

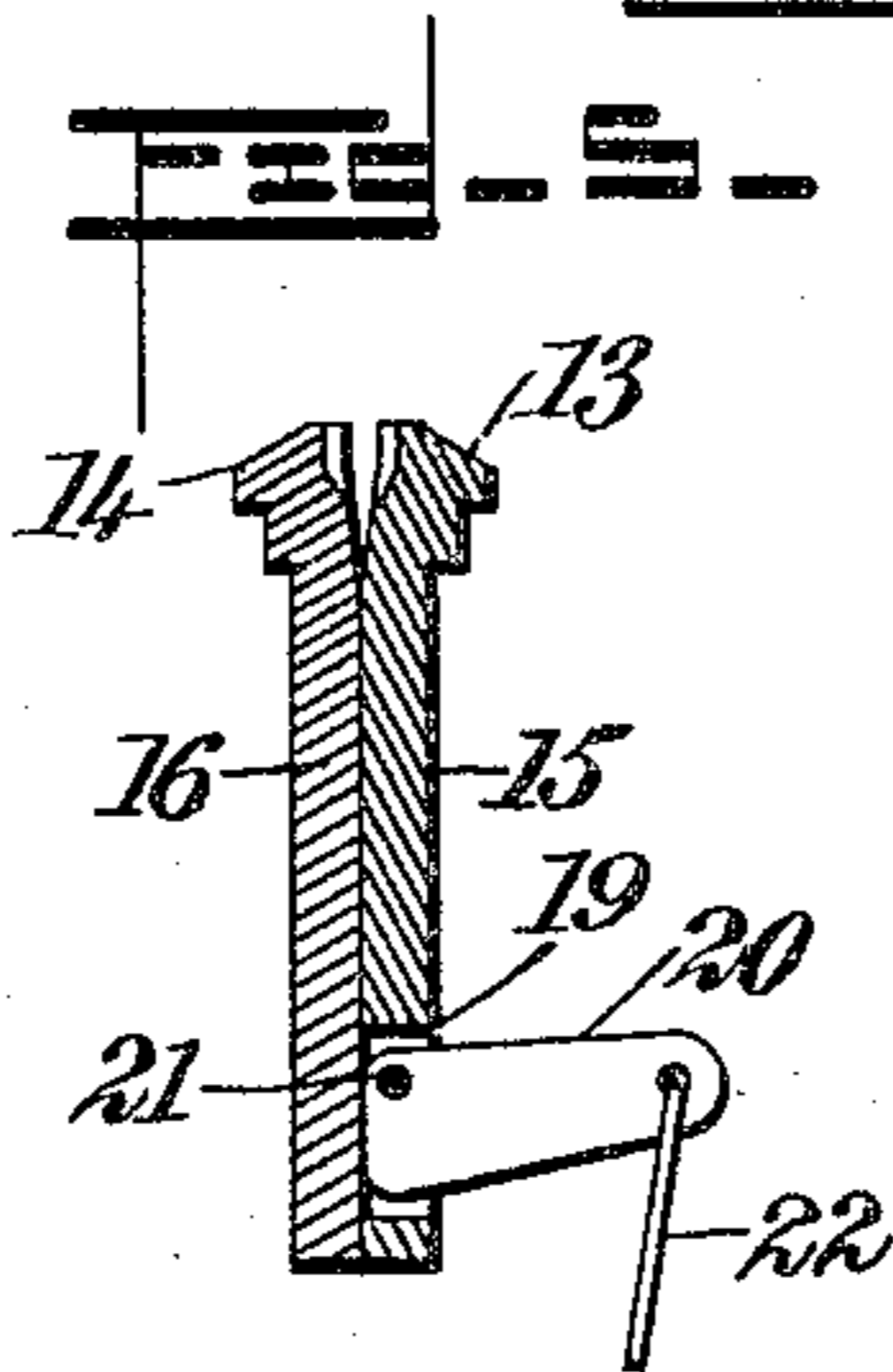
