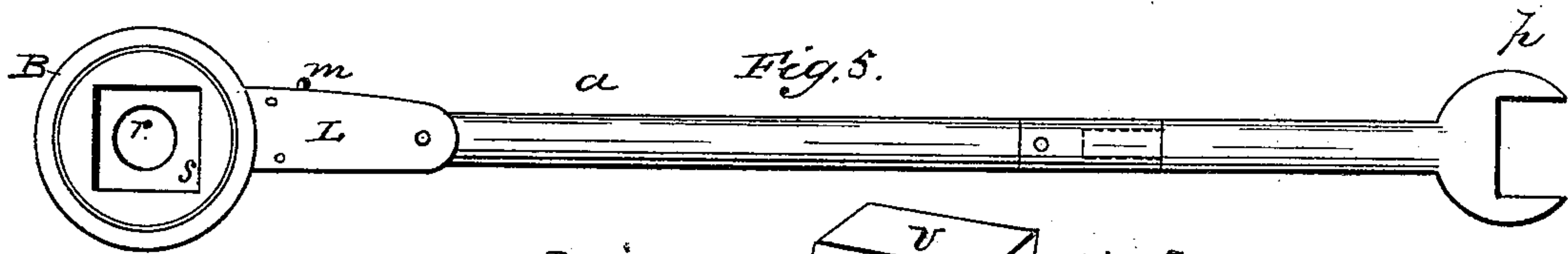
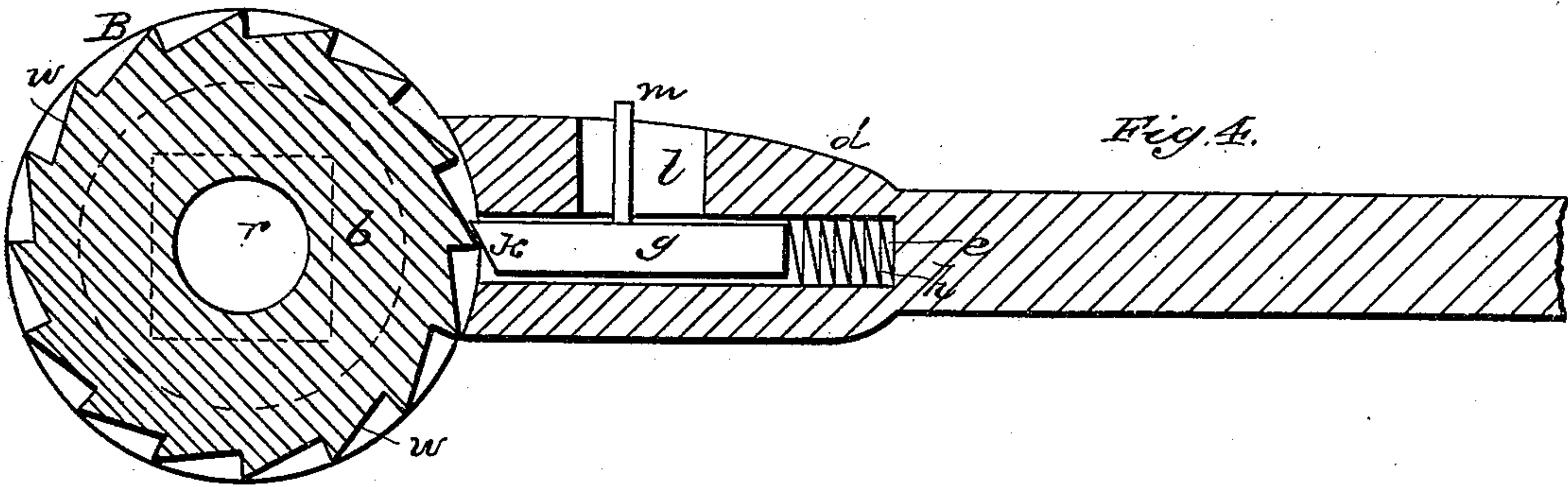
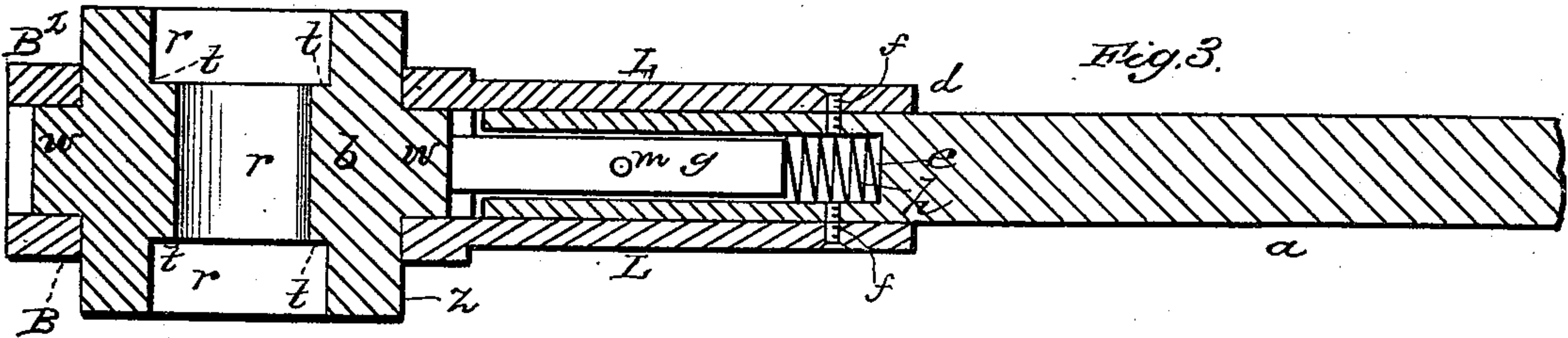
