

(No Model.)

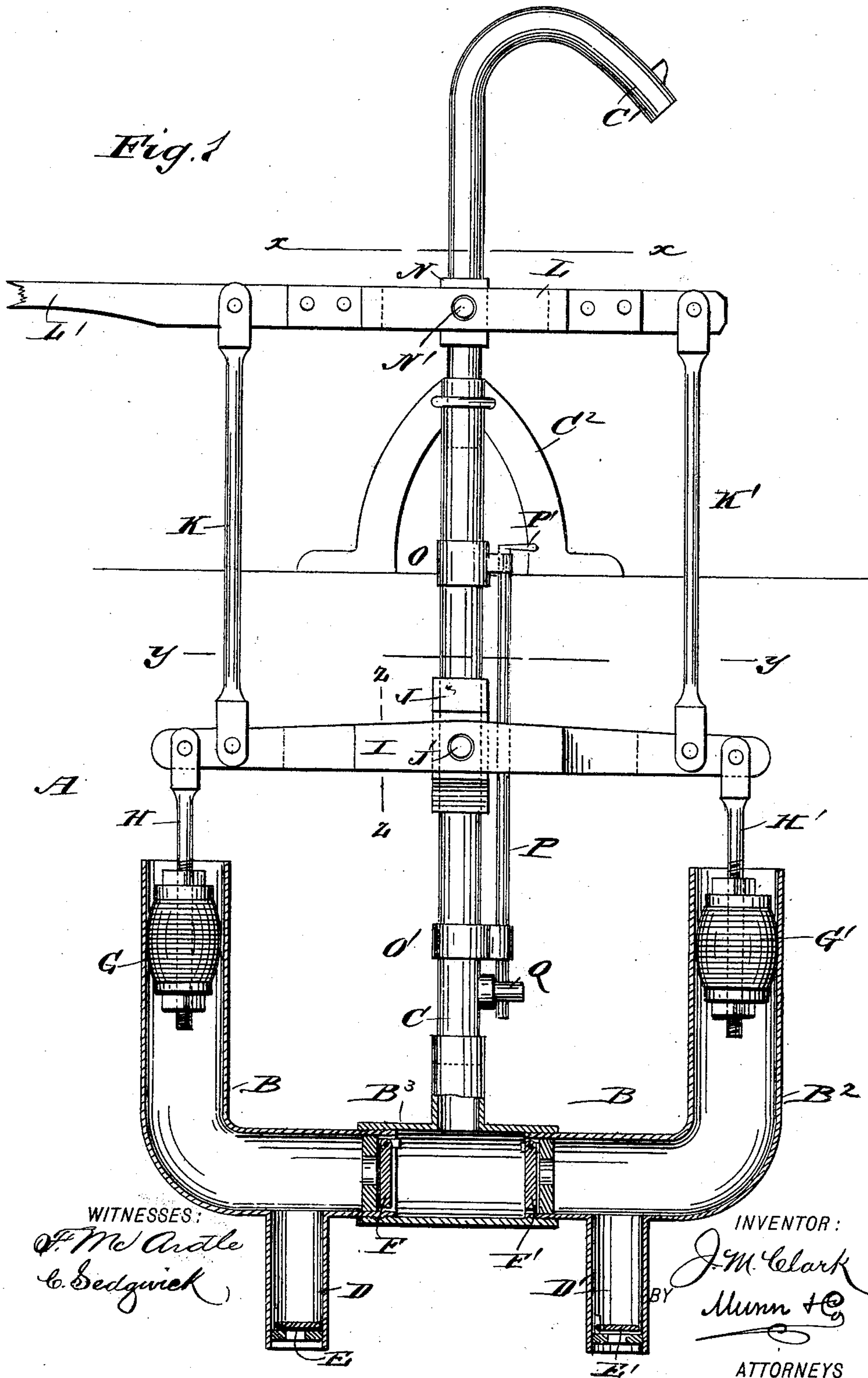
2 Sheets—Sheet 1.

J. M. CLARK.
DOUBLE ACTING PUMP.

No. 432,373.