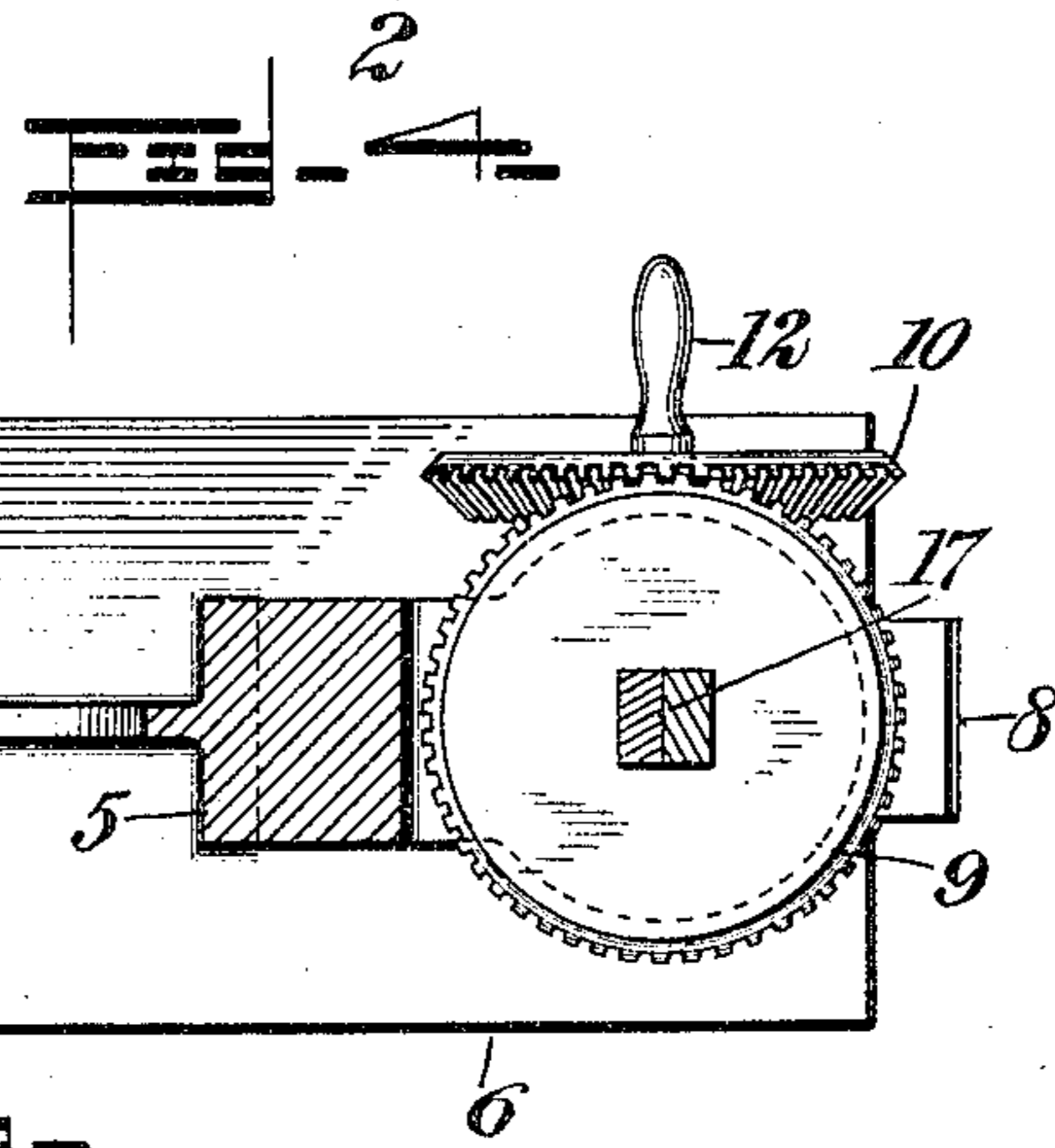
