(No Model.)

J. F. & J. S. BRADLEY.

PUMP.

No. 467,697. Patented Jan. 26, 1892.

Fig. 1.

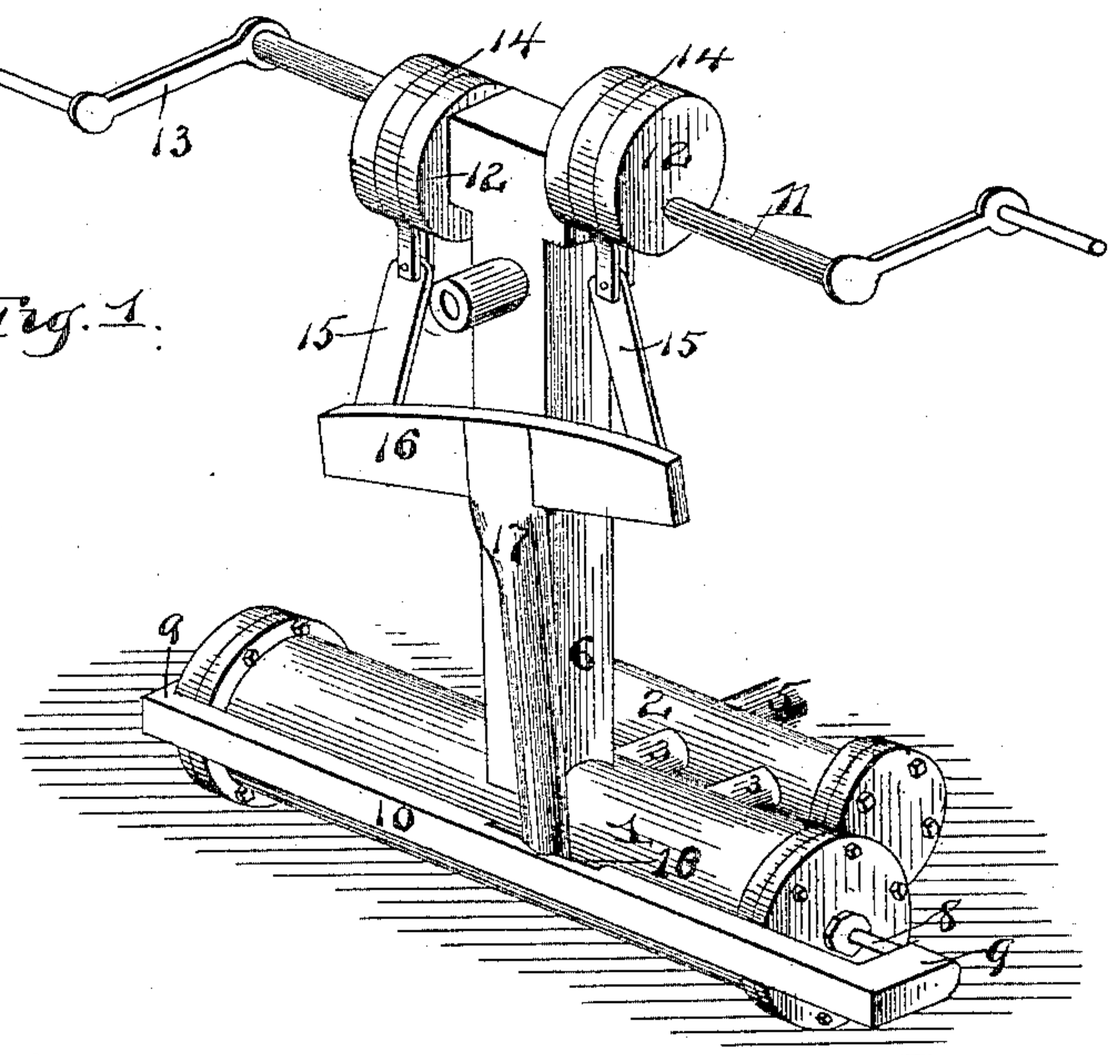