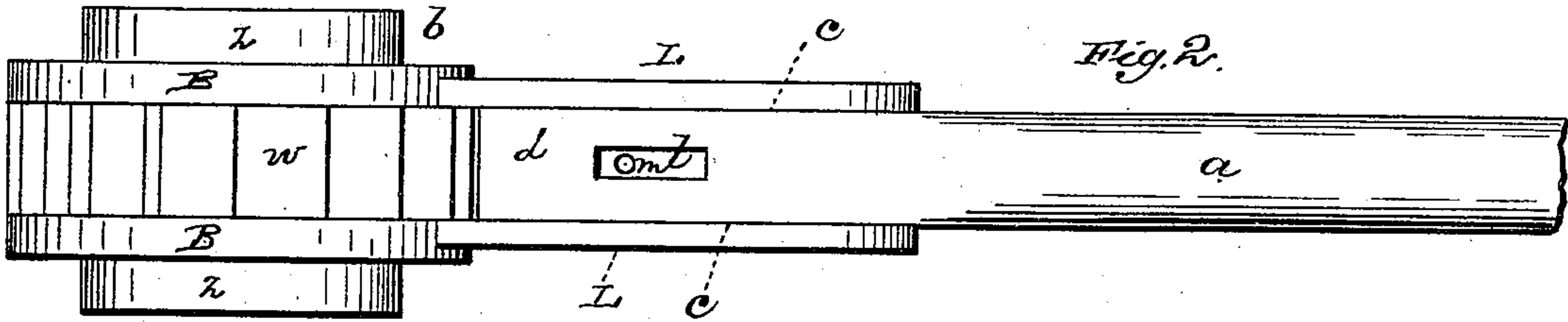
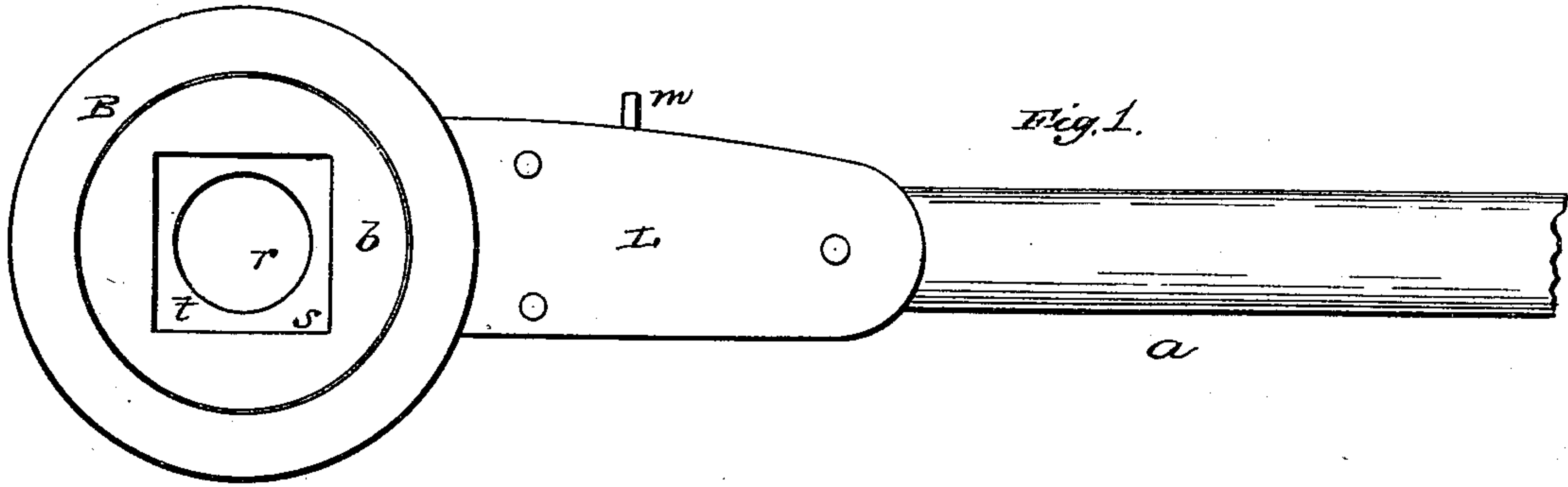


