

No. 777,772.

PATENTED DEC. 20, 1904.

M. L. BIEHLER.
PIPE WRENCH.

APPLICATION FILED APR. 26, 1904.

NO MODEL.

Fig. 1.

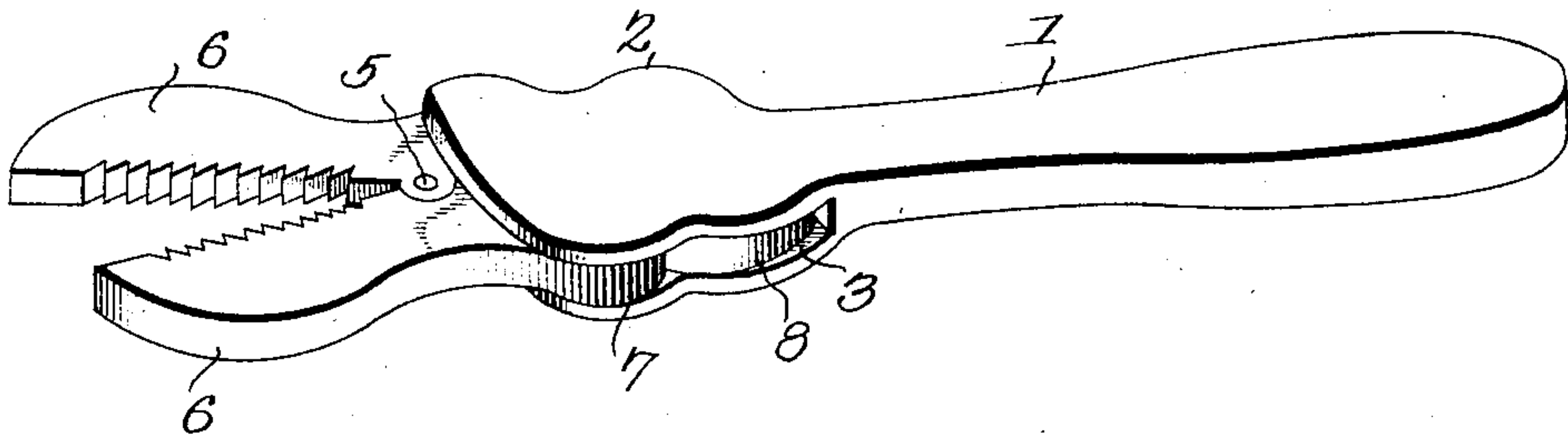
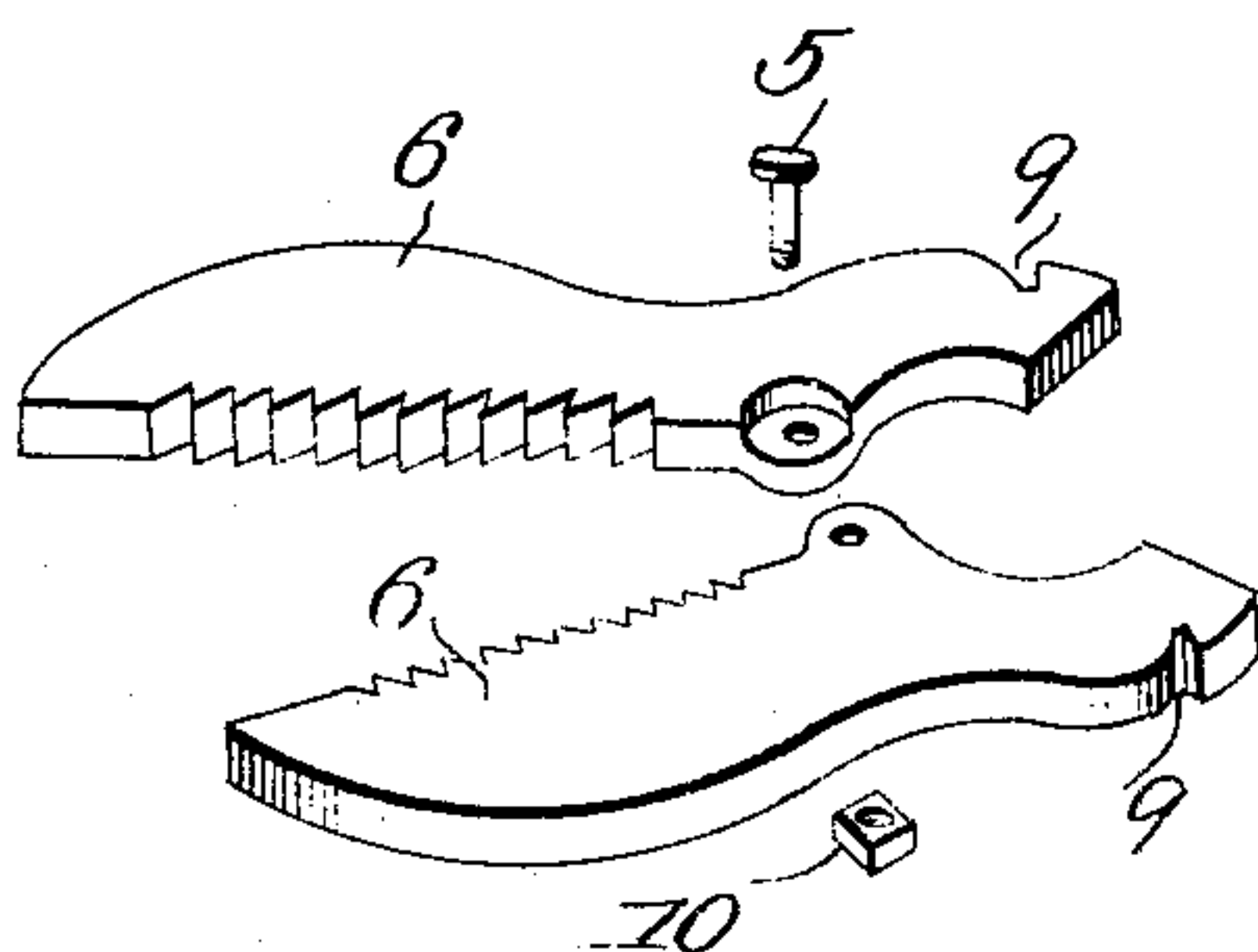
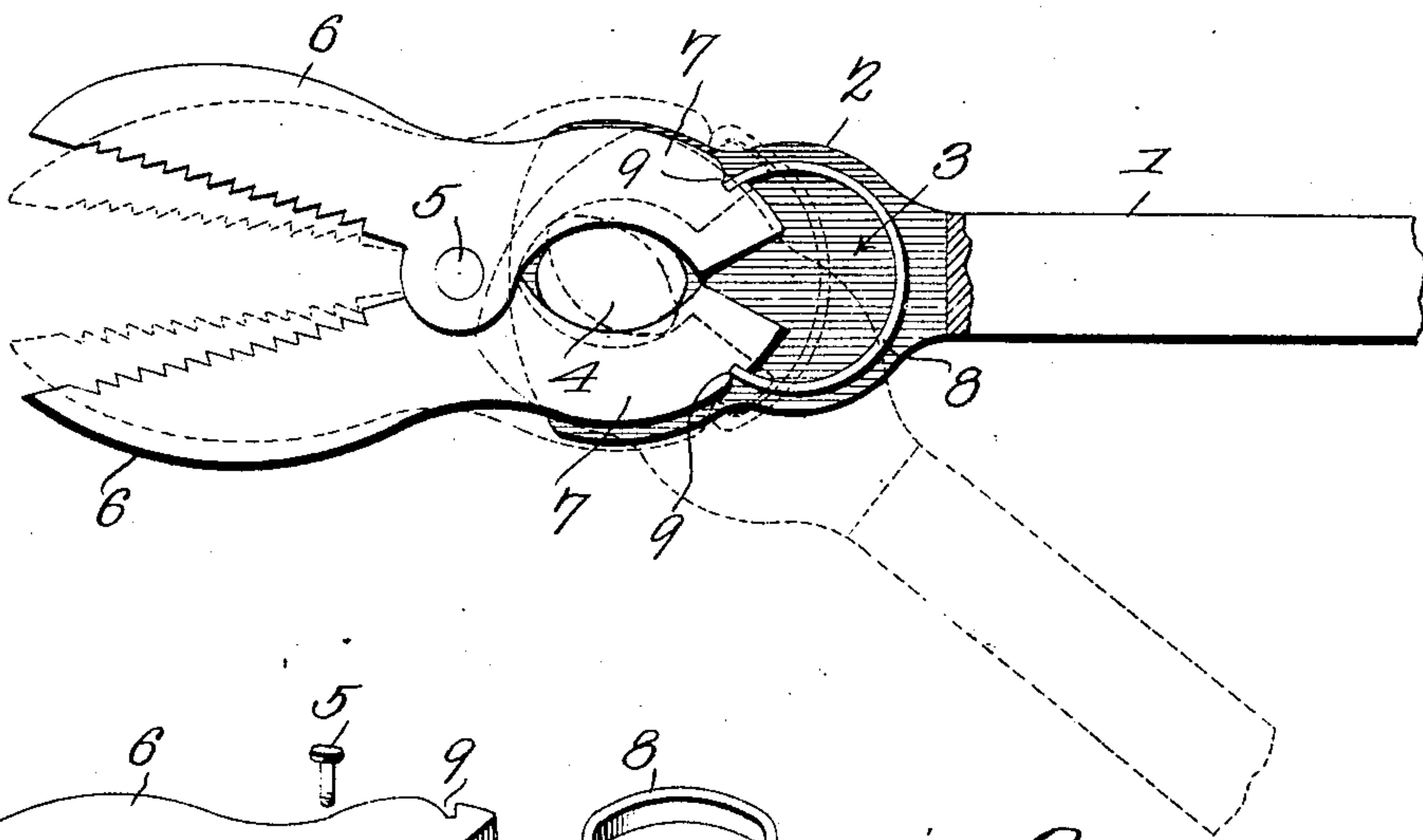


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

MARTIN L. BIEHLER, OF HUGHESVILLE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JAMES K. BOAK, OF HUGHESVILLE, PENNSYLVANIA.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 777,772, dated December 20, 1904.

