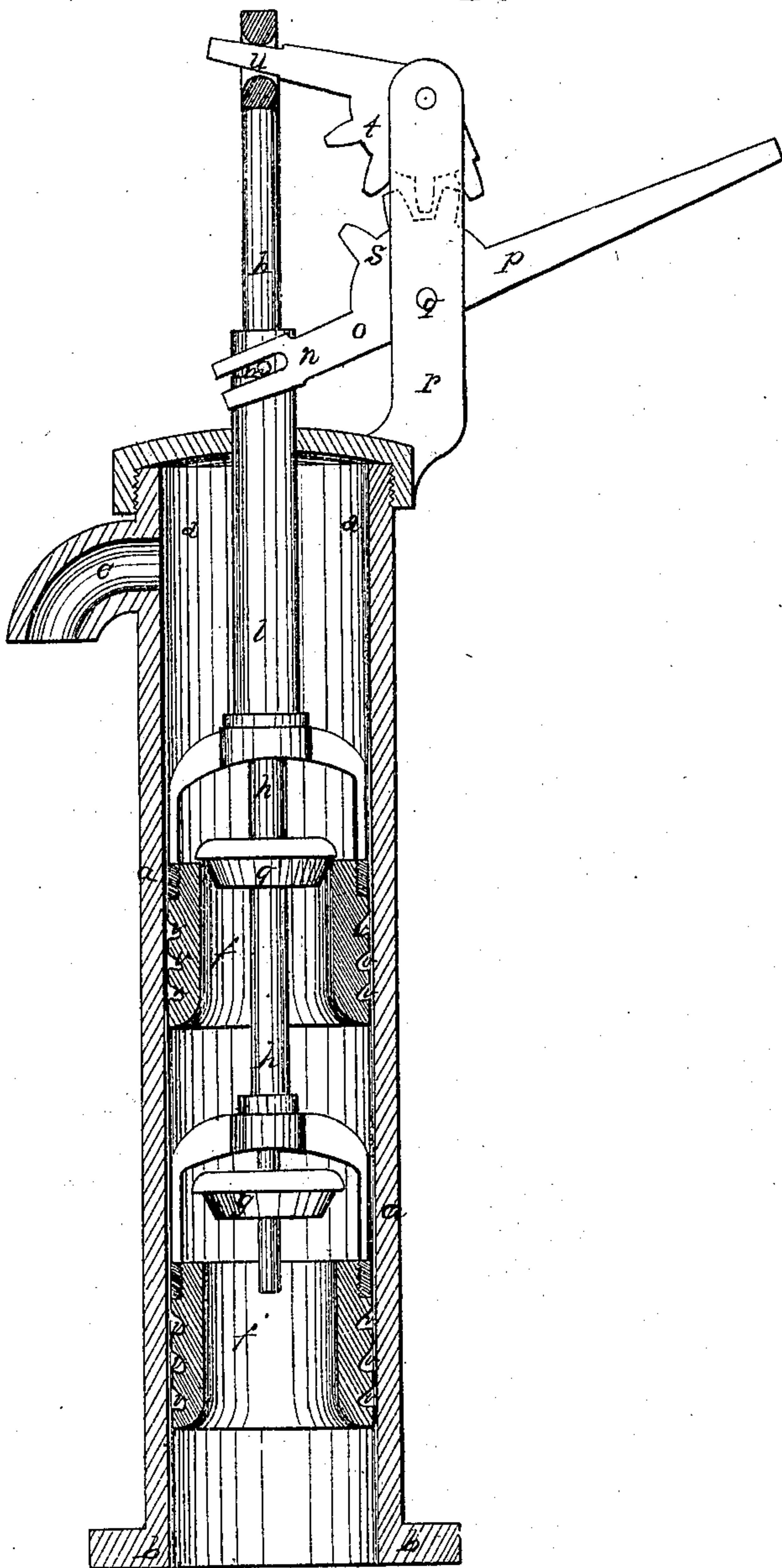


*I. A. Gould,*  
*Double-Acting Pump.*

*N<sup>o</sup> 52,991.*

*Patented Mar. 6, 1866.*



*Witnesses.*

*(Mr. Thompson)*  
*Thos. Lusk*

*Inventor.*

*Leah Gould*  
*per M. W. R.*  
*Attorneys*

# UNITED STATES PATENT OFFICE.

LEVI A. GOULD, OF SANTA CLARA, CALIFORNIA.

## IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 52,991, dated March 6, 1866.

*To all whom it may concern:*

Be it known that I, L. A. GOULD, of Santa Clara, in the county of Santa Clara and State of California, have invented a new and useful Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The nature of this improvement consists in arranging within the barrel of the pump two pistons or buckets and operating the same in such a manner through devices connecting them with the handle or brake-lever of the pump that as one bucket ascends the other descends, and vice versa, whereby a perpetual flow of liquid through the pump is obtained and without the use of an air-chamber.

The figure in the accompanying plate of drawings illustrates my improvement, it being a central vertical section through the barrel of the pump and its buckets or pistons, showing the connecting parts and operating devices in side elevation.

*a a* in the drawing represent the barrel or cylinder of the pump, open at its lower end, *b*, by which it is secured to the well-tube or other device, and with a discharge spout or nozzle, *c*, at or near its upper end, *d*; *f f'*, two buckets or pistons placed in the pump-cylinder, one above and a short distance from the other, each of which is provided with a valve, *g*, made of metal or any other suitable material; *h*, the piston-rod of the lower bucket, secured at its lower end thereto in any proper manner, and passing upward in the central vertical axis of the pump-barrel to and through the vertical hollow sleeve or shaft *l* of the upper bucket, *f'*, the upper end of which sleeve *l* is hung by pins *m m* upon its outside to the slotted end *n* of the short arm *o* of the lever or brake handle *p*, turning upon a fulcrum, *q*, between the standards *r* of the top of the pump-barrel.

On the upper side of the brake arm or lever *p*, at or near its fulcrum, is a sector-shaped gear, *s*, interlocking with a similar sector-gear, *t*, above the same, and turning in bearings of the said standards *r*, to the outer end of the projecting arm *u* of which gear *t* the upper end of the piston-rod *h* of the lower bucket is hung, as plainly shown in the drawing by partially breaking out the rod.

Around the periphery of each bucket are a series of parallel grooves, *v v*, which may consist of two or more, and be made of a square, round, or any other suitable shape in which any packing, whether made of leather or other material ordinarily used, is placed for causing the buckets to work with sufficient tightness in the pump-barrel to prevent any leakage about them.

By the manner in which the two buckets of the pump are arranged with regard to and connected with each other through a common operating handle-lever, as above described, it is obvious that as one bucket descends the other ascends, and vice versa, and that therefore a continuous discharge of liquid through the nozzle of the pump is produced, and without using an air-chamber within the pump, the advantages of which are manifest to all conversant with pumps for raising liquids, &c.

I claim as new and desire to secure by Letters Patent—

Connecting the rod *h* and hollow sleeve *l*, respectively, of two buckets, *f* and *f'*, of a pump to a common actuating lever handle or brake, on which the rod *h* is hung through the sector-shaped gears *s* and *t* and arm *u*, all arranged and operating as and for the purpose specified.

The above specification of my invention signed by me this 6th day of June, 1865.

LEVI A. GOULD.

Witnesses:

HENRY HAIGHT,  
JOHN DRURY.