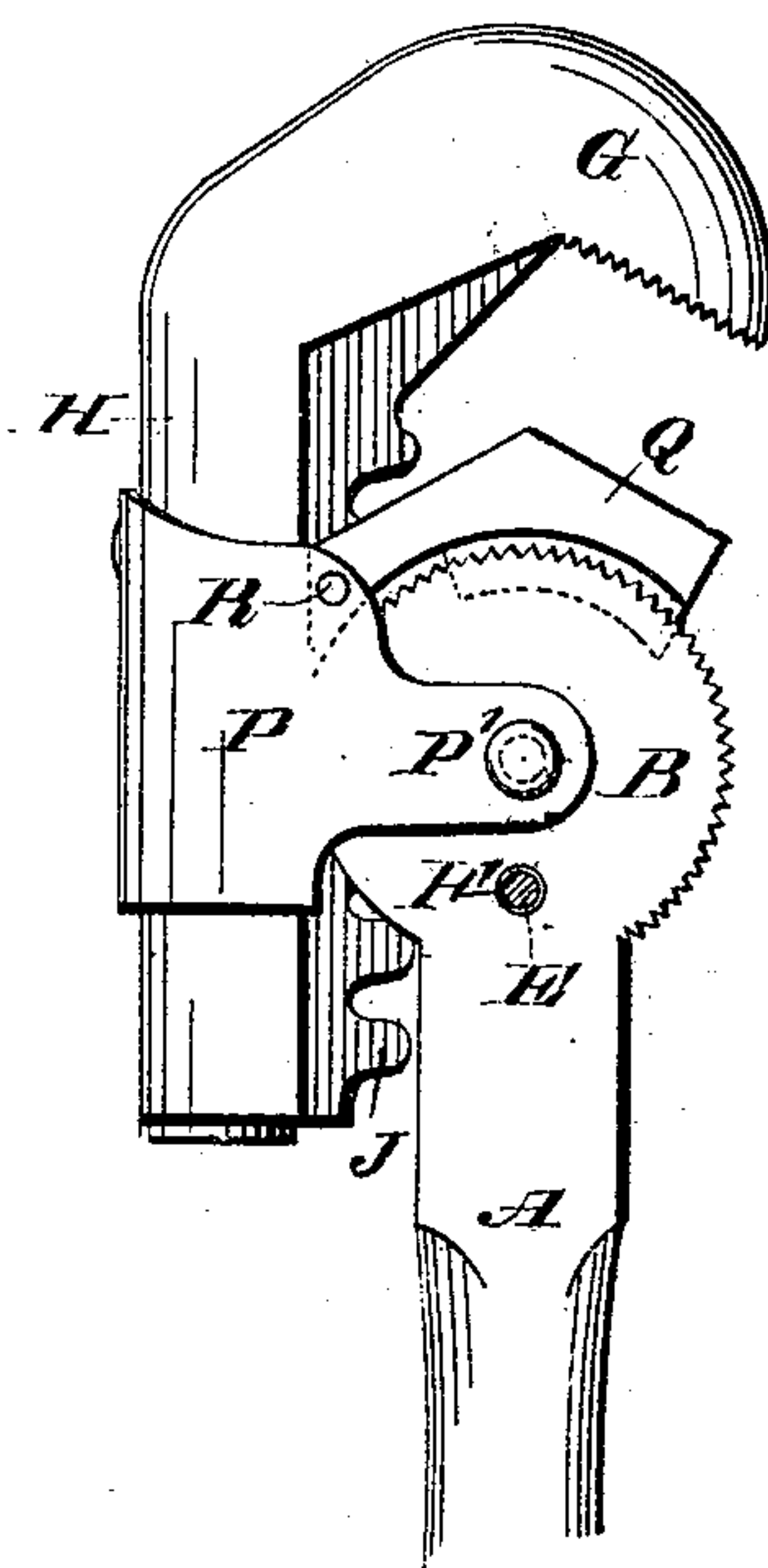
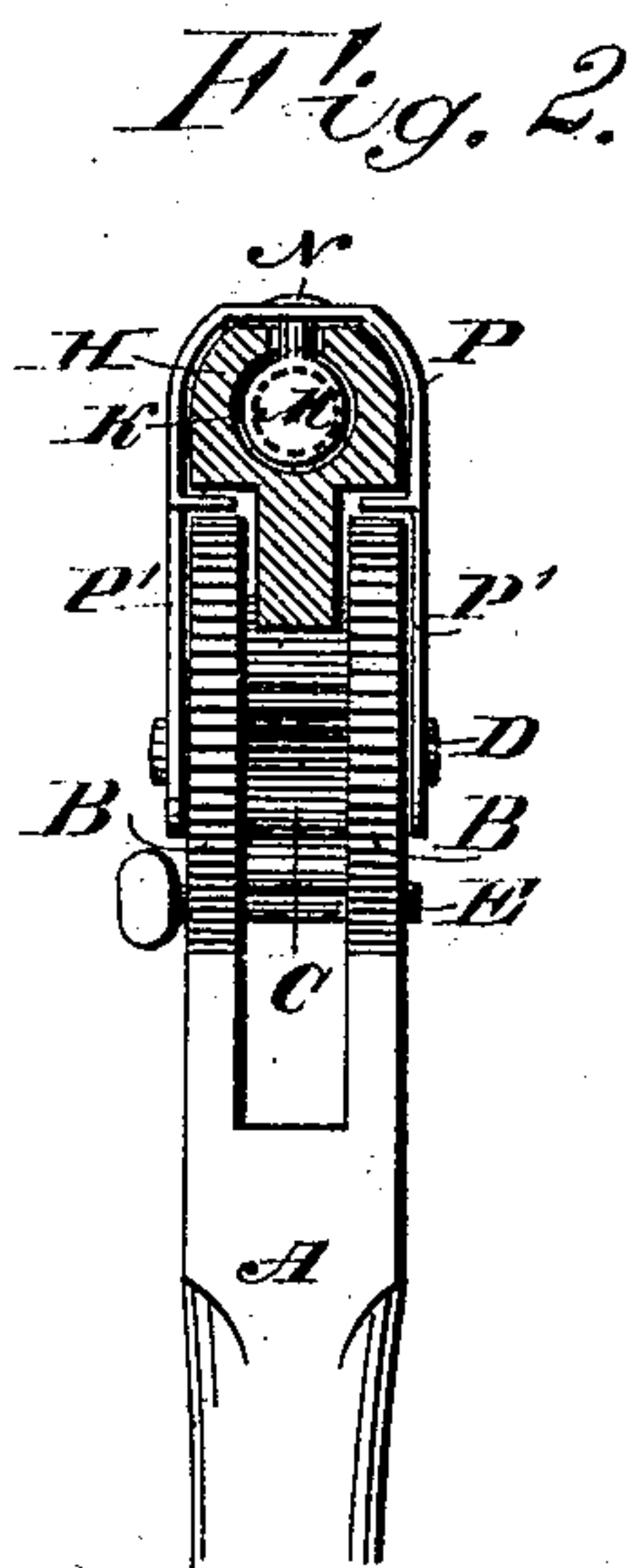