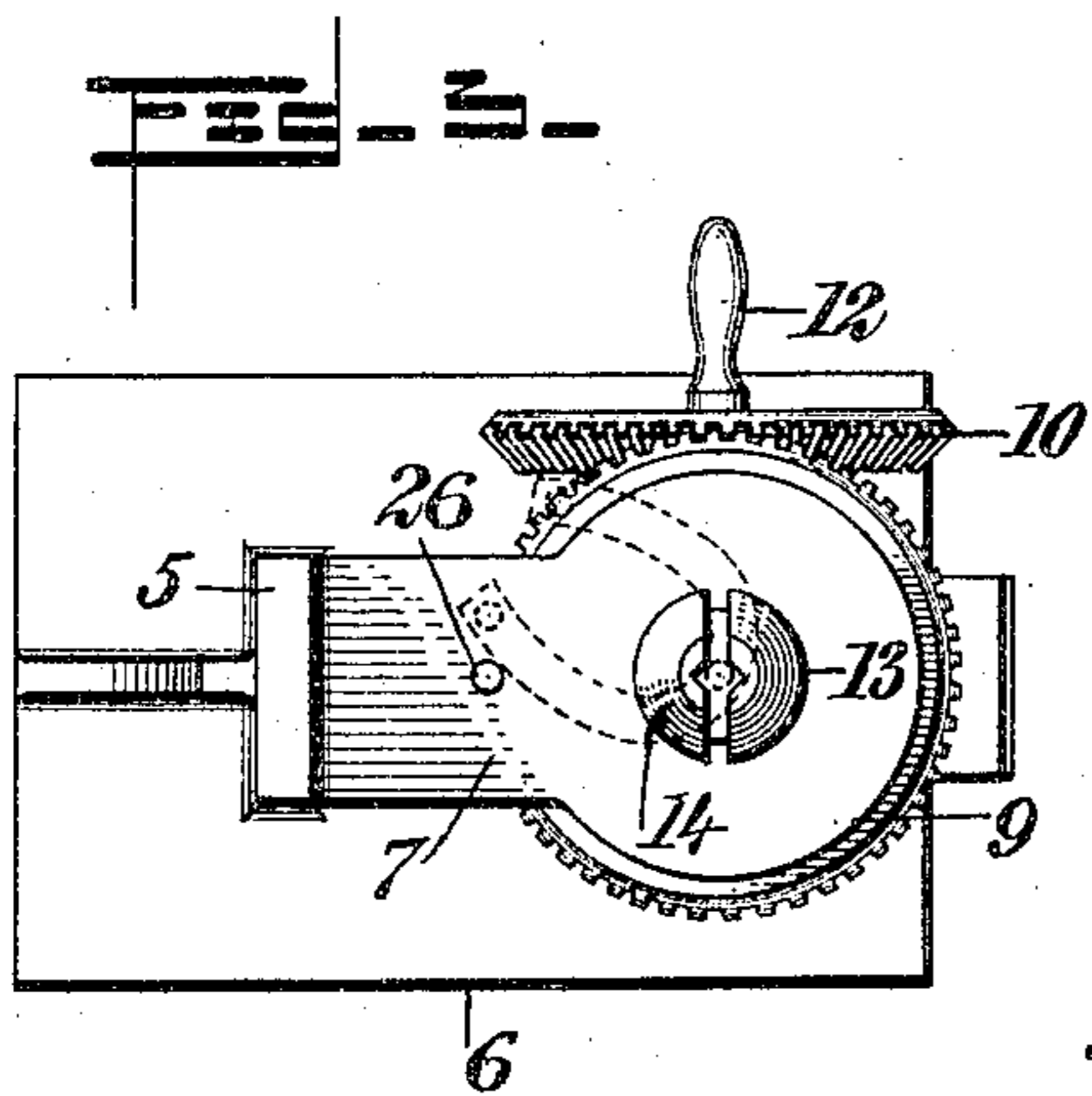