Fig. 2

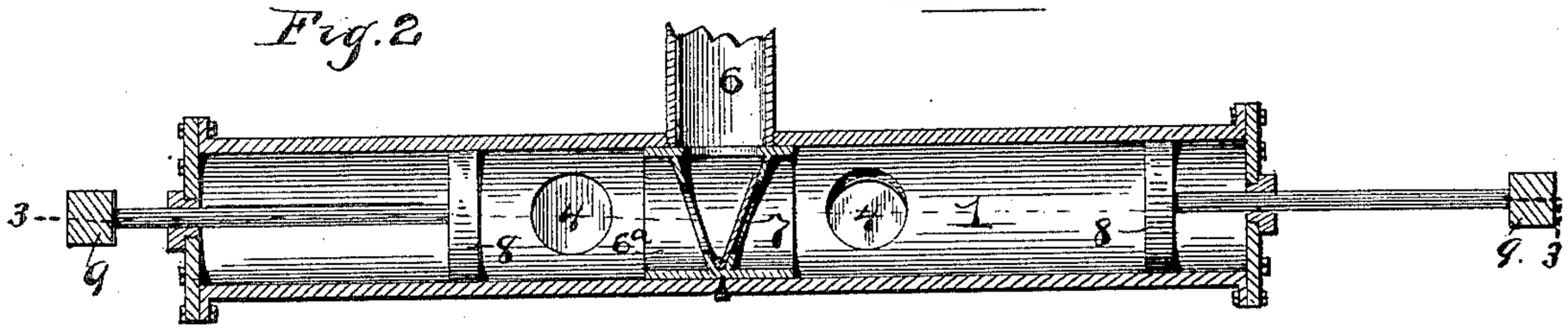
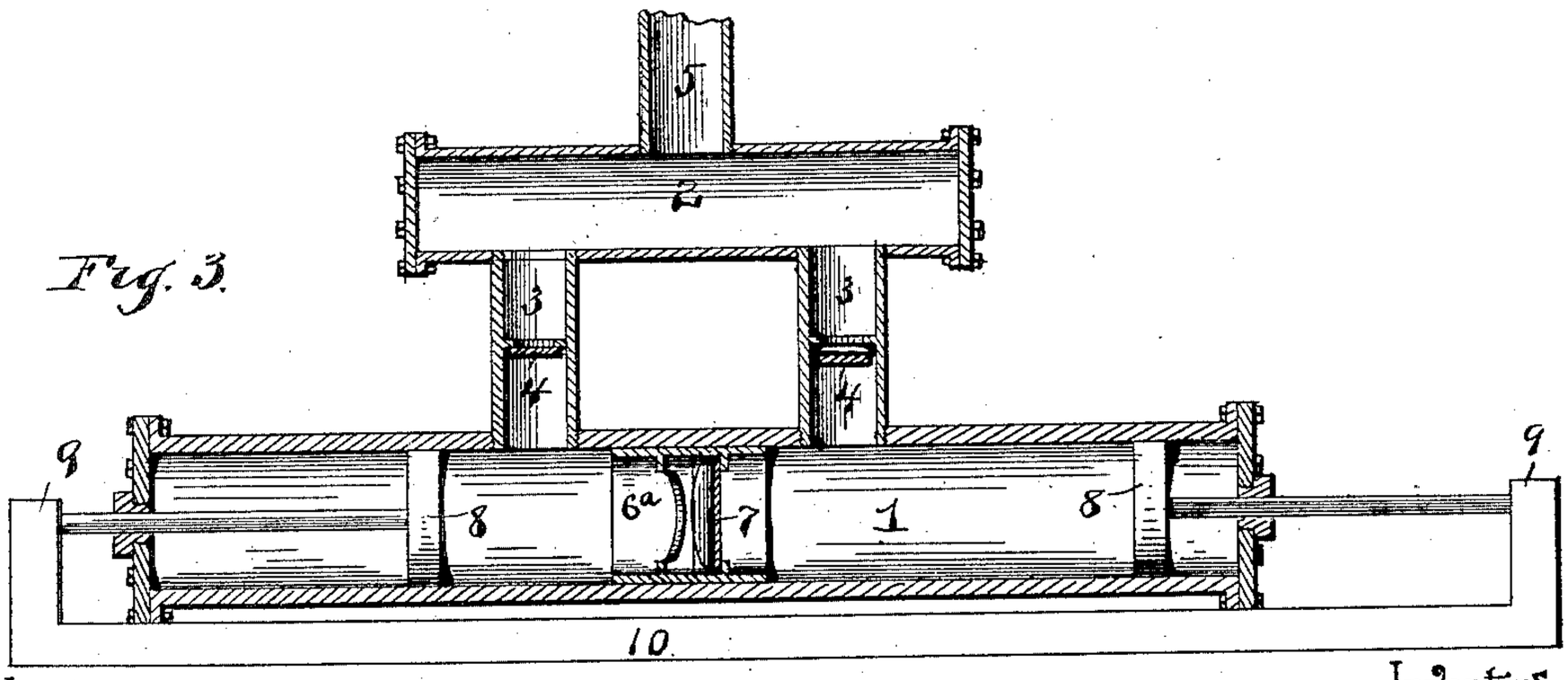