(No Model.)

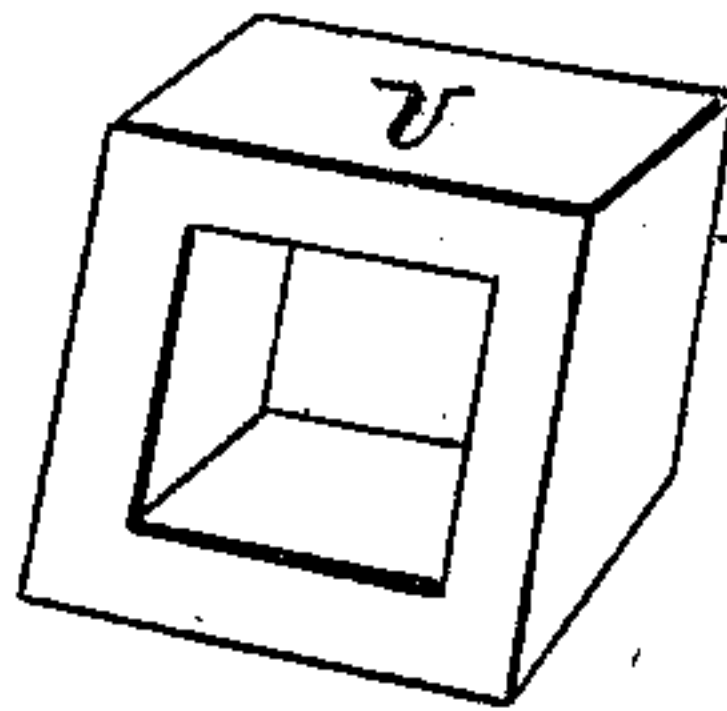
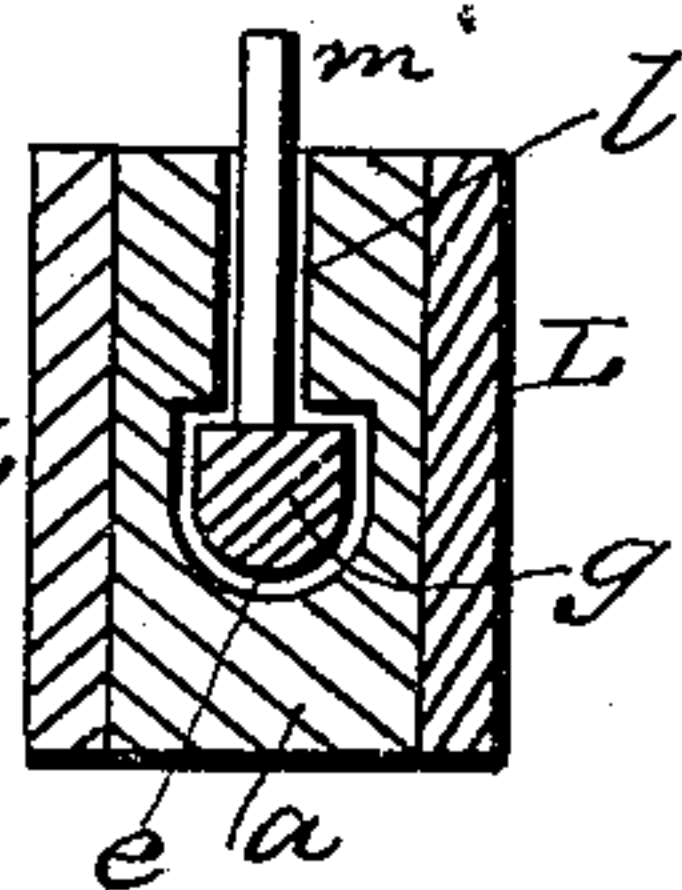
J. W. WOMELSDORFF.
RATCHET WRENCH.