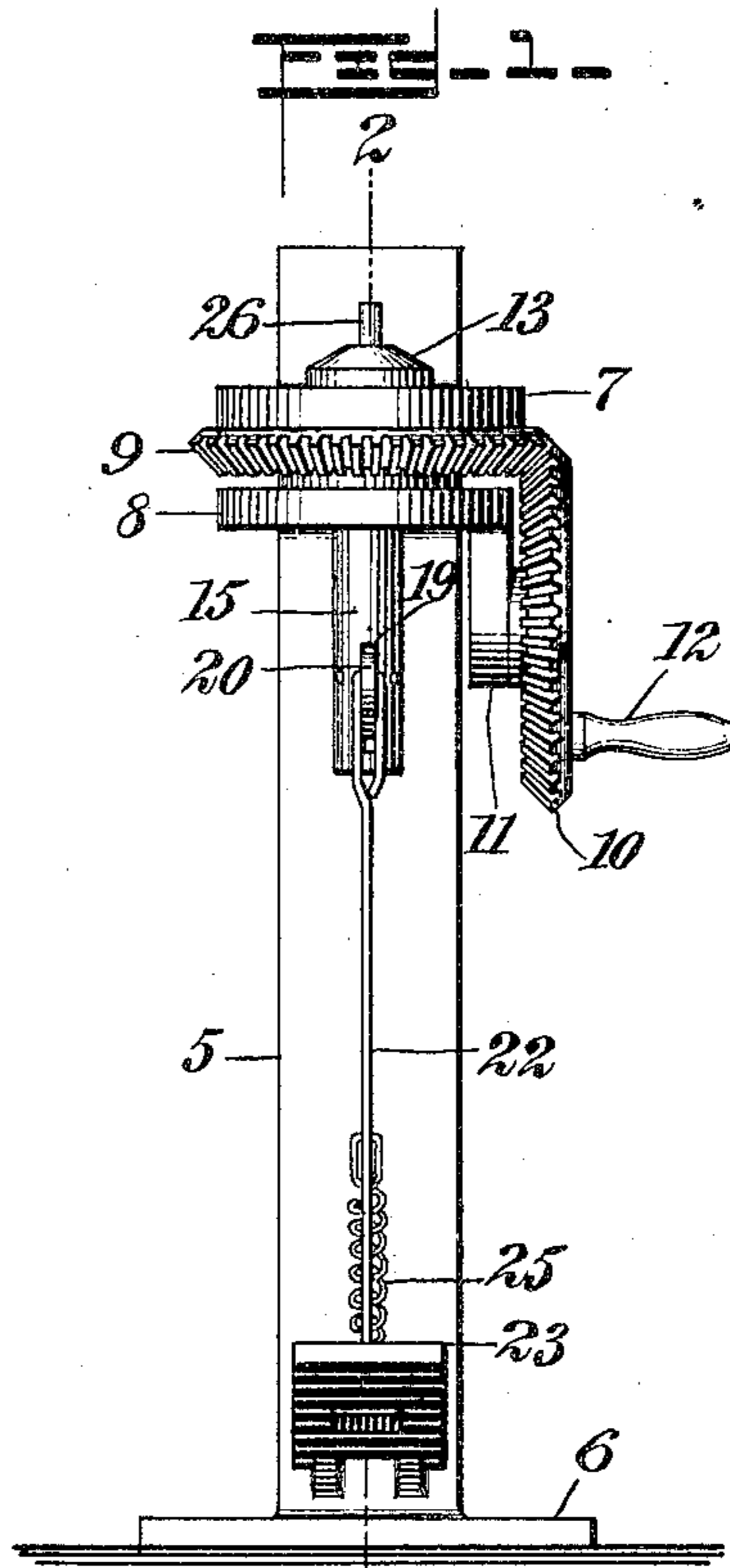
