

(No Model.)

H. P. HUMPHREY.
MECHANICAL OILER.

No. 309,954.

Patented Dec. 30, 1884.

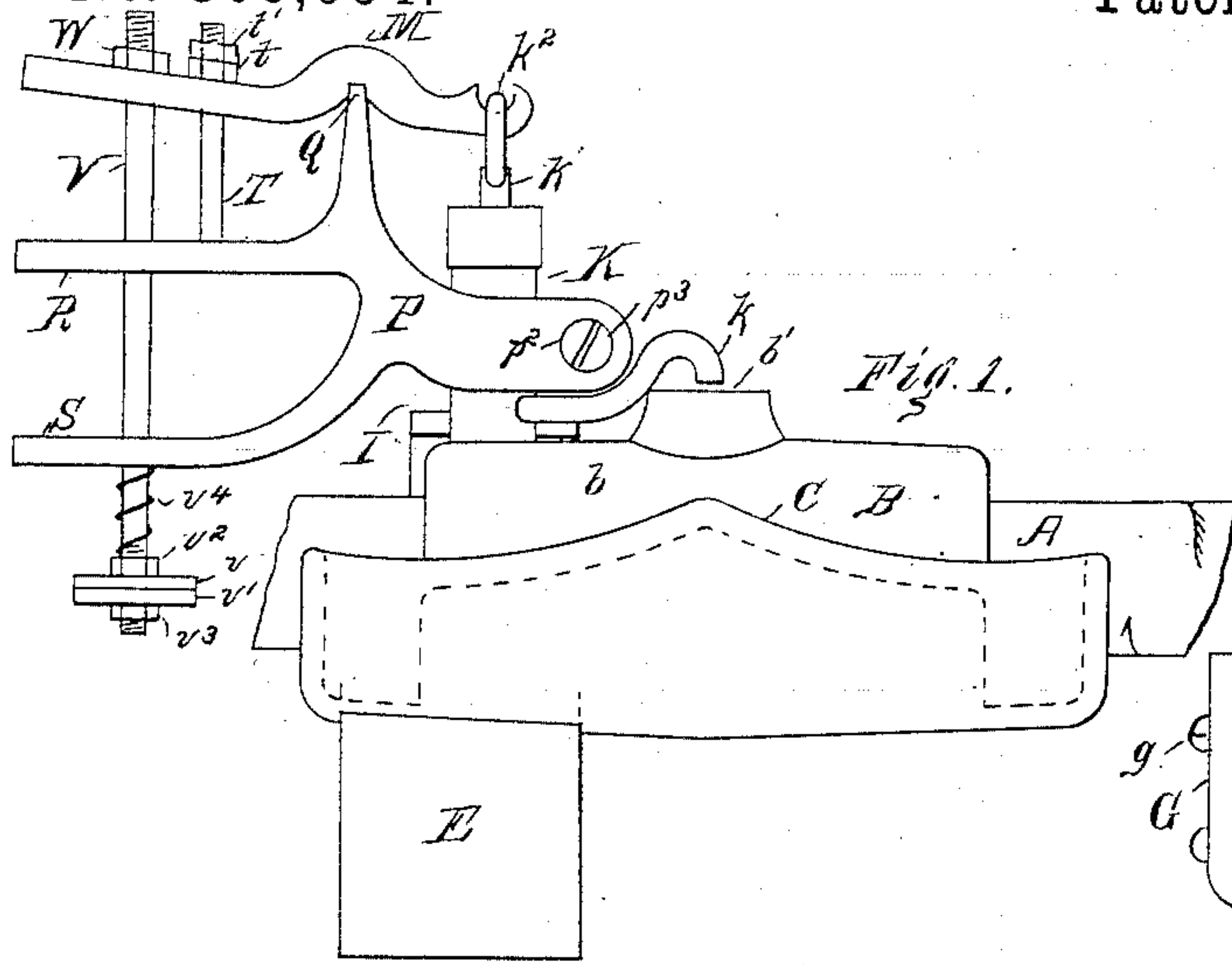


Fig. 1.

