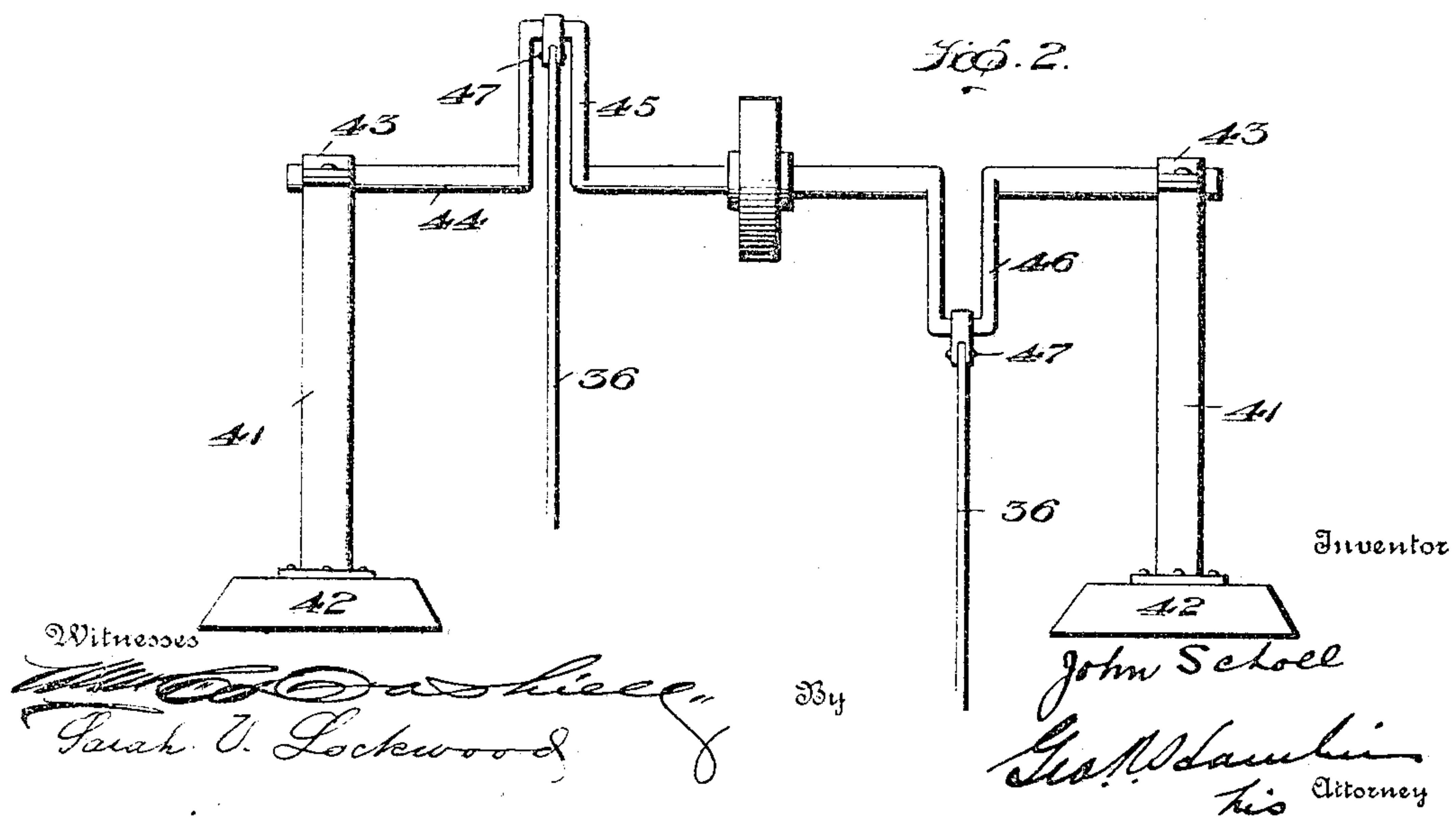
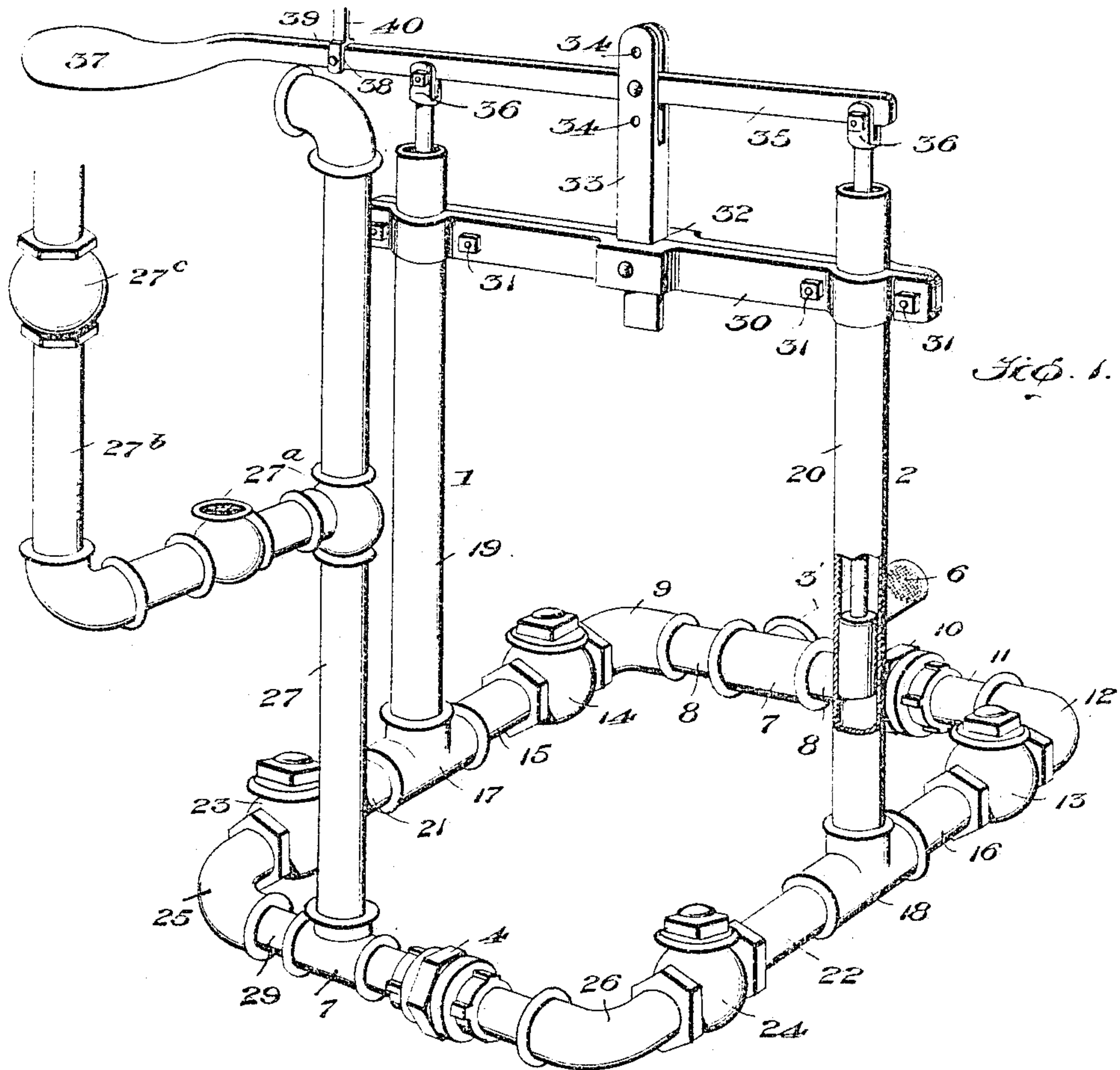


