

(No Model.)

P. FRICHETTE.
PUMPING APPARATUS.

No. 567,741.

Patented Sept. 15, 1896.

Fig. 1.

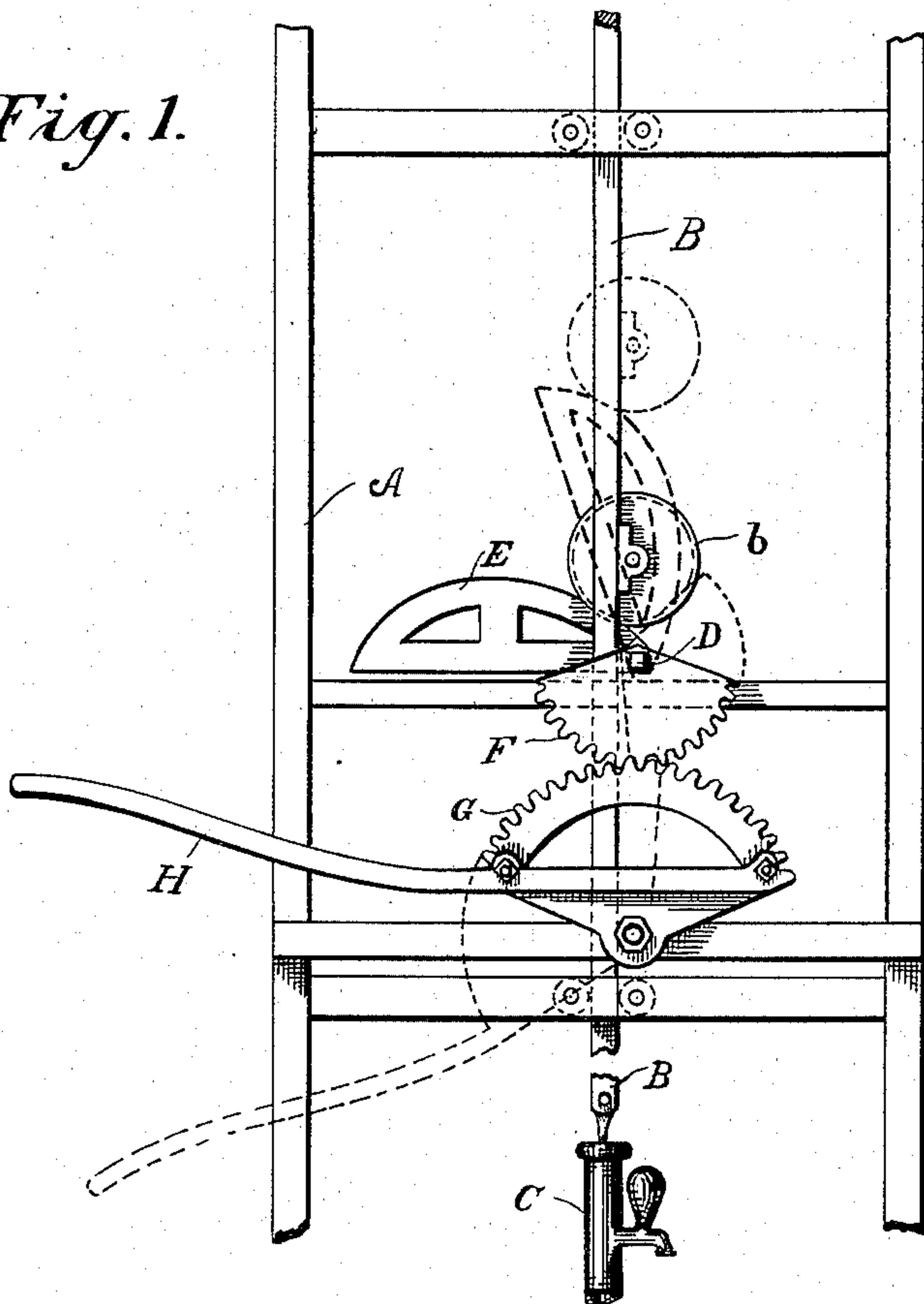


Fig. 2.

