Jan. 3, 1928. 1,654,859

J. H. CAMPBELL

DOUBLE CYLINDER PUMP

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Fig. 1.

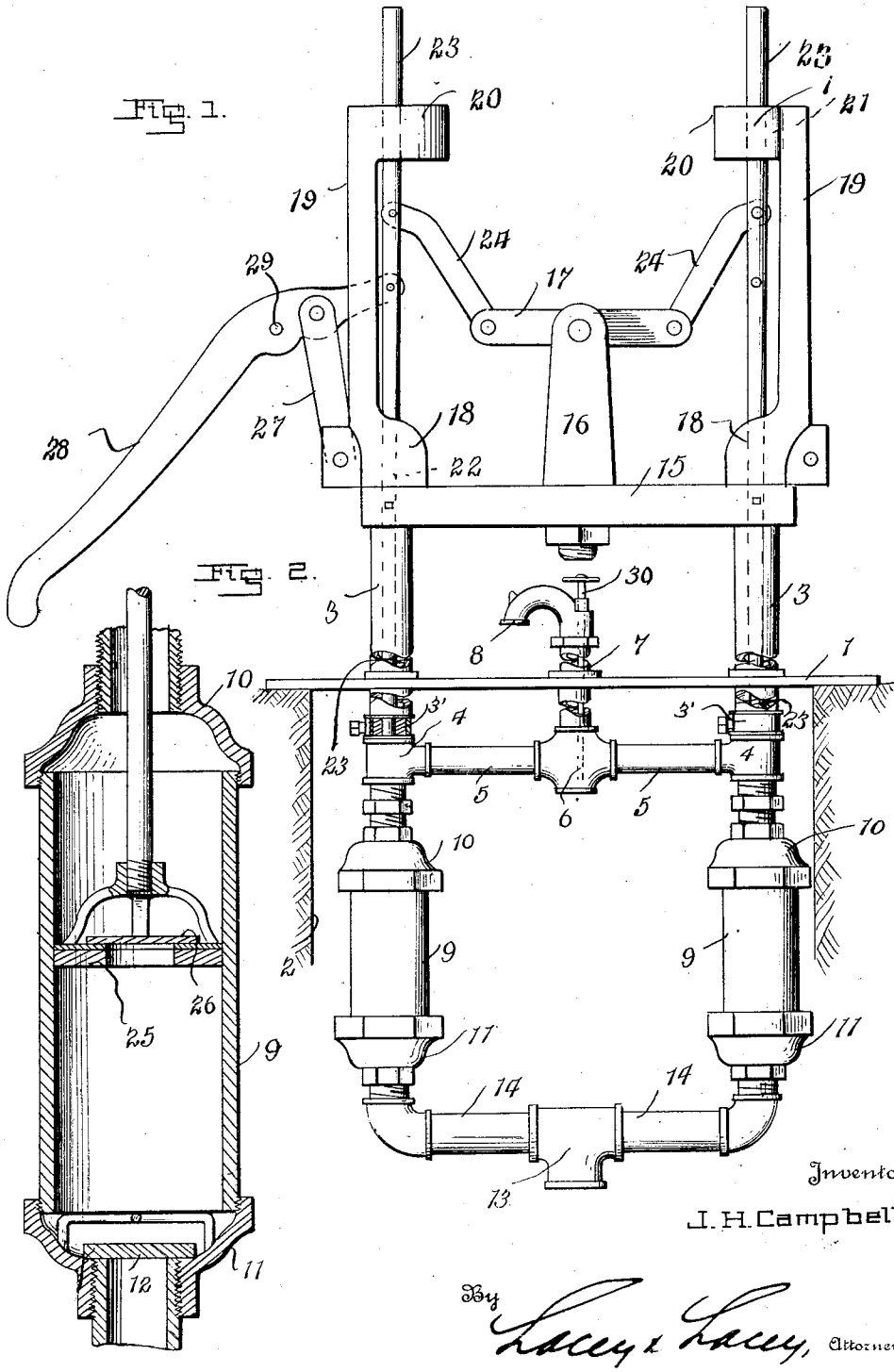


Fig. 2.