No. 787,117.

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J. SCHOLL
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UNITED STATES PATENT OFFICE.

JOHN SCHOLL, OF JOPLIN, MISSOURI.

PUMP.

SPECIFICATION forming part of Letters Patent No. 787,117, dated April 11, 1905.

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To all whom it may concern:

Be it known that I, JOHN SCHOLL, a citizen of the United States, residing at Joplin, county of Jasper, and State of Missouri, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

My invention relates to pumps, and more especially to combined double and single acting pumps of the multiple-cylinder type.

The object of the invention is to provide operating mechanism for the pump which can be readily changed from single acting to double acting, or vice versa, also means whereby one section and cylinder may be disconnected for repairs while the other section and cylinder are in use.

A further object of the invention is the novel way in which a plurality of adjustments can be made to lengthen or shorten the stroke of the piston.

A further object of the invention is the provision of novel means whereby the pump can be changed from a hand-operated to a power-operated pump, and vice versa.

A still further object of the invention is the provision of means when the pump is operated by steam for supplying the boiler of the engine with water at the same time that the pump is delivering water to other destination and means whereby the pressure from the boiler is prevented from interfering.

The invention consists of the combination of parts and the novel features, which will be more fully hereinafter described, and recited in the appended claims.

In the drawings which form a part of the application, Figure 1 is a perspective of the pump, showing how the pump can be operated by hand or by power. Fig. 2 is a perspective view showing how the pump is operated by power.