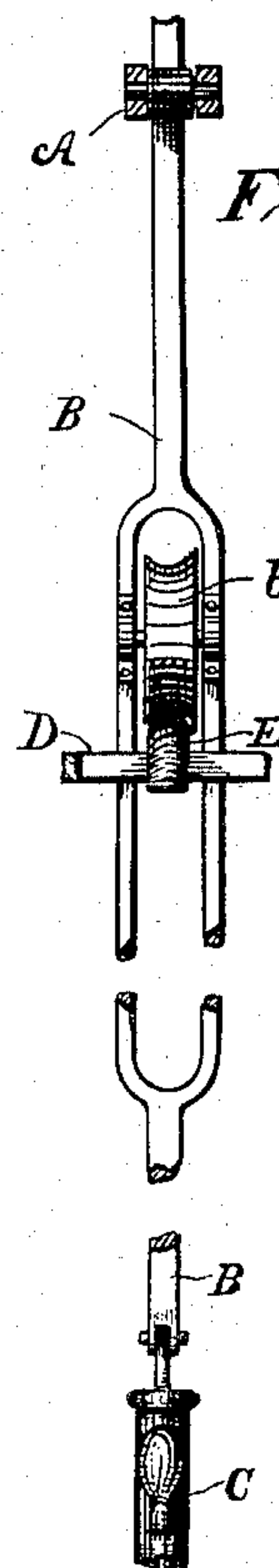
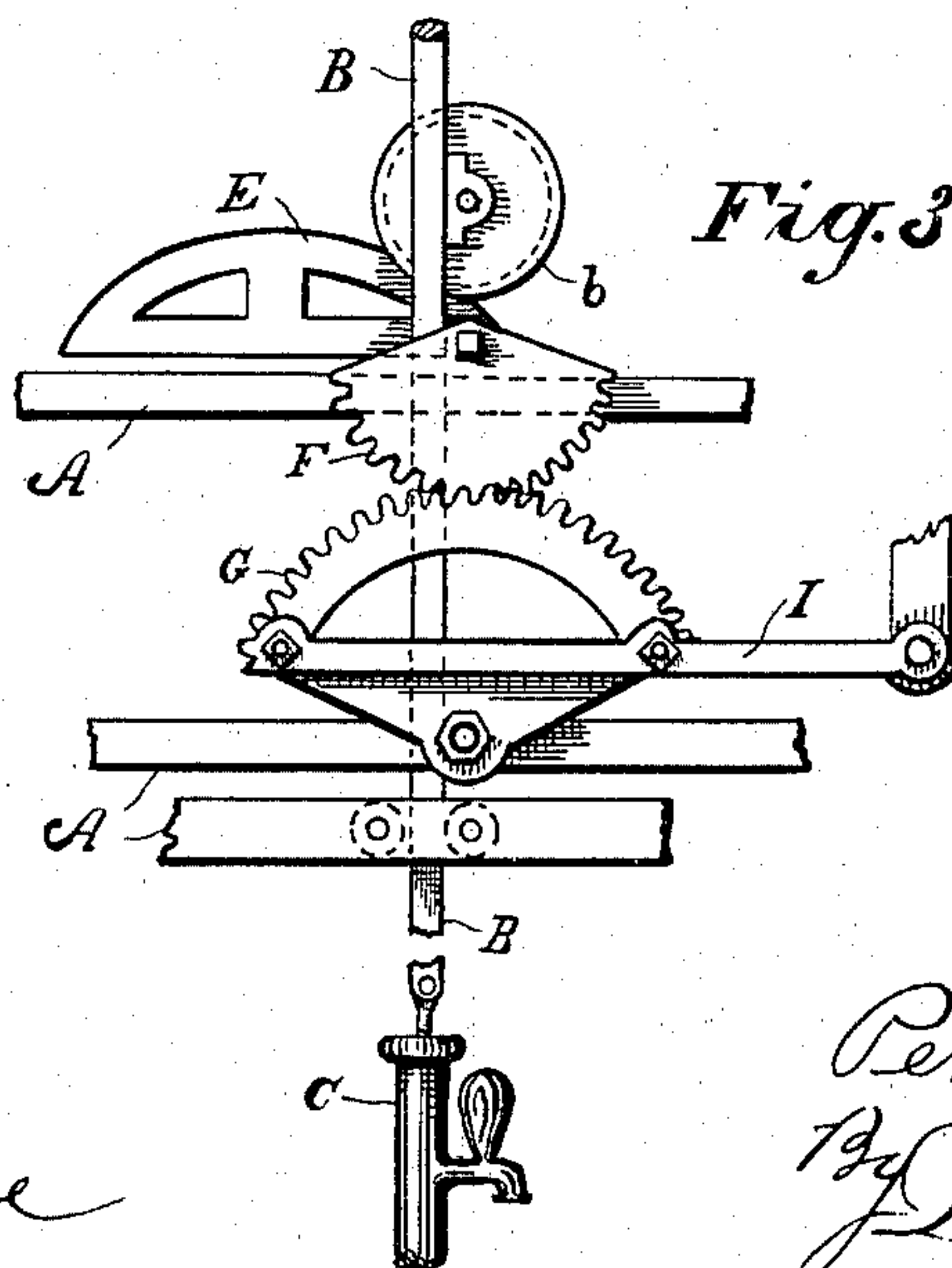


