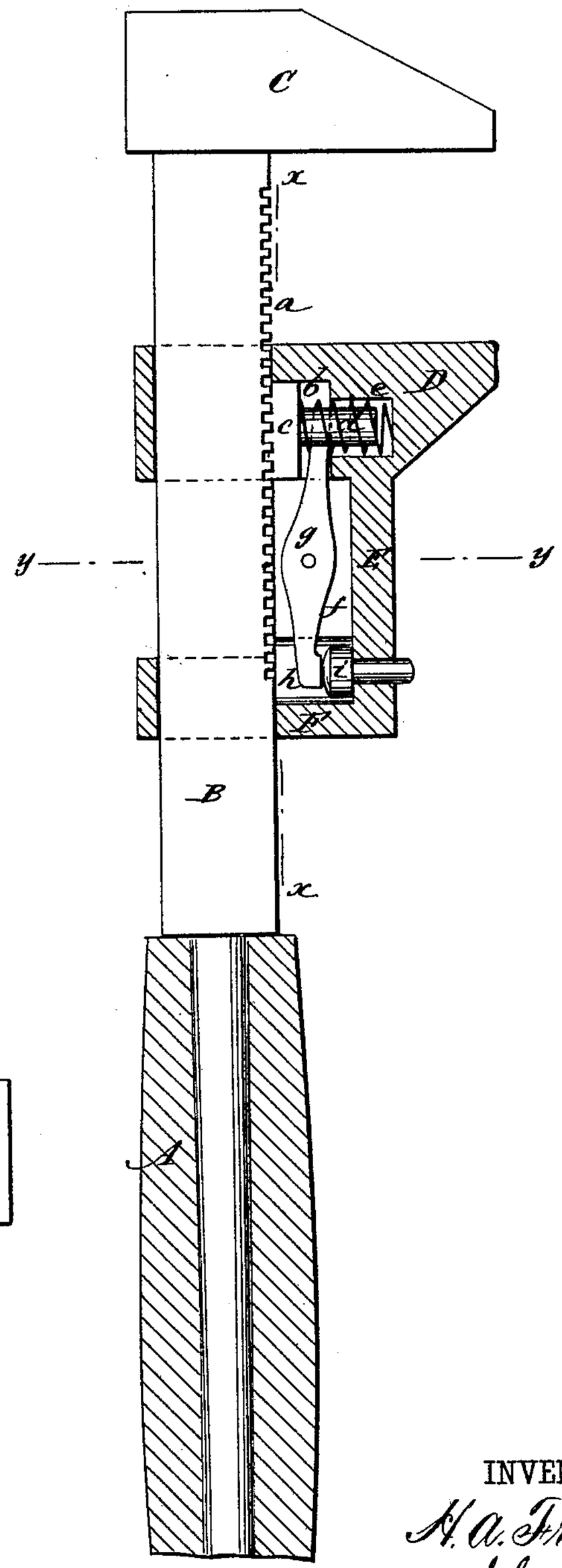


Fig. 2

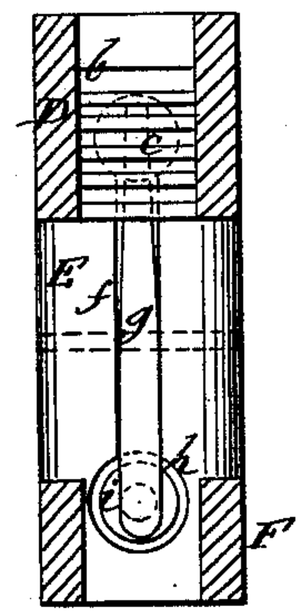
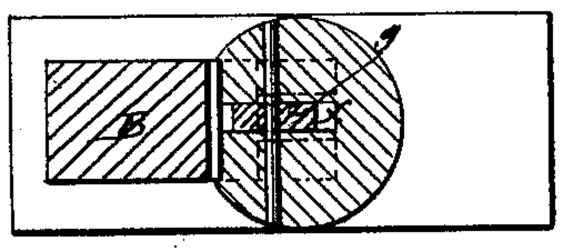


Fig. 3



WITNESSES:
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UNITED STATES PATENT OFFICE.

HENRY A. FRENCH, OF NORTH ORANGE, MASSACHUSETTS.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **220,134,** dated September 30, 1879; application filed July 25, 1879.

To all whom it may concern:

Be it known that I, HENRY A. FRENCH, of North Orange, in the county of Franklin and State of Massachusetts, have invented a new and Improved Wrench, of which the following is a specification.

The object of my invention is to facilitate the adjustment of the movable jaw of the wrench.

The invention consists in a movable jaw having shank, guide, sockets, and rear bearing, in combination with and containing a pin, lever, pawl having two or more square teeth, a spring encircling its stem, and a shaft having square teeth, all as hereinafter described.

In the accompanying drawings, Figure 1 is a sectional side elevation of my improved wrench. Fig. 2 is a section of the movable jaw and guide on line *x x*, and Fig. 3 is a horizontal section of the same on line *y y*.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the handle of the wrench. B is the shaft, provided with a ratchet, *a*, on its front face or edge, and C is the fixed jaw. D is the movable jaw, connected by a shank, E, with the guide F below. In the upper jaw is a socket, *b*, in which is placed a dog or pawl, *c*, having a ratcheted face adjacent to the ratchet *a* of the shaft, and at the back a stem, *d*, projecting into the socket *e*, which forms an extension of reduced area of socket *b*. The stem is wrapped with a spiral spring, one end whereof bears against the back of the pawl, while the other bears against the end wall of socket *e*, and tends to throw the pawl down into engagement with ratchet *a*. In shank E is a longitudinal channel, *f*, in which is fulcrumed a lever, *g*, one end connected with the stem *d*, and the other in a socket, *h*, in the guide under the head of a push-pin, *i*, the stem whereof projects through the guide.

By pushing on the pin *i* with the finger the lever is caused to raise the pawl, when the jaw can be moved up or down, as may be required, and when the pin is relieved from pressure the spring immediately throws the dog into engagement with the ratchet *a*.

The ratchet *a* and that on the face of the pawl have square teeth, it will be observed, so that when they interlock the jaw will be held against movement in either direction; further, as the pawl has a number of teeth to engage the ratchet, it possesses greater strength than when but one bearing-point is employed.

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

In a wrench, the movable jaw D, having guide F, shank E, sockets *b e*, and a bearing at the rear end for the push-pin, in combination with and containing a pin, a lever, a pawl having two or more square teeth, a spring encircling its stem, and a shaft, B, having square teeth, all substantially as shown and described.

HENRY ADAMS FRENCH.

Witnesses:

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