Patented July 15, 1890.

Fig. 1



WITNESSES:

F. McArdle
C. Sedgwick

INVENTOR:

J. M. Clark
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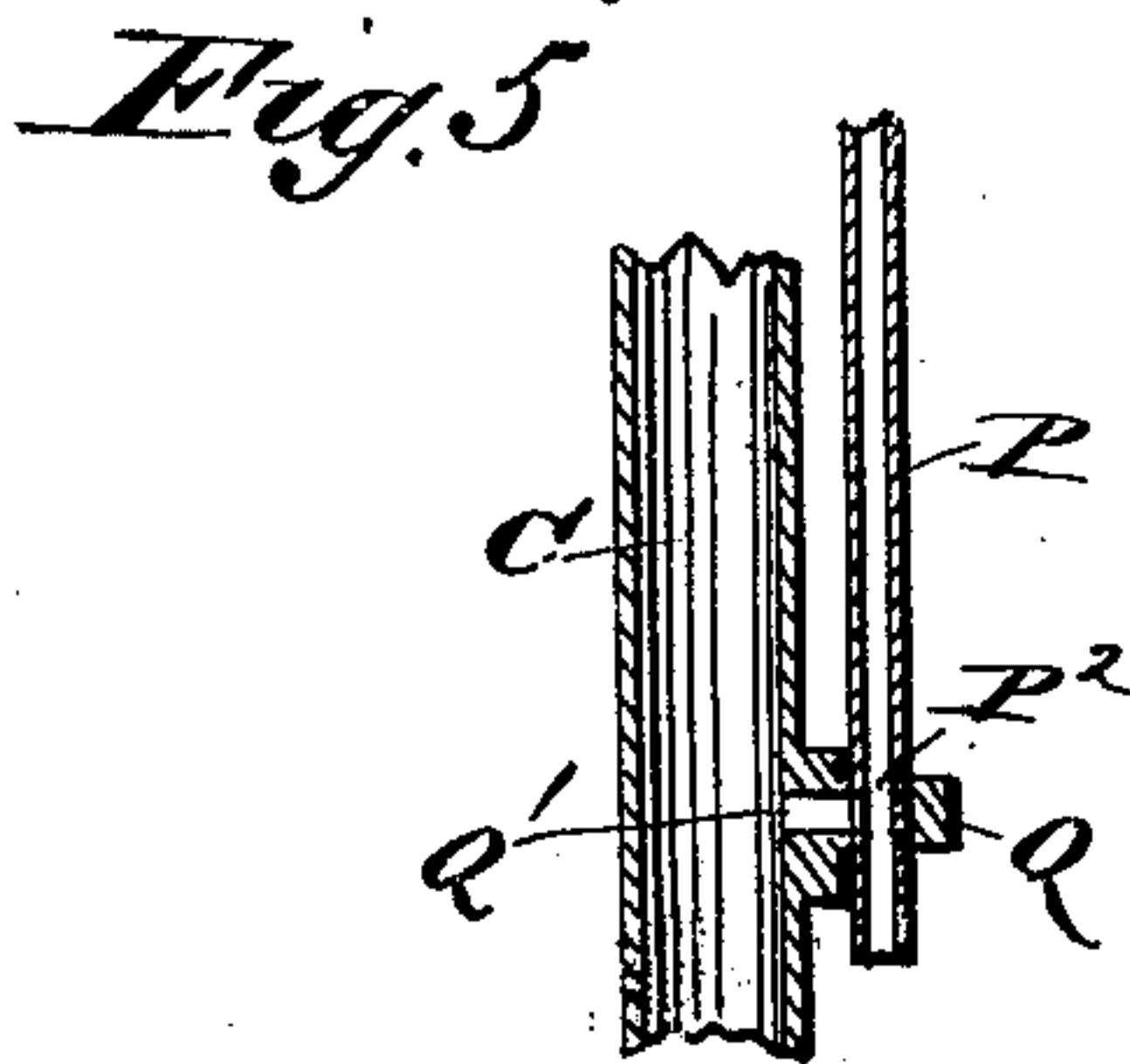
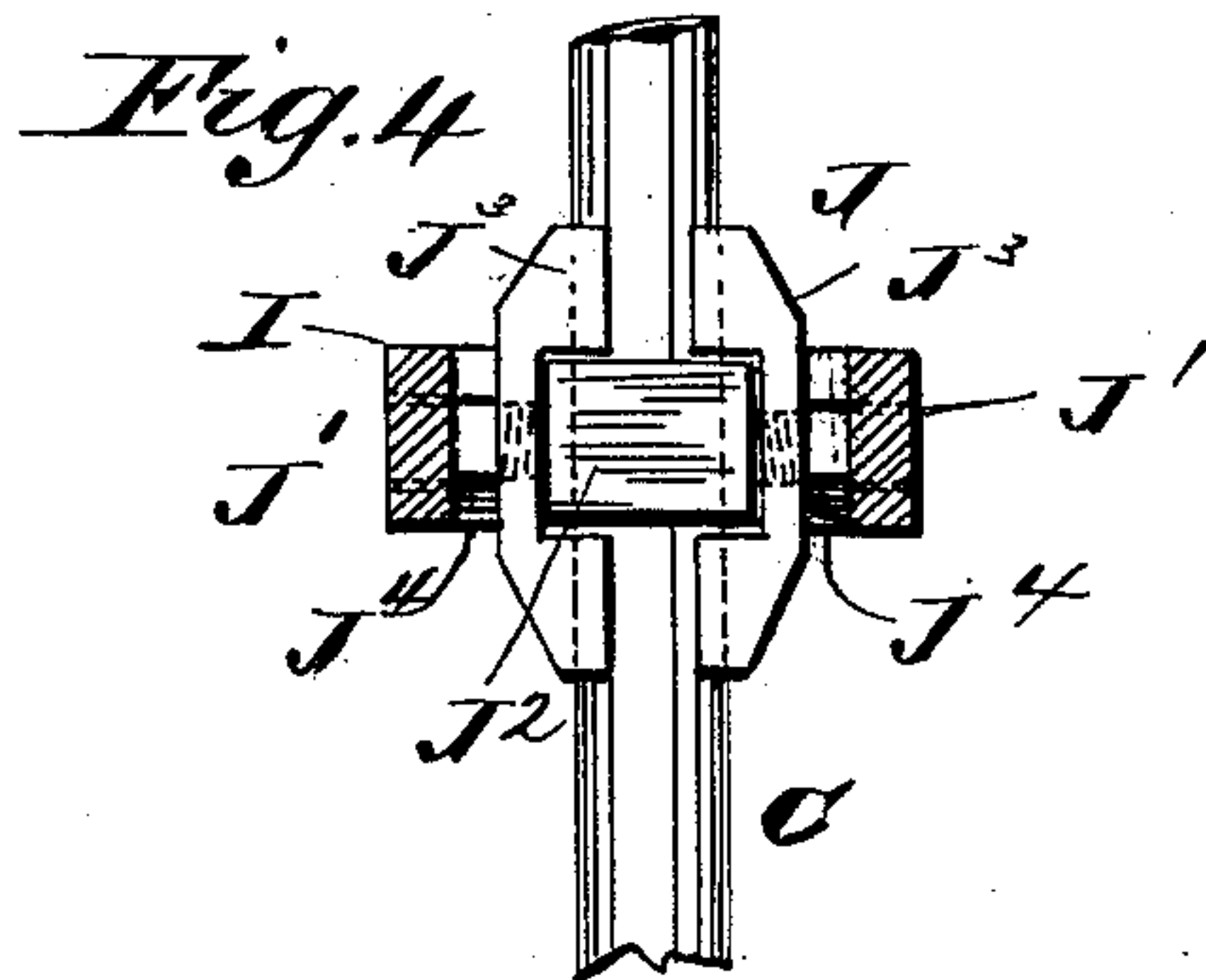