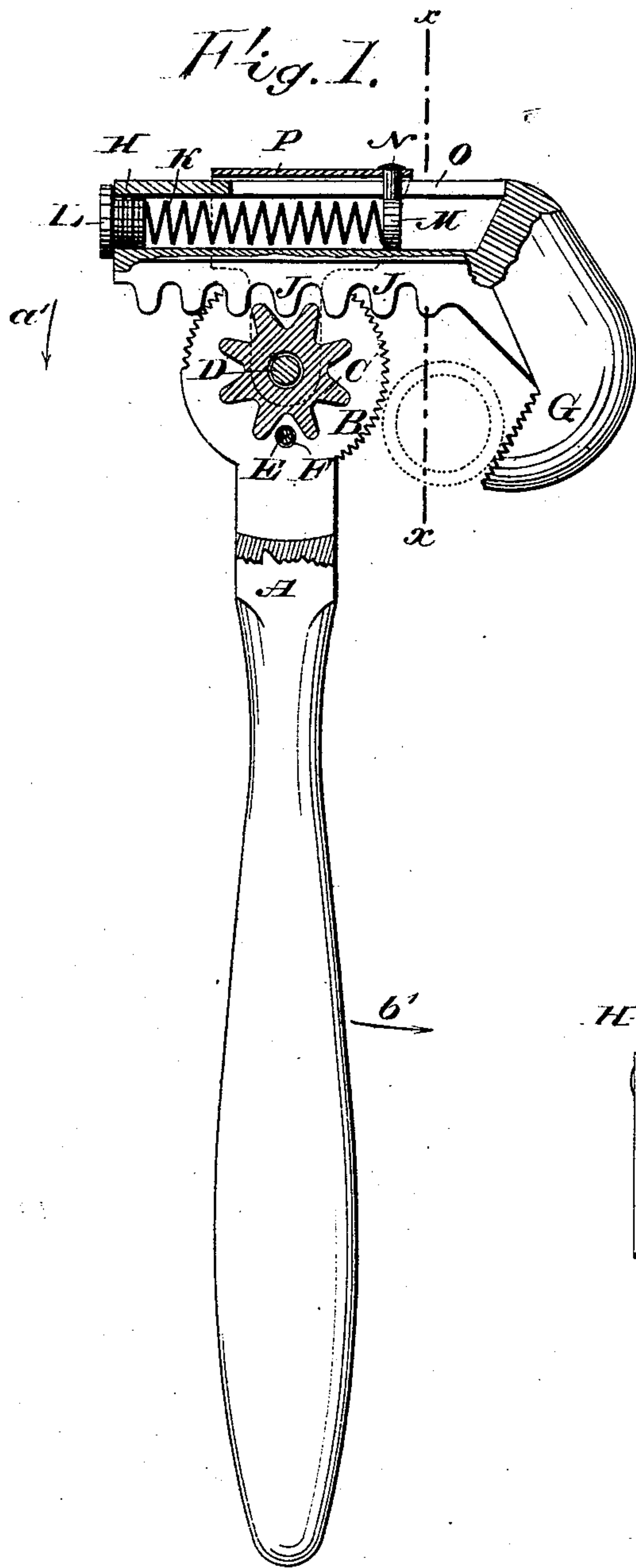