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DOUBLE-CYLINDER PUMP.

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The present invention is directed to improvements in double cylinder pumps.

The primary object of the invention is to provide a device of this character so constructed that the working pistons can be easily reciprocated in order to pump a continuous volume of water.

Another object of the invention is to provide a pump of this kind so constructed that the parts thereof can be conveniently assembled, and when assembled, the two pump pistons can be operated with comparative ease.

With these and other objects in view, this invention resides in the novel features of construction, formation, combination and arrangement of parts hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which,—

Figure 1 is a side elevation of the pump.

Figure 2 is a detail vertical sectional view through one of the pump cylinders and pistons.

Referring to the drawing, 1 designates a curb for the well 2, said curb having supported thereby pipes 3—3, the lower ends of which are coupled by stuffing boxes 3′ with the unions 4—4 which support the pipe sections 5—5, the inner ends of said sections being in communication with a casing 6.

Having its lower end connected to the casing 6 is a discharge pipe 7 which extends through the curb 1 and is provided with a discharge spout 8.

Connected with the unions 4—4 are cylinders 9—9 provided with heads 10 and 11, the heads 11 having check valves 12 therein. The heads 11 are in communication with the inlet coupling 13 through pipes 14—14, said coupling being submerged in the water of the well.

Supported by the pipes 3—3 is a bar 15 which has supported centrally thereon a bracket 16 and to the upper end of which is pivotally connected a beam 17, the purpose of which will be later explained.

Mounted upon the upper ends of the bar 15 are heads 18 and resting thereon are standards 19, the upper ends of which are provided with guides 20, said guides and heads being provided, respectively, with alined bores 21 and 22, in which slide the piston rods 23—23, there being links 24—24 pivotally connecting the rods with the ends of the beam 17.

The rods 23 extend downwardly through the pipes 3 and have secured to their lower ends piston heads 25 capable of reciprocating in the cylinders 9, said pistons having associated therewith check valves 26. Pivotally connected to one of the heads 18 is the lower end of the fulcrum link 27, and to the upper end of which is pivotally connected the handle 28, there being an opening 29 in the handle for adjusting the pivotal connection of the link when it is desired to change the stroke of the piston rods 23.

The handle 28 is shown upon the left hand side of the pump, but if desired it can be placed upon the right hand side, and in fact, should it be deemed advisable, a handle could be applied to the opposite side of the pump.

Upon rocking the handle 28, the connected piston rod 23 will be reciprocated and through the medium of the beam 17 reciprocatory movement will be transmitted to the other rod, thus reciprocating the piston heads 25 in their respective cylinders. Owing to the presence of the beam 17 the piston rods will move in opposite directions in order to pump the water in a continuous volume.

As the piston heads reciprocate within their respective cylinders, water will be drawn alternately therein through the inlet connection 13, pipe sections 14 and upon the up stroke of each piston head water will be forced through the unions 4, pipe sections 5 and into the casing 6 and from thence into the pipes 7. Thus a continuous volume of water may be pumped upon rocking the handle 28.

A valve rod 30 extends through the pipes 7 and is operable to drain the pipes 7 and casing 6 to prevent freezing of water therein.

Having thus described the invention, I claim.

A pump comprising a pair of cylinders, piston heads reciprocable therein, pipes having their lower ends connected with the upper ends of the cylinders, a casing, pipe sections connecting the casing and cylinders, a discharge pipe leading from the casing, an inlet coupling, pipes connecting the coupling and lower ends of the cylinders, a bar sup-

ported by the first named pipes, a bracket carried by the bar, a beam pivotally connected to the bracket, heads supported upon the ends of the bar, piston rods slidable in the heads and first named pipes, and connected to the piston heads, a handle pivotally connected with one of the heads and to one piston rod, links pivotally connecting the beam and both piston rods for rocking the beam when the handle is actuated to reciprocate the piston rods, and thus the piston heads in opposite directions.

In testimony whereof I affix my signature.

JAMES H. CAMPBELL. [L. S.]