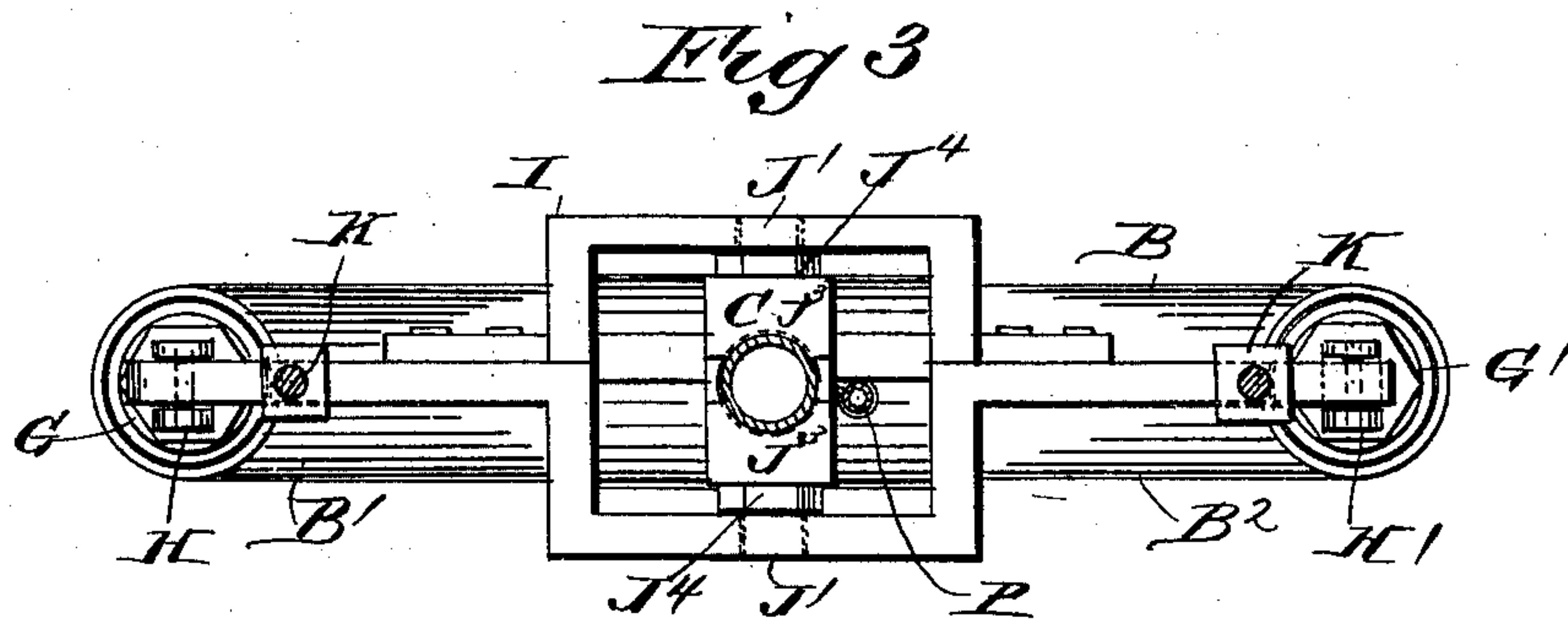
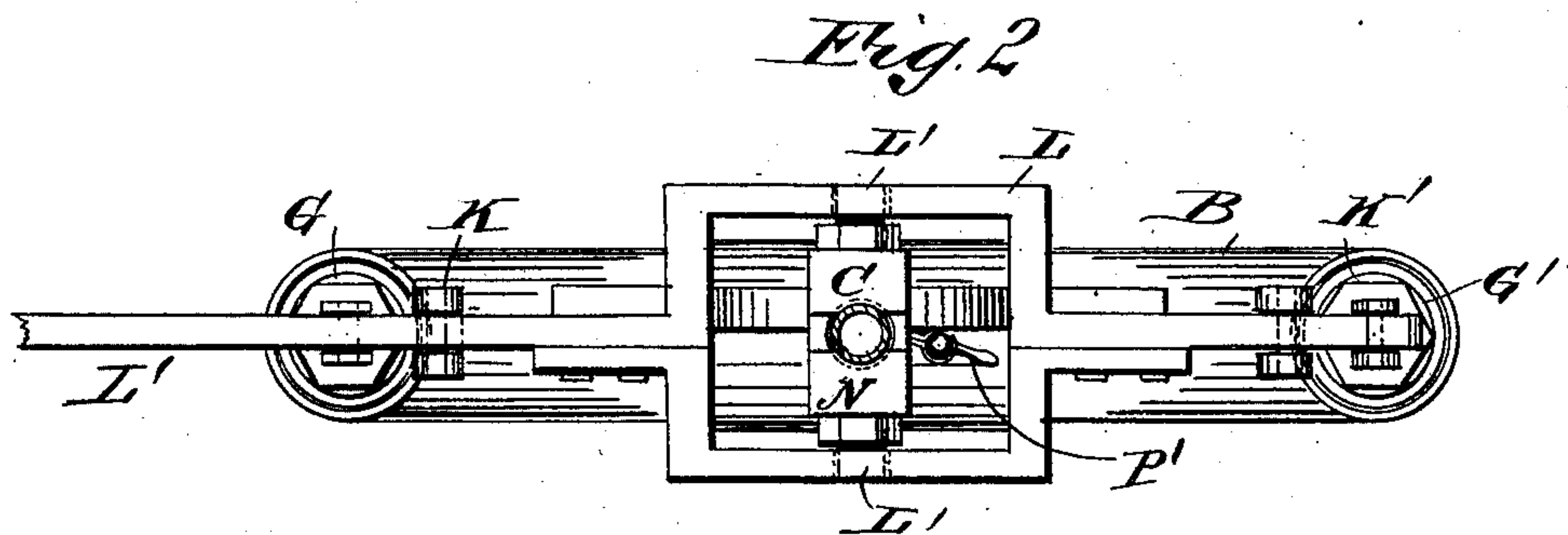
(No Model.)