(No Model)

F. CAJAR.
PIPE WRENCH.

No. 270,741.

Patented Jan. 16, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRIEDERICH CAJAR, OF NEW YORK, N. Y.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 270,741, dated January 16, 1883.

Application filed December 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRIEDERICH CAJAR, of the city, county, and State of New York, have invented a new and Improved Pipe-Wrench, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved device for grasping and holding pipes and rods and for turning them on their longitudinal axis.

The invention consists of a pipe-wrench formed of a jaw attached to a holder-bar held in a clip which is pivoted to the center of a disk or disks formed on the upper end of a handle, on the center of which disk or disks a cog-wheel is pivoted, which engages with a rack on the hollow bar to which the movable jaw is attached, which hollow bar contains a spring connected with the end of the clip, through which the hollow bar passes, whereby the free jaw will be forced in the direction toward the toothed edges of the disks on the end of the handle, and will thus automatically grasp and hold the pipes or rods. The distance the jaws of the pipe-wrench are apart can be adjusted by means of a pin passing between the teeth of the cog-wheel and holding the same in position, as will be fully described and set forth hereinafter.

The invention also consists in an additional jaw, which can be held on the toothed disks, so that the wrench can be used like an ordinary monkey-wrench for turning nuts, &c.

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

Figure 1 is a longitudinal elevation of my improved pipe-wrench, parts being broken out and others shown in section. Fig. 2 is a cross-sectional elevation on the line xx , Fig. 1. Fig. 3 is a longitudinal view of a modification of my improved pipe-wrench, showing the same adapted for use as an ordinary wrench.

The upper end of a handle, A, is forked, and parallel disks B, having toothed edges, are formed on the ends of the shanks of the fork. Between the said toothed disks a cog-wheel, C, is mounted loosely on a pintle, D, passing transversely through the centers of the disks B and through the cog-wheel C. A latch-pin, E, can be passed through apertures F in the disks

B in such a manner that the said locking-pin passes between two teeth of the cog-wheel C. The disks B form the fixed jaw of the pipe-wrench. A hooked jaw, G, the lower surface of which is toothed, is formed at the end of a hollow bar, H, provided on its under or inner surface with a rack, J, fitting between the edges of the disks B, and adapted to engage with the cog-wheel C. A spring, K, contained within the hollow bar H, rests against a screw-button, L, at the lower end of the hollow bar, and its upper end rests against a disk, M, contained within the bar H, and provided with a pintle, N, passing through a longitudinal slot, O, in the bar H, and attached to a clip, P, surrounding the bar H loosely, and provided with side jaws, P', which rest on the outer surfaces of the disks B and are pivoted on the pintle D. If the wrench is to be used as an ordinary monkey-wrench, the jaw Q, which has its lower edge curved and provided with a central ridge, is placed on the toothed edges of the disks B, and is held in place by a pintle, R, passing through the clip P, as shown in Fig. 3. The upper edge of the jaw Q must be made angular, so as to be about parallel with the edges of the movable jaw G.