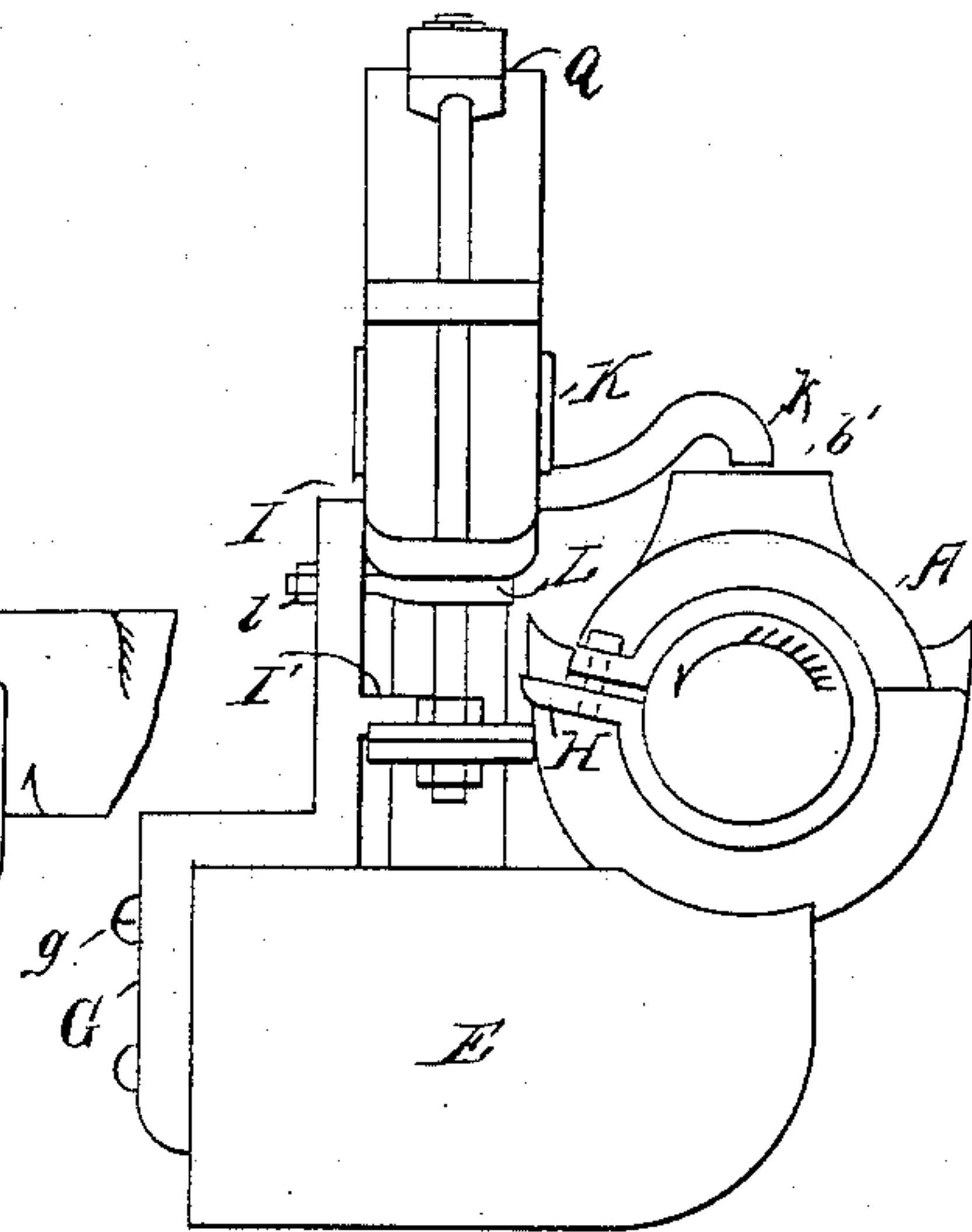


Fig. 2.