Fig. 3.



Witnesses
H. G. Leitz
Wm. Bagger

Inventors
J. S. Bradley and
J. F. Bradley.
By their Attorneys,
Cachow & Co.

UNITED STATES PATENT OFFICE.

JOHN FRANKLIN BRADLEY AND JOHN SMITH BRADLEY, OF CLARK, MISSOURI.

PUMP.

SPECIFICATION forming part of Letters Patent No. 467,697, dated January 26, 1892.

Application filed June 24, 1891. Serial No. 397,307. (No model.)

To all whom it may concern:

Be it known that we, JOHN FRANKLIN BRADLEY and JOHN SMITH BRADLEY, citizens of the United States, residing at Clark, in the county of Randolph and State of Missouri, have invented a new and useful Pump, of which the following is a specification.

This invention relates to that class of pumps which are known as "double-acting forcing-pumps," and has for its object to provide a pump of this class which shall be simple in construction, durable, and efficient in operation.

The invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, Figure 1 is a perspective view of a pump constructed in accordance with our invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal sectional view taken on the line 3 3 of Fig. 2.

Like numerals of reference indicate like parts in all the figures.

1 designates the cylinder, which is connected with the water-chamber 2 by means of tubes 3 3, in which are located the valves 4, opening toward the cylinder. The water-chamber 2 has the suction-pipe 5, and rising centrally from the cylinder, which in operation occupies a horizontal position, is the discharge-pipe 6. In the bottom of the cylinder, directly below the discharge-pipe, is mounted a casing 6^a, containing a flirt-valve 7. In the ends of the cylinder are mounted the pistons 8 8, the stems of which extend through the ends of said cylinder and are provided on their front sides with heads or enlargements 9, connected by a rod 10, which is located in front of and parallel to the cylinder. Journaled in a suitable bearing at the upper end of the discharge-pipe is a shaft 11, having eccentrics 12 12 and provided at its ends with cranks 13, by means of which it may be operated. The eccentrics have the straps 14, which are connected by means of links 15 with the ends of a lever 16, having a downward-extending arm 17 working in a slot 18 in the connecting-rod 10. It will be seen that when the shaft is rotated a reciprocating motion will be imparted to the connecting-rod 10 and to the pistons, thus causing the cylinder to take water and to expel alternately at opposite ends.

Our improved pump, as will be seen from the foregoing description, is simple in construction, and it may be successfully used for all purposes for which force-pumps are usually employed—such as feeding boilers, drawing water from wells or cisterns, extinguishing fires, and the like. When desired the shaft 11 may be provided with a drum or pulley adapted to receive motion from power of any suitable description.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

The combination of the cylinder having the central supplemental hollow casing, a flirt-valve located within said casing, and the pistons on either side of the latter, the rod connecting the piston-stems without each end of said cylinder, the discharge-pipe located above the flirt-valve, the shaft having a bearing at the upper end of the discharge-pipe, the eccentrics upon said shaft, the straps, the links connecting the latter with the ends of a lever pivoted upon the discharge-pipe, an arm extending downwardly upon said lever and working in a recess or slot in the rod connecting the piston-stems outside of said cylinder, the tubes connecting the cylinder with the water-chamber and having valves opening toward the cylinder, and the suction-pipe connected with the water-chamber, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JOHN FRANKLIN BRADLEY.
JOHN SMITH BRADLEY.

Witnesses:
O. W. BARNETT,
OLIVER WHITE.