Fig. 3.



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UNITED STATES PATENT OFFICE.

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PUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 567,741, dated September 15, 1896.

Application filed May 26, 1896. Serial No. 593,116. (No model.)

To all whom it may concern:

Be it known that I, PETAR FRICHETTE, a citizen of the United States, residing at Sheridan, county of Placer, State of California, have invented an Improvement in Pumping Apparatus; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of pumping apparatus; and it consists in the novel construction, arrangement, and combination hereinafter described of the mechanism by which the power is applied to the pump-rod to reciprocate it.

The object of my invention is to provide a simple and effective mechanism for applying the power by hand, or a windmill, or horse-power requiring a reciprocating or oscillating movement, said application of power being made by means in the use of which any length of stroke may be given the pump-rod without the employment of a crank, and the consequent increase of power which follows an increase of said crank, to provide an increased stroke.

Referring to the accompanying drawings, Figure 1 is a side elevation of my pumping apparatus, the dotted lines showing the second position. Fig. 2 is an edge view. Fig. 3 is a view showing the lever I for a windmill attachment.

A is a framework in which is guided the vertically-reciprocating rod B of the pump C. This rod is vertically slotted or divided and carries in its opening a roller b. In frame A is mounted a shaft D, to which is secured the segmental cam E, which impinges on roller b. Now it will be seen that if power be applied to oscillate the shaft D the cam will rise up under the roller b, and thus lift the pump-rod B, and as said cam descends when the shaft rocks back again, for no more than an oscillating movement is contemplated, the roller and rod will follow it down. In order to provide for the minimum purchase, the center of oscillation of the cam is placed as nearly under the roller as possible, and for this purpose, it will be seen, the axis of the roller is mounted sufficiently to one side of the vertical line of rod movement as to permit the shaft to be placed close up to the rod and almost if not

quite directly under the roller. By this arrangement the lift of the cam is almost vertical throughout its whole movement and requires no greater force at the end than at the beginning of its movement. The length of stroke may, be as desired, dependent upon the arc of oscillation, and no greater force is required for a longer than a shorter stroke. This result is attained without the use of a crank, with which, to increase the stroke, the length of crank must be increased and the power to operate correspondingly increased. The power to oscillate the shaft D is effected through the intervention of segment-gears F and G and a lever, which in the case of a hand-pump is represented by the handle H and in the case of a windmill by the connecting-lever I, which said lever may also be reciprocated by horse-power. These powers, for the class of work to which my apparatus is adapted, result in reciprocating or oscillating movements, and the mechanism shown and described is adapted for their application, thus providing a simple, economical, and effective machine for hand-power, windmill, or horse-power.

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

An improved pumping apparatus consisting of a pump the rod of which is longitudinally slotted, a roller mounted in said slot with its axis at one side of the vertical line of the rod, a horizontal shaft mounted in the frame of the apparatus approximately in the vertical plane of the axis of the roller, a segment secured at its upper side to said shaft, a segmental cam passing through the slot of the rod and secured at one end to the shaft, and adapted to impinge on said roller, a driving-segment secured vertically in line with the driven segment, pivotally secured at its lower side and having its upper side engaging the lower side of the driven segment, and means for oscillating the driving-segment.

In witness whereof I have hereunto set my hand.

PETAR FRICHETTE.

Witnesses:

WM. F. BOOTH,
S. H. NOURSE.