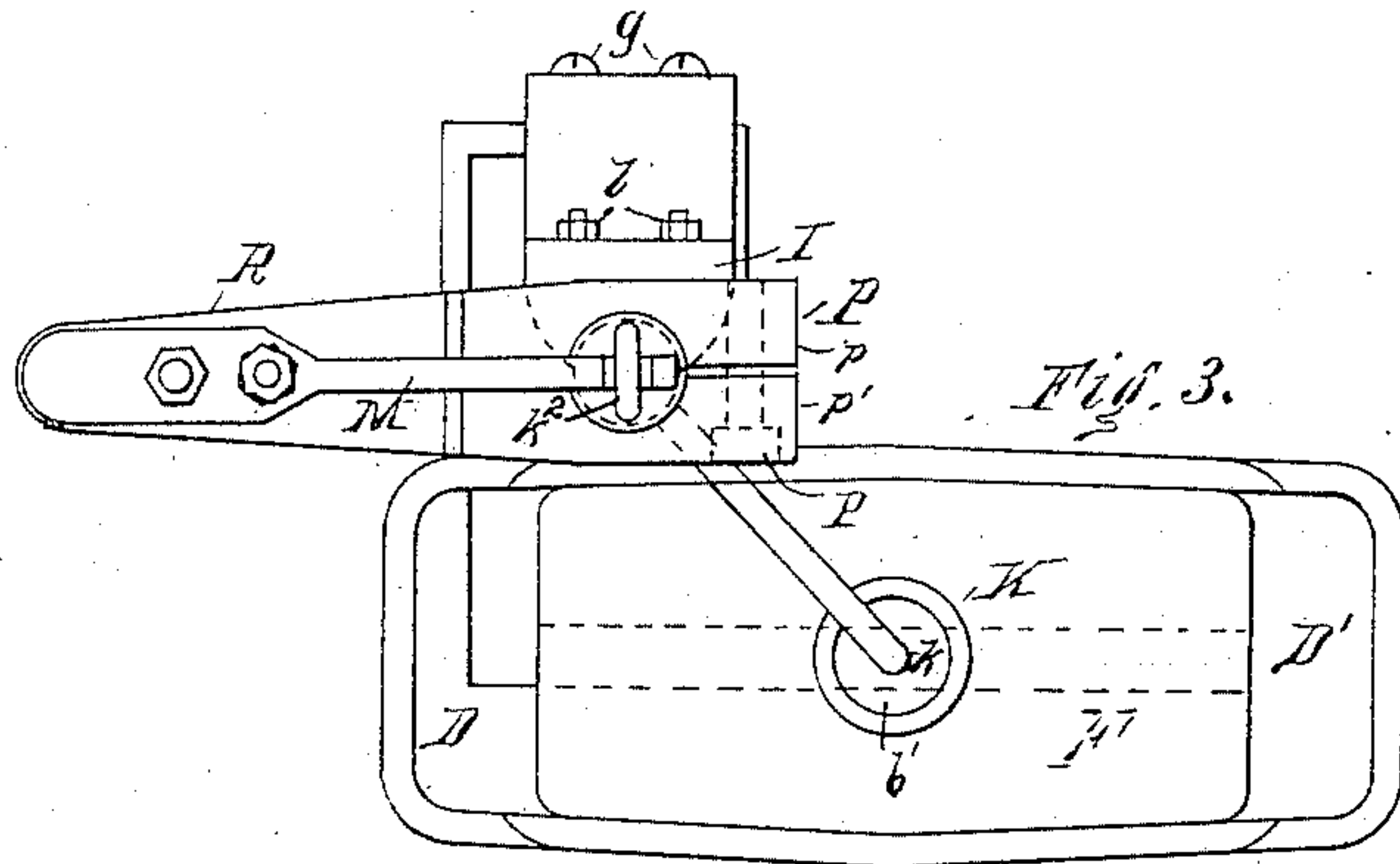


Fig. 3.