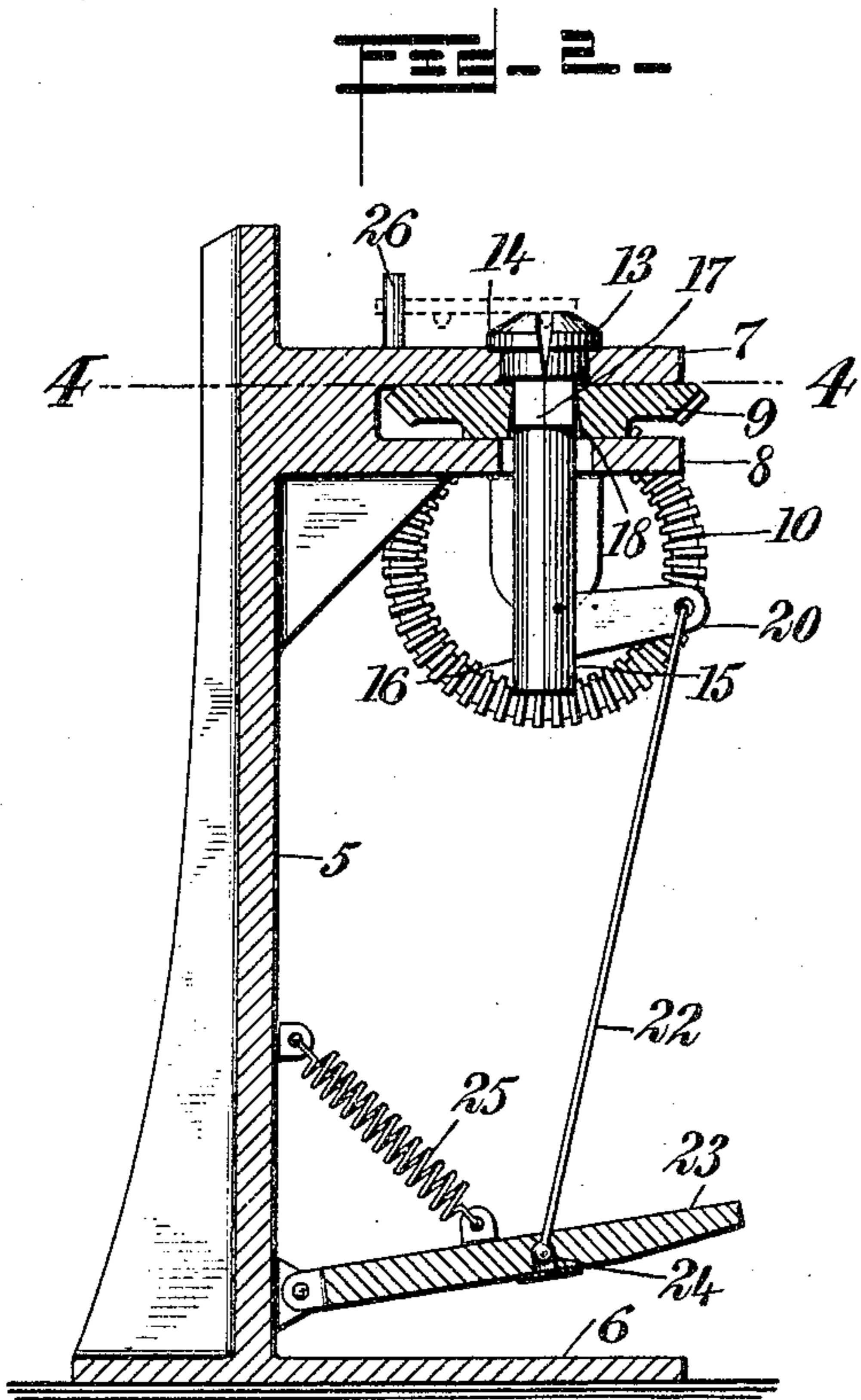
No. 770,608.