Describing the drawings in detail, 1 and 2 represent the two sections of a double-acting pump and are made disconnectible by means of the couplings or unions 3 and 4, so that by closing the exit end of the pipe in section 2, attached to coupling 4, and removing section 1 section 2 could be used while the other was being repaired, should this become necessary.

The numeral 3' represents the inlet-pipe, which is provided at its outer end with a screen 6 and which is secured at its inner end to the T-joint 7. Branching in either direction from the T 7 are pipe-sections 8, one of which is secured to an elbow 9, and the opposite one is secured to a coupling 10, which is in turn connected to a similar section 11 and this to a similar elbow 12, to which elbows 12 and 9 are secured the inlet check-valves 13 and 14. Connected to the check-valves 13 and 14 by means of pipe-sections 15 and 16 are T-joints 17 and 18, both of which are provided with pump-barrels 19 and 20, extending up out of the water.

Connected to the opposite side of the T-joints 17 and 18 by means of pipe-sections 21 and 22 are the outlet check-valves 23 and 24, to both of which are secured the elbows 25 and 26, leading to the outlet-pipe 27 through the union 4 in one section and the pipe-section 29 in the opposite.

Suitably connected to the outlet-pipe 27 is a cock 27^a, which connects to the boiler through pipe 27^b and check-valve 27^c. This allows water to be pumped to the boiler when needed, and the check-valve 27^c prevents any back pressure from the boiler.

At the top of the pump-barrels, which may be of any desired length, I provide the brace 30, which is made of two pieces and is secured to the barrels by the bolts 31. These two pieces are so bent in the center as to form a rectangular opening 32, in which is adjustably seated the forked upright 33, having a plurality of adjusting-holes 34. Pivotaly secured between the forked ends of the upright 33 is the lever 35, to each end of which are pivotaly secured the piston-rods 36. This lever is provided with a handle 37 and an aperture 38, through which the connecting-bolt 39 of the wind-wheel or other power-piston is passed to secure the two parts together.

In Fig. 2 I have shown two supporting-posts 41, suitably bolted to the bases 42 and provided in their upper portions with suitable bearings 43, in which is journaled a shaft 44, having the double crank-arms 45 and the pulley 46.

The ends of the piston-rods 36 are pivoted

to links 47, which are bifurcated at their ends to hold bearings adapted to surround the yokes of the crank-arms 45. A sprocket may be substituted for the pulley 46 and be connected to the power by a sprocket-chain instead of a belt.

As shown in Fig. 1 the pistons would only have a maximum length of stroke of four inches. When it is required to lengthen the stroke, the brace 30 is either raised on the barrels, or the lever 35 is raised in the forked end of the upright 33, or the upright 33 is raised in the brace 30. The lever 35 has now more freedom of movement, and the stroke of the operator's arm or of the power-piston can be lengthened to suit circumstances. As the piston in section 1 is raised water is drawn through check-valve 14 and expelled through check-valve 24 by the simultaneous downward movement of the piston in section 2. When this movement is reversed, the water previously drawn through check-valve 14 is expelled through check-valve 23 and water is drawn through check-valve 13 to be subsequently forced through check-valve 24 when the piston in section 2 descends.

It is thought unnecessary to describe the operation of Fig. 2, as it operates on substantially the same lines as an engine, only the power is from the opposite end.

By securing the piston 40 of a wind-wheel or power-cylinder to the lever 35 and reciprocating the lever in the ordinary manner I secure a very easily operated and effective pump.

It will of course be understood that I may disconnect either one of the piston-rods 36 from the lever 35 and make a single-acting pump, or I may disconnect either section from the other for the purpose of repair without

disturbing the operation of the other section, both sections being independently secured in place.

It will of course be evident that in the device shown no attempt has been made to adjust the stroke of the power which operates the pistons, as this would have to be regulated according to the adjustment secured by the devices before described.

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

1. In a pump comprising two independent and separable sections, the combination with a pump-barrel for each section, of an adjustable brace separating said barrels and provided with an aperture, an upright member adjustably seated in said aperture, a lever adjustably secured to said upright member, pistons working in said barrels and connected to said lever, and means for reciprocating said lever.

2. In a pump-barrel comprising two independent and separable sections, the combination with an upright barrel for each section, of a brace comprising two members, adjustably clamped to said barrels and forming a central aperture, a forked upright member adjustably seated in said aperture and provided with adjusting-holes in its forked end, pistons working in said barrels, and a lever connected to said pistons and adjustably seated in the forked end of the upright member.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOHN SCHOLL.

Witnesses:

WM. L. AARON,
HARRY H. BOYLAND.