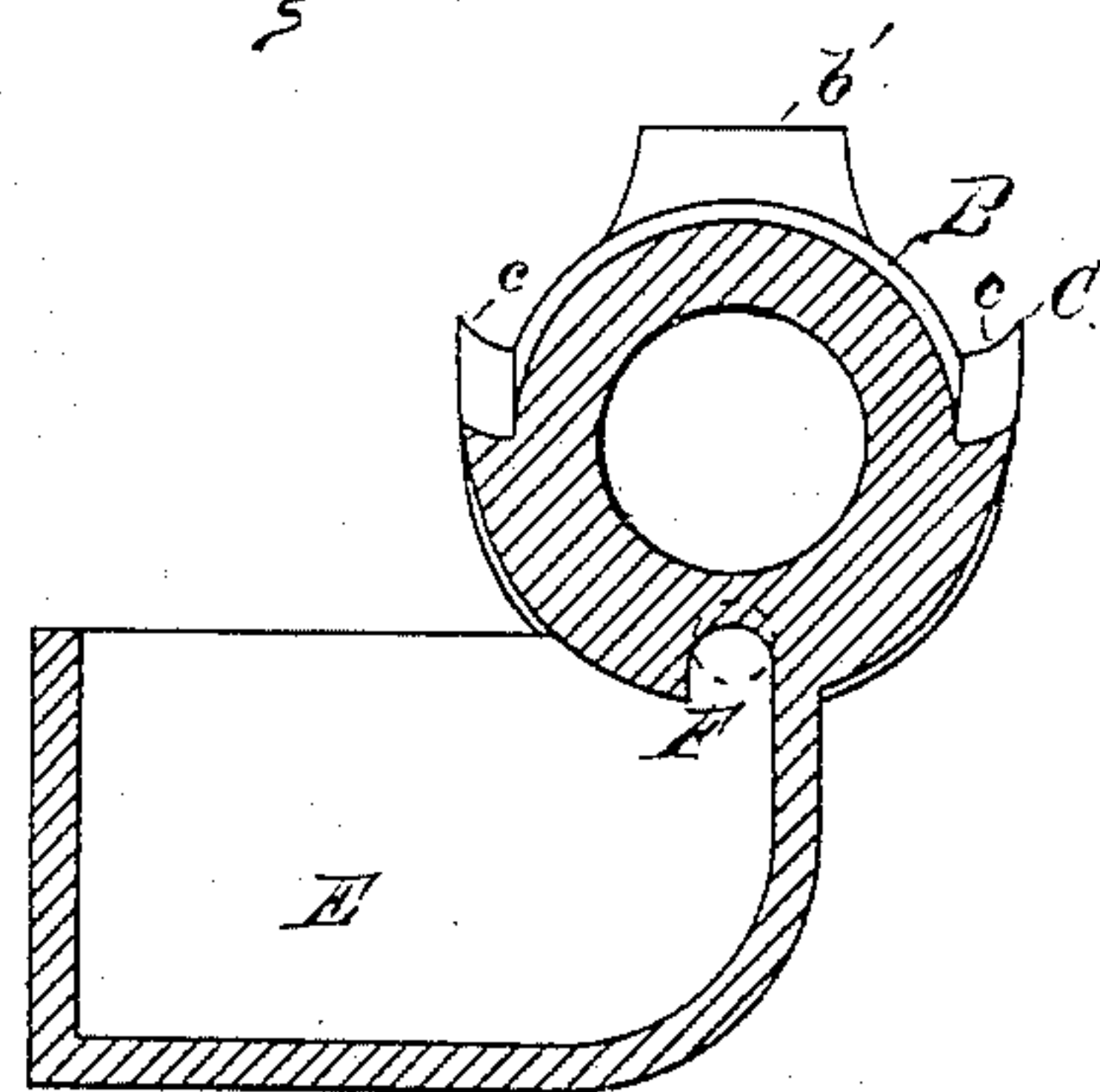


Fig. 4.

