

No. 696,405.

Patented Apr. 1, 1902.

R. A. BREUL.
CLAMPING WRENCH.

(Application filed Sept. 28, 1900.)

(No Model.)

Fig. 2.

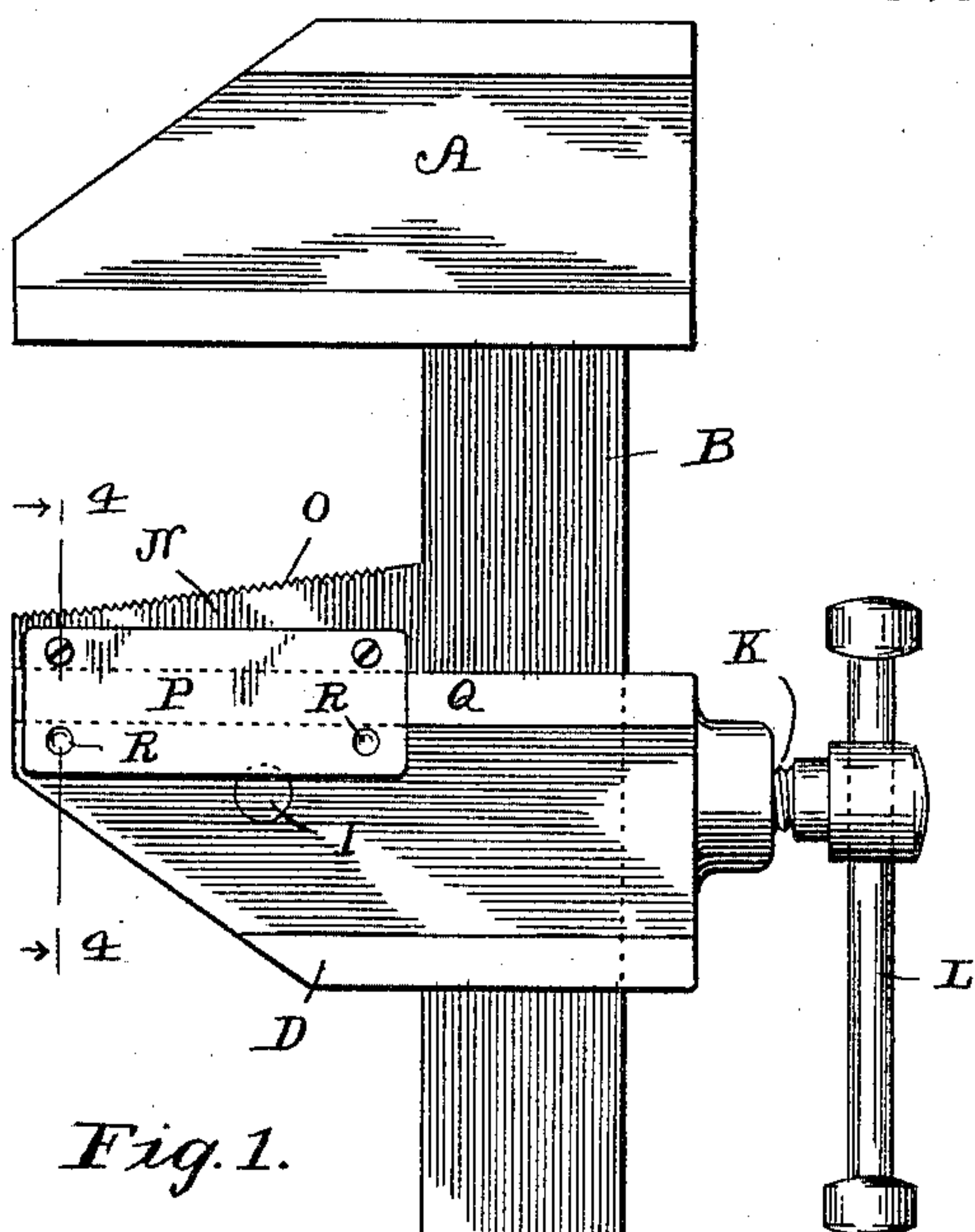


Fig. 1.