Application filed April 26, 1904. Serial No. 205,000.

To all whom it may concern:

Be it known that I, MARTIN L. BIEHLER, a citizen of the United States, residing at Hughesville, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Pipe-Wrench, of which the following is a specification.

My invention relates to wrenches, and especially to the class known as "pipe-wrenches," and has for its objects to produce a comparatively simple inexpensive device of this character in which the gripping-jaws may be readily adjusted to accord with the size of and for firmly gripping the pipe or other object acted upon.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a wrench embodying my invention. Fig. 2 is an elevation showing the normal position of the parts in full lines and the adjusted or gripping position in dotted lines, a portion of the wrench being broken away to expose other parts to view. Fig. 3 is a perspective view showing the parts of the wrench disconnected.

Referring to the drawings, 1 designates the handle or body of the wrench, provided at its forward ends with a head 2, cored or otherwise hollowed out to produce a space or recess 3, in which and between the walls of the head there is disposed a substantially elliptical-shaped bearing member or cam 4, whose major axis is in line with the longitudinal axis of the handle.

Pivotaly connected for relative movement by means of a pintle or axle 5 is a pair of gripping-jaws 6, provided in rear of the pintle with a pair of oppositely-disposed reversely-curved portions or extensions 7, which in practice snugly embrace the cam 4 and are maintained normally in contact therewith by means of an actuating-spring 8. This spring, which is preferably of the form and type herein shown, has its terminal ends engaged in sockets or seats 9, formed in the outer edges of the extensions 7 adjacent to their rear ends

and acts normally to press the rear ends of the extensions toward each other for maintaining the inner edges or faces of the extensions in bearing contact with the sides of the cam 4 and the gripping-jaws 6 in open or distended position.

The pintle or axle 5 is preferably in the form of a bolt, as shown, provided with a removable nut 10, whereby the jaws may be readily disconnected to permit of a supplemental jaw having a plane gripping-face and with which the wrench will in practice be equipped, being substituted for one of the serrated-faced jaws illustrated herein.

In practice when the handle 1 is turned at an angle relative to the jaws, as indicated by dotted lines in Fig. 2, the elliptical cam in turning between the extensions 7 acts to force the latter outward from each other against the tension of the spring 8, thereby moving the jaws 6 inward toward each other to gripping position. It is to be particularly noted that in my device the jaws or members 6 are wholly free from positive attachment to the body portion 1 and may therefore be readily released from the latter when it is desired to interchange the jaws by disengaging the extensions 7 from the spring, which operation may be quickly performed.

From the foregoing it is apparent that I produce a simple device admirably adapted for the attainment of the ends in view, it being understood that minor changes may be made without departing from the spirit of the invention.

Having thus described the invention, what is claimed is—

1. In a wrench, the combination with a handle provided with a recess, of a cam disposed in said recess, a pair of gripping-jaws pivotaly connected and having extensions seated in the recess upon opposite sides of the cam, and means for yieldably connecting the extensions in rear of the cam.

2. In a wrench, the combination with a handle provided with a recess and having a cam disposed in the latter, a pair of gripping members pivotaly connected and having extensions seated in the recess upon opposite sides

of the cam, and a spring yieldably connecting the extensions in rear of the cam.

3. In a wrench, the combination with a handle provided with a recess and having a cam disposed in the latter, of a pair of gripping members pivotally connected and having extensions seated in the recess upon opposite sides of the cam, said extensions being provided with seats, and a bowed leaf-spring connecting the extensions and having its ends arranged respectively in the seats.

4. In a wrench, the combination with a handle provided with a recess, of a cam having major and minor axes and disposed in the recess with its major axis in line with the longitudinal axis of the handle, a pair of gripping members pivotally connected and having extensions seated in the recess upon opposite sides of and embracing the cam, and means for yieldably connecting the extensions in rear of the cam.

5. In a wrench, the combination with a handle, of a cam carried thereby, a pair of gripping members pivotally connected and having extensions disposed upon opposite sides of the cam, and means for yieldably connecting the extensions in rear of said cam.

6. In a wrench, the combination with a handle, of a cam carried thereby, a pair of gripping members pivotally connected and having extensions disposed on opposite sides of the cam, and a removable member yieldably connecting the extensions in rear of the cam.

7. In a wrench, the combination with a handle, of a cam carried thereby, a pair of gripping members having extensions disposed on opposite sides of the cam, a removable pintle pivotally connecting the gripping members, and a removable member yieldably connecting the extensions in rear of the cam.

8. In a wrench, the combination with a handle, of a cam carried thereby, a pair of gripping members pivotally connected and having extensions disposed upon opposite sides of the cam, and a spring for yieldably connecting the extensions in rear of the cam.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARTIN L. BIEHLER.

Witnesses:

C. W. BUGH,
GEO. A. BROWN.