2 Sheets—Sheet 2.

J. M. CLARK.
DOUBLE ACTING PUMP.

No. 432,373.

Patented July 15, 1890.



WITNESSES:

E. M. Apple.
C. Sedgwick

INVENTOR:

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UNITED STATES PATENT OFFICE.

JOSEPH M. CLARK, OF COLFAX, WASHINGTON.

DOUBLE-ACTING PUMP.

SPECIFICATION forming part of Letters Patent No. 432,373, dated July 15, 1890.

Application filed March 7, 1890. Serial No. 342,980. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. CLARK, of Colfax, in the county of Whitman and State of Washington, have invented a new and Improved Double-Acting Pump, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pump which is simple and durable in construction, very effective, and double-acting in operation, and not liable to get out of order easily.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

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

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a sectional plan view of the same on the line xx of Fig. 1. Fig. 3 is a like view of the same on the line yy of Fig. 1. Fig. 4 is a transverse section of part of the improvement on the line zz of Fig. 1, and Fig. 5 is a sectional side elevation of the device for letting out the water to prevent freezing.

The improved pump A is provided with a U-shaped barrel B, preferably made in three parts, of which the parts B' and B^2 are L-shaped and screw on the middle part B^3 , as is plainly shown in Fig. 1. From the middle part B^3 of the pump-barrel extends upward an offset-pipe C, bent at its upper end to form the outlet-spout C' , in the usual manner, and supported near its upper end on a suitable bracket C^2 , resting on the floor or ground on which the pump is used. From the horizontal parts of the barrel parts B' and B^2 extend downward the inlet-pipes D and D' , respectively, provided at their lower ends with suitable valves E and E' , respectively, opening inward and self-closing. Valves F and F' are also held in the horizontal parts of the barrel parts B' and B^2 , the said valves opening inward into the middle part B^3 and being also self-closing.

