No. 620,485. Patented Feb. 28, 1899.

D. B. McCUNE.

WRENCH.

(Application filed Oct. 7, 1897.)

(No Model.)

Fig. 1.

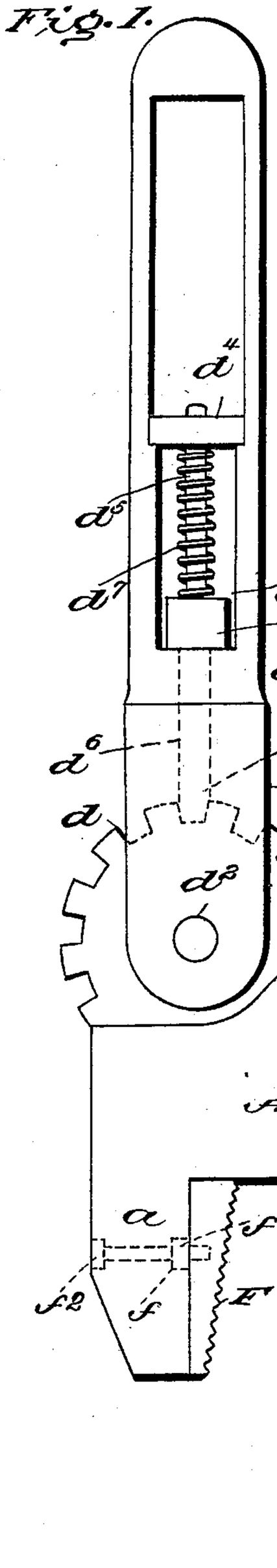

Fig. 3.

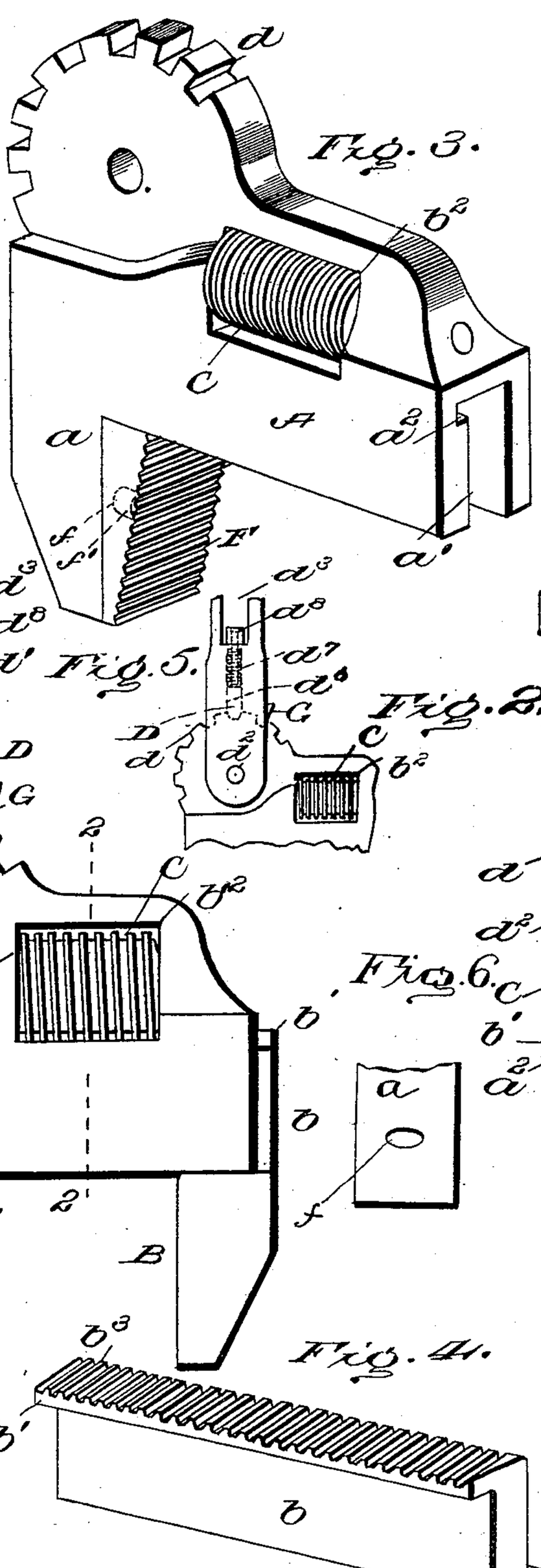

Fig. 5.

Fig. 2.

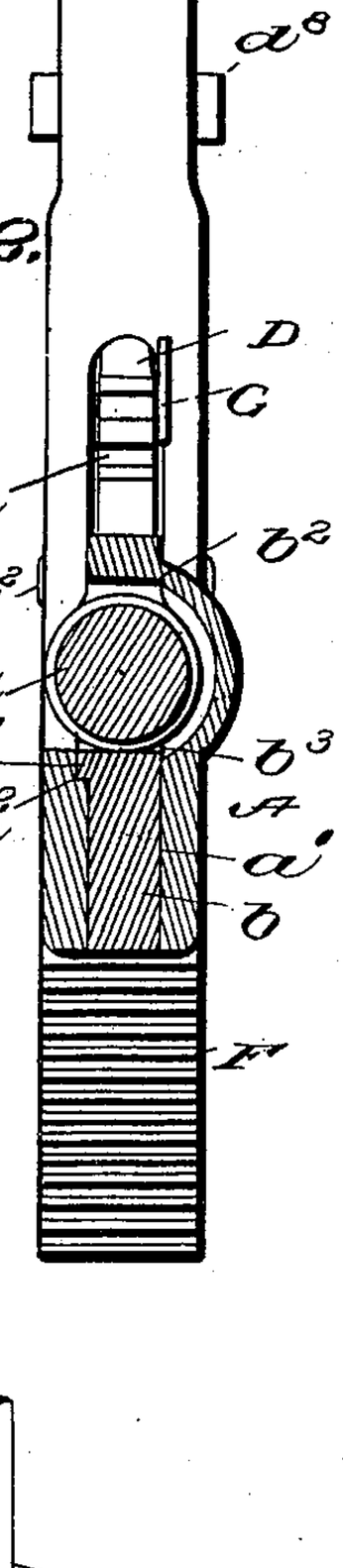

Fig. 6.