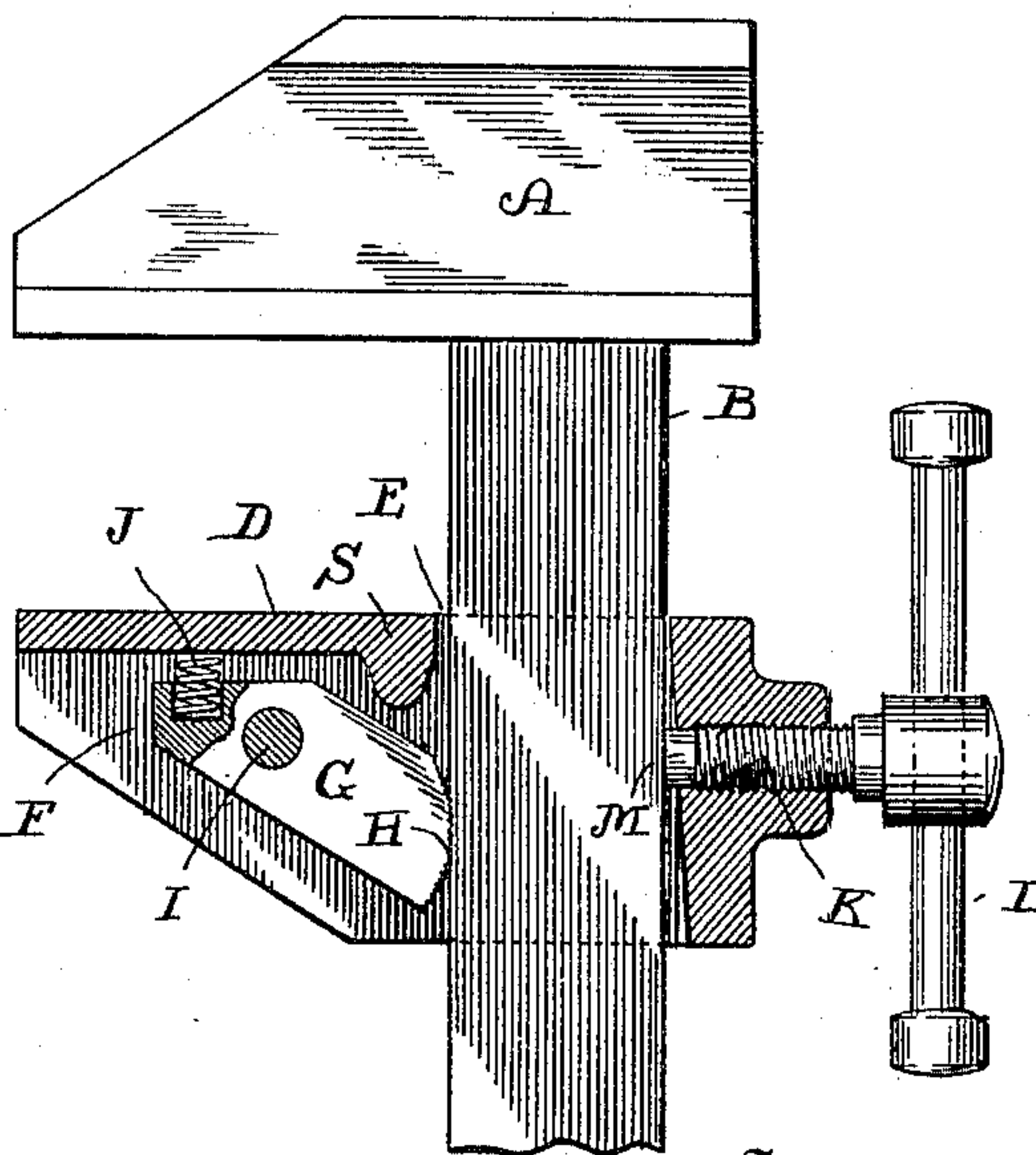
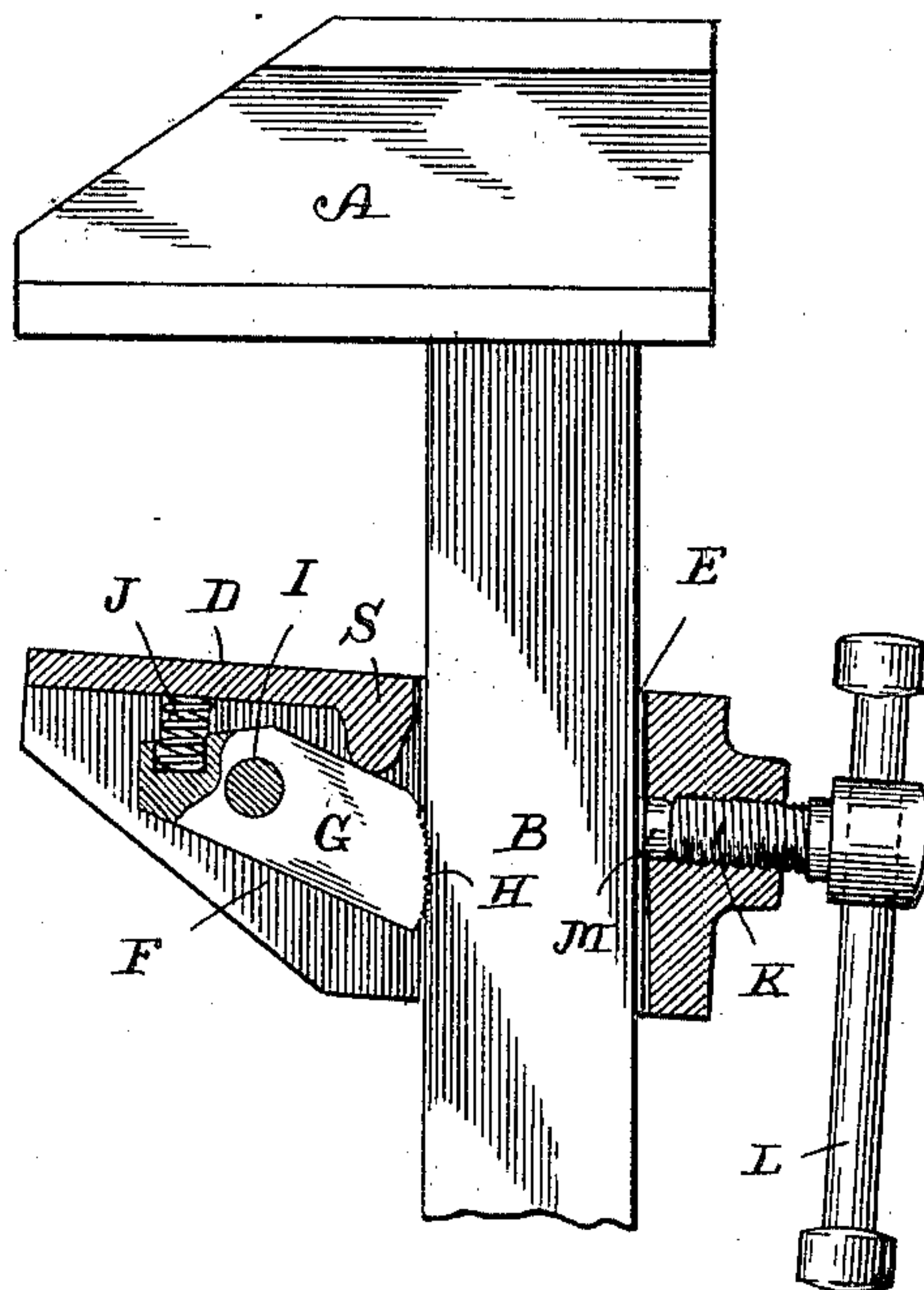