In the vertical parts of the pump-barrel parts B' and B^2 are held to slide plungers G and G' , respectively, provided with plunger-

rods H and H' , respectively, pivotally connected with the outer ends of a balance-lever I, fulcrumed in its middle on two journals J' , projecting from a block J^2 , held on the discharge-pipe C, and secured in place on the latter by clamping-bars J^3 , engaging the block J^2 , and pressed in contact with the discharge-pipe C by nuts J^4 , screwing on the inner threaded parts of the journals J' . (See Fig. 4.) By loosening the nuts J^4 the block J^2 and the clamping-bars J^3 , with the lever I, can be readily shifted on the discharge-pipe C to bring the said balance-lever to the proper place, after which the nuts J^4 are screwing up to secure the block J^2 in the proper position.

The ends of the balance-lever J are connected by links K and K' with the second balance-lever L, fulcrumed on journals N' of a clamping device N, similar to the clamping device J, above referred to, and also held near the upper end of the discharge-pipe C. The balance-lever L is provided at one end with a handle L' , to be taken hold of by the operator when operating the machine.

On the discharge-pipe C are held two collars O and O' , of which the former is located at or near the surface of the ground or platform, while the other is located near the lower end of the pipe C. In the two collars O and O' is mounted to turn a rod P, provided on its upper end with a handle P' and hollow at its lower end, as shown in Fig. 5. The extreme end of the hollow rod P is fitted to turn in an offset Q, formed on the pipe C, and provided with an inwardly-extending opening Q' , leading to the interior of the pipe C. The opening Q is adapted to register with an opening P^2 , formed in the hollow end of the rod P, so that when the two openings Q' and P^2 register water contained in the pipe C above the offset Q can flow out through the openings Q' and P^2 and the hollow end of the rod P, so as to prevent freezing of the water in the pipe C, during cold weather. Ordinarily the openings P^2 and Q' do not register.

The operation is as follows: When the several parts are in place, the entire pump is suspended from the bracket C^2 . When the operator desires to draw water from the well, he moves the lever L so that the plungers G and G' are set in motion to draw the water in through the valves E and E' , respectively,

to the barrel parts B' and B², and on the downward stroke of the respective plunger the valve E or E', respectively, is closed, while the valve F or F', respectively, is
 5 opened, and the water is forced to the middle part B³ of the barrel, and from the latter through the outlet-pipe C and the spout C' to a receptacle held under the said spout.

It will be seen that as one plunger is moving downward the other moves upward, so
 10 that a continuous stream of water is forced up through the outlet-pipe C. It will be further seen that the barrel B can be easily taken apart in order to get at the valves and
 15 to clean the said barrel whenever necessary.

The levers I and L can be readily adjusted on the outlet-pipe C, so as to bring the links K and K', the plunger-rods H and H', and the plungers G and G' in proper position rela-
 20 tive to the barrel B.

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

1. In a double-acting pump, the combina-
 25 tion, with the vertical discharge-pipe, the U-shaped barrel, the valves, and the pistons, of an upper and a lower horizontal lever, both having central openings between their ends to receive the discharge-pipe, upper and lower
 30 blocks sliding on the said pipe and having journals on which the sides of the open parts of said levers are mounted, and vertically-

extending clamping-bars at opposite sides of said blocks and bearing at their ends on the discharge-pipe, nuts on the trunnions within
 35 the open parts of the levers to clamp the block in place, connections between the ends of the lower lever, and the pistons and rods connecting said two levers, substantially as set forth.

2. The combination, with an apertured block J², having journals or trunnions J' on its opposite faces, screw-threaded at their inner portions, of opposite bars J³ J³ of greater
 45 length than the block, mounted on the inner ends of the trunnions and recessed to fit on the block and project at their ends inwardly to the bore or aperture, and nuts on the trunnions bearing on the outer faces of the bars, substantially as set forth.

3. In a double-acting pump, the combination, with the discharge-pipe, of a block having journals held to slide on the said discharge-pipe, clamping-bars fitted on the said
 55 block and adapted to engage the said outlet-pipe, and nuts screwing on the said journals against the said clamping-bars to press the latter in contact with the said outlet-pipe, substantially as shown and described.

JOSEPH M. CLARK.

Witnesses:

F. B. NORTON,
 G. W. LASELL.