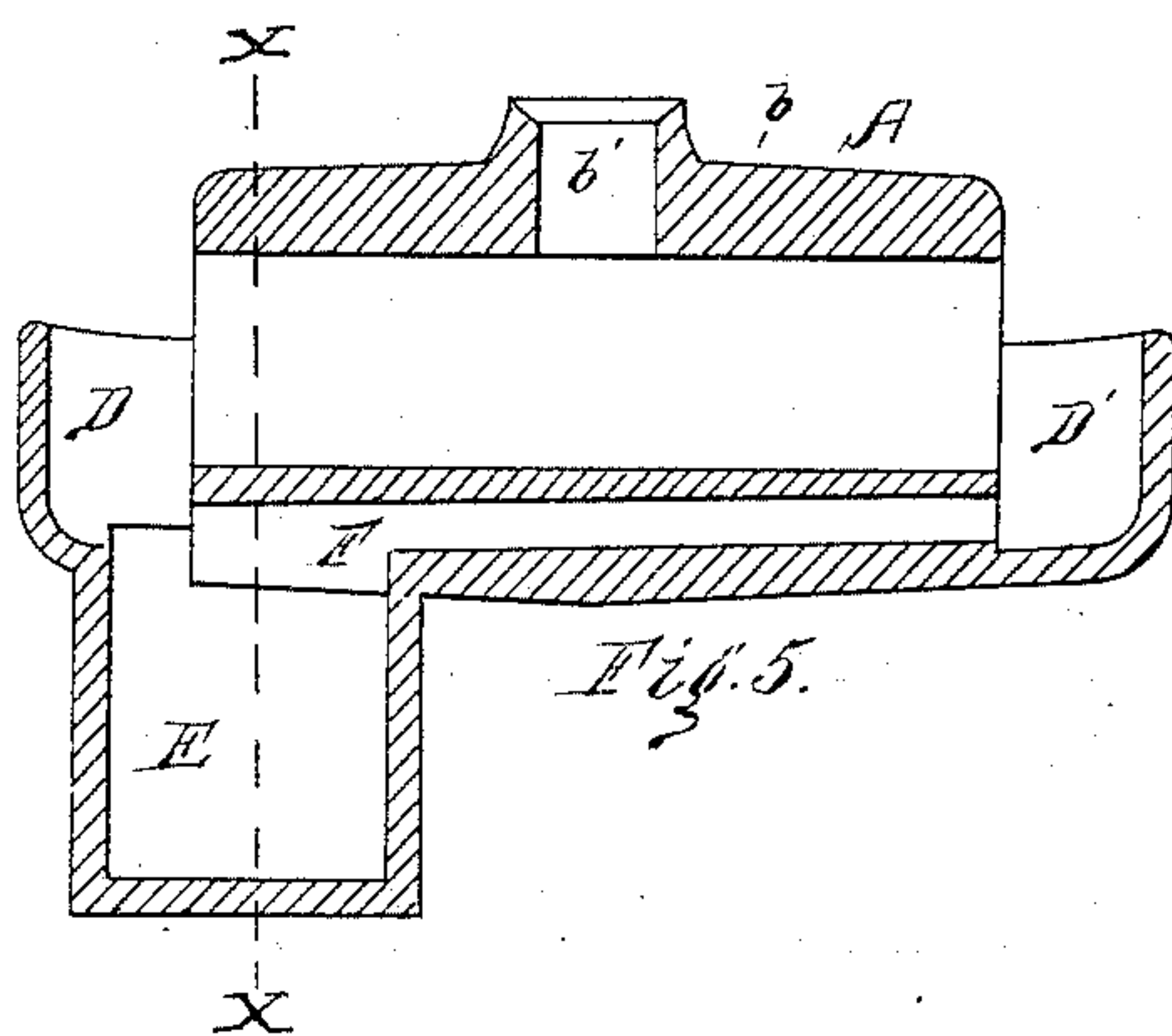


Fig. 5.

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UNITED STATES PATENT OFFICE.

HENRY P. HUMPHREY, OF LOWELL, MASSACHUSETTS.

MECHANICAL OILER.

SPECIFICATION forming part of Letters Patent No. 309,954, dated December 30, 1884.

Application filed April 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. HUMPHREY, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Improvement in Mechanical Oilers, of which the following is a specification.

My invention relates to mechanical oilers for bearings; and it consists in the devices and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of a journal-box, with an oil-pump attached thereto; Fig. 2, an end view of the same; Fig. 3, a plan of the same; Fig. 4, a vertical cross-section of the journal-box, without the pump, on the line *xx* in Fig. 5; Fig. 5, a central longitudinal section of the journal-box without the pump.

A is a horizontal shaft. The box B is intended to be ordinarily of cast-iron, and is provided with an oil-hole, *b'*, in the top, and is further provided on each side with a ledge, C, which descends from about midway between the ends of the box *b* proper toward the ends thereof, and is grooved at *c*, on its upper surface, as shown in Figs. 2 and 4, to form a channel to catch oil overflowing from the oil-hole *b'*. Each end of the box is provided with a drip-receiver, D D', to catch and retain the oil which drips from the shaft at the ends of the box proper, and also to receive the oil dripping from the ends of the grooves, the grooves leading into the drip-receivers. The box is also provided with a reservoir, E, preferably cast in one piece with said box *b*, and placed beneath one of the receivers D, which opens into said reservoir. A passage, F, is cored out in the lower part of the box to connect the receiver D' to the other receiver, D, and to the reservoir E. The reservoir serves as a well to hold the oil, and to receive the oil-pump K. The oil-pump K may be of any suitable construction, (having means whereby the piston is thrown down automatically after being lifted and let go;) but I prefer to use a pump of the construction shown and described in another application filed herewith, by which pump the oil is expelled from its nose or spout on the up-stroke, and the piston is then forced downward by a

spiral spring surrounding the piston-rod between the piston and the closed top of the pump.