The operation is as follows: If the outer end of the hollow bar H is pressed downward in the direction of the arrow a' , Fig. 1, the plate M will be drawn in the same direction by its pintle N, which is firmly attached to the clip P, which swings downward with the hollow bar H, thereby, as the rack is thrown forward by the cog-wheel C, compressing the spring K. The jaw G is thus separated from the toothed edges of the disks B, and a pipe can be placed between them. If the lower end of the hollow tube H is released, the expanding spring K throws the jaw G toward the edges of the disks B, and the lower end of the hollow tube H will be swung in the inverse direction of the arrow a' , and the pipe will be held firmly between the jaw G and the disks B; the handle A being now turned in the direction of the arrow b' , the grip of the jaws on the pipe will be still more firm. The cog-wheel C cannot turn, as it is held in position by the locking-pin F. If the said cog-wheel should not be locked in position, the spring K would not throw the jaw G toward the edges of the disks B, but would simply turn the cog-wheel C. By means of the said

cog-wheel the pipe-wrench can be adjusted for pipes of greater or less diameter in the following manner: The maximum sized pipe for which the wrench is to be adjusted is placed
5 between the jaws of the disks B and the jaw G, and then the locking-pin E is passed through the disks B, and through a recess between two teeth of the cog-wheel C, whereby the said wheel C will be locked in position, and the
10 movable jaw G and the hollow bar H will operate as described above. The operation is the same if the jaw Q is held on the disks B. The several parts, except the handle, are to be made of iron or steel. The especial advantage of my improved pipe-wrench is that it
15 grasps the pipe automatically, and can be adjusted for pipes of various sizes. In place of providing two toothed disks, B, and a cog-wheel, C, between them, one toothed disk
20 may be provided, and one cog-wheel or one toothed disk and a cam-wheel, as may be desired, without departing from the spirit of my invention.

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

1. In a pipe-wrench, the combination, with disk-shaped jaws formed at one end of a handle, of a movable jaw held to slide in a clip
30 pivoted on the center of the fixed jaws, substantially as herein shown and described, and for the purpose set forth.

2. In a pipe-wrench, the combination, with disk-shaped jaws formed at the upper end of
35 a handle, of a movable jaw attached to a bar held to slide in a clip pivoted to the centers of the disk-shaped jaws, and of a spring for pressing the movable jaws toward the edges of the

toothed disks, substantially as herein shown and described, and for the purpose set forth. 40

3. In a pipe-wrench, the combination, with the toothed disks B, of a cog-wheel, C, the hollow bar H, provided with a jaw, G, and a rack, J, and of the clip P, and the spring K, connected therewith, substantially as herein
45 shown and described, and for the purpose set forth.

4. In a pipe-wrench, the combination, with the toothed disks B, of a cog-wheel, C, the hollow bar H, provided with a jaw, G, and a rack, J, the clip P, the spring K, and the locking-pin E, adapted to be passed through the disks B and between two teeth of the wheel C, substantially as herein shown and described, and
50 for the purpose set forth.

5. In a pipe-wrench, the combination, with the toothed disks B, of a cog-wheel, C, a hollow bar, H, provided with a rack, J, and a jaw, G, of the clip P, pivoted on the center of the disks B, the spring K, and the disk connected with
55 the clip P, substantially as herein shown and described, and for the purpose set forth.

6. In a pipe-wrench, the combination, with the toothed disks B, of a cog-wheel, C, between them, the hollow bar H, provided with a jaw, G, and a rack, J, the spring K, the clip P, pivoted on the center of the disks B, and connected with the spring K, and of the jaw G, formed on the end of the hollow bar H, substantially as herein shown and described, and
65 for the purpose set forth. 70

FRIED. CAJAR.

Witnesses:

OSCAR F. GUNZ,
EDGAR TATE.