Fig. 4.

Witnesses

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 620,485, dated February 28, 1899.

Application filed October 7, 1897. Serial No. 654,427. (No model.)

To all whom it may concern:

Be it known that I, DAVID B. McCUNE, of Plain Grove, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches; and I do hereby 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.

This invention contemplates certain new and useful improvements in wrenches.

It has for its object the production of a simple and efficient ratchet-wrench especially adapted for turning nuts or bolts in places offering but limited play or movement for a tool of this character.

A further object is to produce a ratchet-wrench provided with adjustable jaws, whereby the same will be adapted to act upon nuts or the like of all sizes.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation, illustrating my improved wrench. Fig. 2 is a cross-sectional view on line 2 2, Fig. 1. Figs. 3 and 4 are detail views of the adjustable jaws detached. Fig. 5 is a slight modification. Fig. 6 is a detail.

Referring to the drawings, A designates a casting provided with a lip or projection a, forming the rigid or stationary jaw of the wrench. In said casting is formed a chamber a', provided with a groove a^2 in one of its walls, said chamber being adapted to receive the shank b of the movable jaw B, a longitudinal rib b' being formed on said shank and adapted to normally fit in groove a^2, whereby the said movable jaw is guided in its movement while being adjusted. The adjustment of the movable jaw is effected by means of a threaded member C, rotatably mounted in a chambered offset b^2, formed near one end of casting A, said threaded member being adapted to engage threads b^3 on one edge of shank b. The chamber a' opens into the chamber of the offset b^2, whereby the threads of the member C are free to engage with the threads b^3 of the movable jaw. By thus locating the adjusting member C within an offset only one side of which is open, the other side being closed by the wall of the casting, the danger of said member being moved by contacting with any object when the wrench is being operated is greatly reduced, and, further, by positioning said adjusting member C centrally in the chambered offset the exposed edges of its thread are in line with the adjacent side of the casting. In this way additional caution is provided against accidental turning of the adjusting member or any injury thereto by contact thereof with any object.

The rear edge of casting A on the end opposite to the lip or projection a is provided with a curved rack-bar d, forming an arc of a circle. With this rack-bar is designed to engage a pawl D, carried by handle d', which latter is pivotally mounted at its lower end on a stud d^2, projecting from the side of the casting. The handle is formed with a central longitudinal slot d^3, in which is located a cross-piece d^4, through which projects the upper reduced portion d^5 of pawl D, the lower enlarged end of which is projected through a bore d^6 in the lower portion of the handle and is normally held in engagement with rack-bar d by means of a coil-spring d^7, encircling said reduced portion and bearing against the cross-piece d^4. In practice when it is desired to disengage the pawl from the rack-bar the same is moved as against the tension of spring d^7, and when released said pawl will automatically reëngage said rack-bar. For convenience in moving the pawl against the tension of its spring a knob d^8 is formed on the end of the reduced portion d^5. In Fig. 5 the spring d^7 is located within the bore d^6.

The stationary jaw is provided with an approximately elliptical slot or recess f to accommodate a correspondingly-shaped nipple f' of a serrated or toothed block F, designed to be secured to said jaw. This block is held by means of a screw f^2, passed through said jaw and engaging a threaded bore formed in the nipple f'.

A wire-cutter is provided by a lug G, secured to or formed with one side of handle d' adjacent the teeth of rack-bar d, whereby it will form, in conjunction with any one of said teeth, an extremely simple and efficient wire-cutter.

The operation and advantages of my im-

proved wrench will be at once apparent to those skilled in the art to which it appertains, and it will be particularly noted that the device is made up of but few parts and is not liable to readily get out of order or become deranged.

I claim as my invention—

1. The herein-described wrench comprising a casting having a longitudinal chamber and a curved rack-bar, a chambered offset opening into said former chamber, and a rigid jaw projecting from said casting, an adjustable jaw having a shank fitted in said longitudinal chamber and formed with teeth which extend into the chambered offset, an exteriorly-threaded adjusting member located centrally in said chambered offset and engaging the threads of said shank, an operating-handle pivoted to said casting, and a knife or cutter secured thereto movable at one side of said teeth, substantially as set forth.

2. The herein-described wrench, comprising a casting having a rigid jaw and a curved rack-bar, an adjustable jaw carried by said casting, a handle pivoted to said casting and having a knife or cutter adjacent the teeth of said rack-bar, and a pawl adapted to normally engage said teeth, substantially as set forth.

3. The herein-described wrench comprising a casting having a rigid jaw, an adjustable jaw, and a curved rack-bar, and a handle pivoted to said rack-bar and having a lug secured thereto movable at one side of the teeth of said rack-bar, whereby when said handle is moved said lug will travel concentrically over said rack-bar, substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

DAVID B. McCUNE.

Witnesses:
J. A. ADDIS,
E. LEE BOYLES.