The construction of the pump not being claimed herein, no further description thereof is necessary. A bracket, G, is fastened to the back side of the reservoir E by screws *g g*, and is provided with two horizontal forked projections, I I', one, I, above the other, I', in the forks of which the pump K rests, being held in said forks in a vertical position by a U-shaped strap, L, which embraces the barrel of the pump between the forks, the ends of the strap L passing through the bracket, and being held by nuts *l l*, screwed on the ends, which are threaded therefor. The nose *k* of the pump extends over and discharges into the oil-hole *b'*. The upper end of the piston-rod *k'* is provided with an eye or loop, *k''*, into which hooks one end of the lever M. A bracket, P, is secured to the pump by its clamp *p p'*. The bracket P is provided with a vertical hole just large enough to receive the pump-barrel below its head, and is slotted from said hole to the end of said bracket to form jaws *p p'*, which are drawn together to clasp the pump-barrel by the screw *p''*, which passes through one jaw, *p'*, and screws into the other, *p*, the screw being provided with an enlarged head, *p'''*. The bracket P is provided with an upward projection, Q, which is notched on the top to receive the lever M, and serves as a fulcrum therefor. The bracket P is also provided with two nearly horizontally-projecting arms, R S, in the upper, R, of which is secured a vertical stud, T, which reaches up through a slot in the lever M, and is screw-threaded above the same to enter a nut, *t*, and check-nut *t'*. By moving the nut and check-nut on said stud T the length of the stroke of the piston *k'* may be increased or diminished evidently, and the amount of the oil fed to the bearing at each stroke be thereby regulated. There is another rod, V, which passes through a slot in the lever M, and also through the two arms. The upper end of said rod V is provided with a head or enlargement, or with a screw-thread, on which turns a nut, W, the object being to prevent the rod from drawing out of the lever M. The lower end of the rod V is screw-threaded,

and carries two washers, vv' , one of which, the lower, v' , is of sheet metal, and the other, v , of which is of leather or rawhide. The washers are for a cam or wiper, H , secured on the shaft to strike upon as the shaft revolves, to raise the piston of the pump and discharge oil through its spout, and washers are used, rather than an arm projecting from the rod, in order that, however the rod may be turned, the cam may always draw down the rod V at each revolution of the shaft. The upper washer, v , is made of rawhide, to deaden the sound made by the wiper striking the washers, and to lessen wear of the parts. The washers are held in place by nuts on the rod, one, v^2 , above and the other, v^3 , below said washers.

In order that the rod V may come back to its place after being thrown upward by the wiper when the motion of the shaft is reversed, there is a spiral spring, v^4 , surrounding the rod between the lower arm, S , and the nut v^2 , and this spring v^4 pushes the rod V downward in the arms $R S$, which serve as guides therefor.

It will be seen that the box may be used without the oiler, in which case the reservoir will serve the purpose of an ordinary drip-pan, with this difference and advantage, that the pan and box will be in one piece, and may be supported in a hanger instead of being beneath the hanger, as usual. When the box is used with or without the oiler, it may be provided with a discharge-cock for emptying the same.

I claim as my invention—

1. A journal-box provided with an oil-hole with overflow-channels, one or more, and drip-receivers, an oil-reservoir, and an oil-passage connecting the end drip-receivers with the oil-reservoir, as and for the purpose specified.

2. The combination of the journal-box having an oil-reservoir, a mechanical oiler, and means, substantially as described, for securing said oiler to said box, as and for the purpose specified.

3. The combination of the journal-box and means, substantially as described, for adjustably securing said oiler to said box, as and for the purpose specified.

4. The combination of the journal-box having an oil-reservoir and a mechanical oiler, the bracket provided with forked bearings, the U -shaped strap, and nuts, as and for the purpose specified.

5. The combination of the pump, the bracket having a hole to admit said pump, and having a slot leading from said hole to the end of said bracket, and the screw, said bracket having projecting guides and a projecting fulcrum, and the lever turning on said fulcrum, as and for the purpose specified.

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Witnesses:

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