No. 272,822.

Patented Feb. 20, 1883.



WITNESSES
E. H. Bates
Philip M. Masie.



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UNITED STATES PATENT OFFICE.

JAMES W. WOMELSDORFF, OF GUYANDOTTE, WEST VIRGINIA, ASSIGNOR OF
ONE-HALF TO F. L. HERSEY, OF SAME PLACE.

RATCHET-WRENCH.

SPECIFICATION forming part of Letters Patent No. 272,822, dated February 20, 1883.

Application filed January 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. WOMELSDORFF, a citizen of the United States, resident at Guyandotte, in the county of Cabell and State of West Virginia, have invented certain new and useful Improvements in Ratchet-Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side view of my wrench. Fig. 2 is a top view. Fig. 3 is a horizontal sectional view. Fig. 4 is a vertical sectional view. Fig. 5 is a side view, and Figs. 6 and 7 are detail views.

This invention has relation to ratchet-wrenches; and the invention consists in the construction and novel arrangement of the lever or handle having an axial perforation in its end for the spring-pawl, the two collar-bearings having lugs which are fastened to the parallel sides of the handle, and the wrench-head having its circular ratchet centrally arranged, and journals on each side thereof, said wrench-head being provided with a square seat on each side, all as hereinafter set forth, and particularly pointed out in the claim appended.

In the accompanying drawings, the letter *a* designates the wrench lever or handle, and *b* the rotary wrench-head. The handle *a* is formed with parallel faces *c* near its end *d*, which is perforated endwise and centrally to form an axial chamber or guide-seat, *e*, for the pawl *g* and the spring *h*, the latter being first inserted in the chamber. The end of the pawl which projects from the mouth of the chamber *e* is beveled, as indicated at *k*. The chamber *e* is made *D* form in cross-section, in order to prevent the pawl from turning in the chamber. A slot, *l*, extending longitudinally in the handle, communicates with the chamber *e*, and through this slot projects a pin, *m*, which is secured to the pawl, and serves to keep the pawl in its seat when the parts of the wrench are separated. At the outer end

of the handle may be formed a fixed wrench-seat, as indicated at *p*. The wrench-head *b* is symmetrical in its construction, and is circular in form. It is made with a central aperture, *r*, at each end of which is formed a square seat, *s*, adapted to be applied to a nut. At the bottom of each seat is a shoulder, *t*, against which the outer face of the nut may abut, the projecting end of the bolt extending into the aperture *t*. A reducing-nut, *v*, may be applied within the square seat *s*, serving to adapt the wrench to nuts of smaller size. The wrench-head is provided with a circular ratchet-flange, *w*, centrally arranged with reference to the square seats *s*. On each side of the wrench-head is a journal, *z*, the ratchet flange *w* being between these journals, as shown in the drawings.

B B represent collar-bearings, which are applied on each side of the wrench-head to the journals *z* thereof, the ratchet-flange *w* working between the collars in the openings or bearings thereof. Each collar is formed with a flat lug, *L*, extending in the plane thereof, and of proper size and conformation to fit the flat face *c* at the handle end. The lugs *L* are perforated, as indicated at *f*, and the handle is perforated to correspond, in order that the lugs may be firmly secured to the handle by screws or bolts. By means of the collar-bearings and their lugs the wrench-head is secured to the handle, so that it is symmetrical in its relation thereto, the axial line of the wrench-handle passing through the center of the wrench-head. The head is therefore evenly balanced, and the wrench will work in a steady manner without side draft from the handle.

This wrench can be manufactured cheaply, and will be found strong and durable. It is reversible, and can be used in turning a nut on or off. It can be used with great facility, and forms an efficient tool for workmen on railroads, bridge-builders, and others requiring an instrument of this character.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

A reversible ratchet-wrench consisting of the lever-handle having an axial perforation

in its end for the spring-pawl, the two collar-
bearings having lugs which are fastened to
the parallel sides of the handle, and the cir-
cular rotary wrench-head having its circular
5 ratchet centrally arranged between the collar-
bearings, and having journals on each side in
said collar-bearings, substantially as specified.

In testimony whereof I affix my signature in
presence of two witnesses.

JAS. W. WOMELSDORFF.

Witnesses:

SAM. D. HAYSLIP,
W. O. WATT.