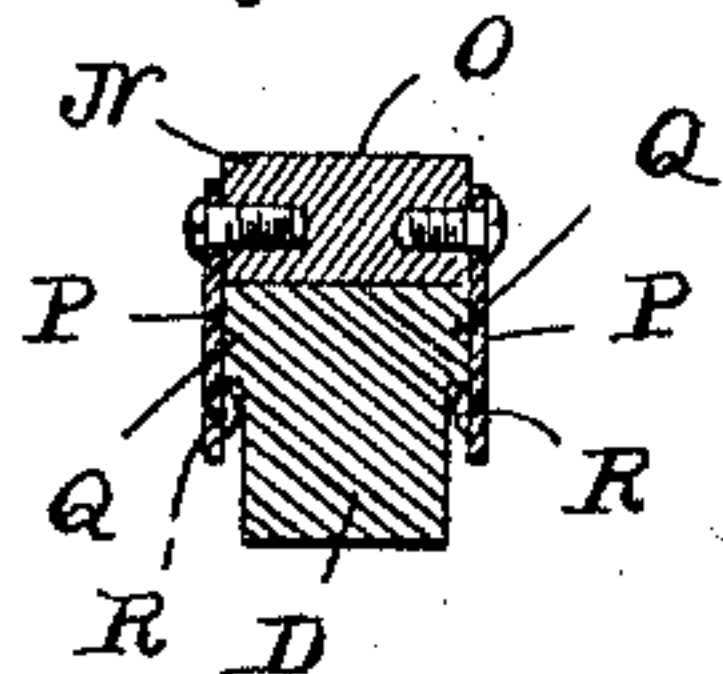