PATENTED SEPT. 20, 1904.

C. H. RITTS.  
WRENCH.

APPLICATION FILED MAY 21, 1904.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES H. RITTS, OF WAUSA, NEBRASKA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 770,608, dated September 20, 1904.

Application filed May 21, 1904. Serial No. 208,997. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. RITTS, a citizen of the United States, and a resident of Wausa, in the county of Knox and State of Nebraska, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

This invention relates to improvements in wrenches particularly adapted for tightening screw-threaded calks in horseshoes, but obviously adapted for tightening nuts, lag-screws, and the like; and the object is to provide a wrench of this character that will be very simple in construction and adapted to operate with comparatively little manual exertion.

I will describe a wrench embodying my invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a wrench mechanism embodying my invention. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a plan view. Fig. 4 is a section on the line 4 4 of Fig. 2, and Fig. 5 is a longitudinal section of the jaws.

Referring to the drawings, 5 designates a standard extended from a base 6, and projected outward and forward from the upper end of the standard is a table comprising an upper member 7 and a lower member 8, the said members being spaced apart to receive the bevel-gear 9, which meshes with a bevel-gear 10, having its shaft-bearings in a hangers 11, depending from the lower member 8, and this gear-wheel 10 is provided with a crank-handle 12. The members 7 and 8 of the table are provided with openings through which the lower extensions of the clamping-jaws 13 14 pass, and between the table members 7 8 the extensions or shanks 15 16 of the jaws are provided with angular portions 17 to engage in a correspondingly-shaped opening in the gear-wheel 9, so that the jaws will be caused to rotate with said wheel. It will be noted that the opening 18 through the wheel 9 has its walls flared outward and downward, so as to permit of a lateral swinging motion of the

jaw-shanks to move the jaws together in order to clamp the work. Extended through a slot 19, formed in on one of the shanks, (here shown as the shank 15,) is a cam-lever 20, the end portion of which below its pivotal point 21 is designed to engage against the inner side of the opposite shank. From the outer end of the cam-lever a rod 22 extends downward and has swinging connection with a foot-treadle 23. As here shown this connection consists of a ball-and-socket joint 24, so that the upper end of the rod 22 may be readily moved around in a circular path as the jaws are rotated. The treadle 23 is moved upward when released from pressure by means of a spring 25, connected at one end to the treadle and at the other end to the standard, and also as the treadle is moved upward by the spring 25 the cam-lever is moved out of its operative engagement with the shank 16, so that the shanks may move together by gravity, separating the jaws from the calk or the like. On the outer side of the table is an abutment against which a horseshoe or other work is designed to be engaged to prevent rotary movement thereof when a calk or the like is tightened. This abutment consists of a pin 26, extended upward from the table.

In the operation the calk is to be placed in position as far as possible by hand, and then the calk is to be inserted between the jaws while open with the shoe against the abutments. Then by forcing the foot-treadle downward the jaws will be caused to tightly clamp the calk, after which the jaws will be rotated through the medium of the gearing.

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

1. A wrench comprising a support, a pair of jaws mounted in the support, means for moving the jaws to clamping position, a gear-wheel through which the jaws loosely pass and with which the jaws rotate, and a gear-wheel engaging with the first-named gear-wheel.

2. A wrench comprising a pair of jaws, a support for the jaws, a cam-lever mounted on one of the jaws and adapted for engagement with the other jaw, means for imparting rotary motion to the jaws, a treadle, and a rod having

connection at one end with said lever and at the other end having a universal-joint connection with the treadle.

3. A wrench mechanism comprising a standard, a table extended from said standard and having spaced upper and lower members provided with openings, jaws having shank portions extended through said openings, the said jaws between the table members having angular portions, a bevel-gear arranged between the table members and having an opening corresponding to the angular portions of the shanks and adapted to receive the same, the said opening having its walls flared outward and downward, a cam-lever pivoted to one of the shanks and adapted to engage with the other shank, a foot-treadle mounted to swing on the standard, a rod having a universal-joint connection with said treadle and also connecting with said lever, and a driving bevel-gear engaging with the first-named bevel-gear.

4. A wrench mechanism comprising a standard, a table extended from said standard and having spaced upper and lower members provided with openings, jaws having shank portions extended through said openings, the said jaws between the table members having angular portions, a bevel-gear arranged between the table members and having an opening cor-

responding to the angular portions of the shanks and adapted to receive the same, the said opening having its walls flared outward and downward, a cam-lever pivoted to one of the shanks and adapted to engage with the other shank, a foot-treadle mounted to swing on the standard, a rod having a universal-joint connection with said treadle and also connecting with said lever, a driving bevel-gear engaging with the first-named bevel-gear, and a spring for moving the treadle upward.

5. A wrench comprising a standard, a table extended from said standard and having an opening, an abutment on the upper side of said table, a pair of jaws having shanks extended loosely through said opening, a bevel-gear having an opening to receive the jaws and in which said jaws are movable laterally, one of said shanks having a slot, a cam-lever pivoted in said slot, a foot-treadle, and a rod extended from said lever and having a universal-joint connection with the foot-treadle.

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

CHARLES H. RITTS.

Witnesses:

CALVIN KELLER,  
GEO. L. BASSE.