Fig. 3.

Fig. 4.



Witnesses

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RICHARD A. BREUL, OF BRIDGEPORT, CONNECTICUT.

CLAMPING-WRENCH.

SPECIFICATION forming part of Letters Patent No. 696,405, dated April 1, 1902.

Application filed September 28, 1900. Serial No. 31,350. (No model.)

To all whom it may concern:

Be it known that I, RICHARD A. BREUL, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Clamping-Wrenches, of which the following is a specification.

My invention relates to new and useful improvements in clamping-wrenches, and is adapted to be used for turning nuts and pipes and likewise equally as applicable to be used as a clamp for other purposes.

It is the object of my invention to provide a tool which is adapted for a large variety of work, especially pipework wherein it is necessary to have means for clamping and retaining a pipe while cutting, threading, or adjusting a coupling thereon.

The clampable feature of my wrench makes it particularly desirable for machinists and other mechanics in their various branches of labor.

I am aware that various wrenches have been devised comprising in part a slidable jaw adapted to be adjusted to and from a fixed jaw; but these are more or less objectionable. I have not only improved upon the adjustable feature of such a jaw, but have provided additional means whereby said jaw may be positively clamped into position when set, besides being so constructed as to more tightly grasp the article placed therein, all by the same adjustment of the clamping mechanism.

With the above objects in view my invention resides and consists in the novel construction and combination of parts shown upon the accompanying sheet of drawings, forming a part of this specification, upon which similar characters of reference denote like or corresponding parts throughout the several figures, and of which—

Figure 1 shows a side elevation of my improved clamping-wrench complete. Fig. 2 is a sectional elevation with the handle broken away, showing the adjustable jaw free to slide on the bar. Fig. 3 is a detailed sectional view similar to Fig. 2, the adjustable jaw having been forced forward by the combined action of pawl G, its pivot, and tightening-

screw K. Fig. 4 is a detailed sectional view on line 4 4 of Fig. 1.

Referring in detail to the characters of reference marked upon the drawings, A indicates a fixed jaw, B the bar therefor, and C the handle proper, which, as will be apparent, is a continuation of the before-mentioned bar. Upon the handle-bar is adjustably mounted a movable jaw D, the same being provided with a suitable opening or way E, through which the handle-bar operates for adjustment, and T is a stop upon the handle to prevent the movable jaw from slipping off. In addition to the way E, I also form in the jaw D a cavity F to receive a pawl G, pivoted to a stud I and having a serrated segmental face H. The free end of this pawl is engaged by a small spring J, the opposite end of which latter abuts against the inner wall of the jaw, thus serving to force the serrated end of said pawl up against the lug S in position to be engaged by the wrench-bar when forced up by the clamping-screw.

I prefer to have the edges of the handle-bar smooth and the serrations upon the pawl very fine, so as to permit the free adjustment of the loose jaw at any desirable position on the bar and likewise a positive engagement when the tool is in operation.

To secure the jaw in place, I provide upon the back a clamping device comprising an adjustable screw K, having an operating-bar L and a shoe M, against which latter the screw operates when engaging the back edge of the handle-bar. It will be noted that the position of the screw is slightly in advance of that of the pawl, thus insuring a forward thrust of the operative end of the jaw when the screw is being tightened, as shown in Fig. 3, thereby firmly forcing the jaw up against the article to be clamped and likewise firmly securing the jaw to the bar.

If it is desired to use my wrench for pipe-work, I employ in connection therewith a detachable block N, as shown in Figs. 1 and 4, having a serrated face O to engage the pipe. This block is secured to the adjustable jaw by means of sheet-metal guides P P at either side, the same being fixed to the block N and slidably engaging ways Q of the jaw by means

of small teats R R, forced inward from the sheet metal sufficiently to engage the jaw sides. Thus it will be seen that said pipe-gripping jaw may be readily attachable or detachable, as desired.

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

1. In a clamp and wrench of the class described, the combination with a handle-bar having a fixed jaw, of a loose jaw free to slide on said bar and containing a pawl arranged to impinge the handle-bar, and further, to lift and force the jaw forward against the object engaged thereby.

2. In a clamp of the class described, a fixed jaw, a bar, a movable jaw having means to be drawn thereby against the clamping-bar and a pawl with roughened end surface to engage the smooth front side of said bar and adapted to force the sliding jaw toward the fixed one.

3. In an adjustable clamp, a fixed jaw and bar, a movable jaw upon said bar, a spring-actuated pawl pivoted within said jaw having a serrated face to engage the smooth edge of the bar, an adjustable screw in the back of the jaw adapted to engage the bar in a manner to force the pivot end of the pawl forward together with the jaw, toward the fixed jaw.

4. In a combined clamp and wrench, the combination of a bar carrying a fixed and a slidable jaw, of a pivoted pawl secured within the latter having a swinging, impinging and segmentally-shaped surface for engagement with the front edge of the bar and a screw at the rear end of the jaw to draw the movable jaw against the bar and also toward the fixed jaw, and finally to secure the jaw to the bar.

5. In a combined clamping-wrench of the class described, the combination with the jaw having a handle-bar secured thereon, of a jaw movably mounted upon said bar, a pawl pivotally mounted within said movable jaw and provided with a segmental serrated face, a spring to hold the operative end of the pawl in engagement with the bar, a screw adjustably mounted in the back of the jaw and arranged to firmly secure the jaw to the bar and simultaneously acting in conjunction with the pawl to provide a forward thrust to the operative end of said jaw.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 26th day of September, A. D. 1900.

RICHARD A. BREUL.

Witnesses:

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