

No. 639,065.

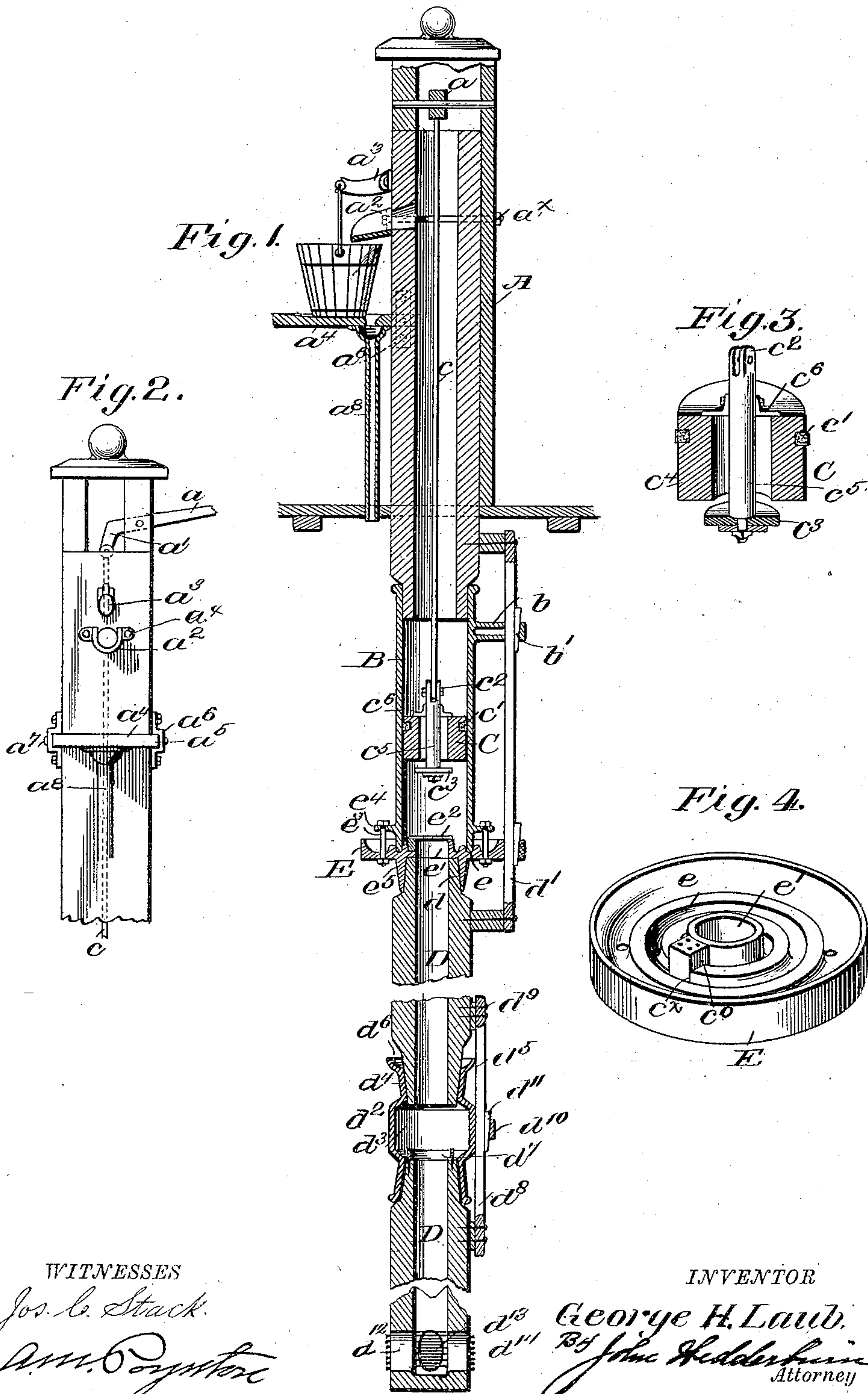
G. H. LAUB.

**Patented Dec. 12, 1899.**

**PUMP.**

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(No Model.)



*WITNESSES*

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# UNITED STATES PATENT OFFICE.

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## PUMP.

SPECIFICATION forming part of Letters Patent No. 639,065, dated December 12, 1899.

Application filed February 8, 1897. Serial No. 622,498. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE HARRISON LAUB, a citizen of the United States, residing at Independence, in the county of Warren and State of Indiana, have invented certain new and useful Improvements in Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in pumps; and it consists of certain novel constructions, combinations, and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 represents a central vertical section through a pump embodying my invention. Fig. 2 represents a front elevation of the upper portion of a pump-stock. Fig. 3 represents an enlarged detail perspective view of the piston, partly in section; and Fig. 4 represents an enlarged detail perspective view of one of the coupling-castings.

A in the drawings represents the pump-stock proper; B, the pump-cylinder; C, the piston, and D D the pipe-sections. The said pump-stock A is mounted in any suitable manner in the platform or cover of the well or cistern and is provided at its upper end with an upwardly-extending back strip, in which is mounted a handle  $a$ , having an arm  $a'$  at one end for the attachment to the piston-rod  $c$ . A discharge-spout  $a^2$  is secured to the front of the pump-stock by suitable bolts  $a^x$ , which pass through the body of the stock. The said pump stock is also provided with a pivoted bracket  $a^3$ , mounted above the spout and adapted to receive the bail of a bucket to assist in supporting it in position. A shelf or support  $a^4$  is mounted below said spout  $a^2$  by having its extended sides  $a^5$  mounted in guides  $a^6$ , which are secured to the opposite sides of said pump-stock. Said arms  $a^5$  are adapted to be held in any desired position within the guides  $a^6$  by pins  $a^7$ , passed through said arms and said guides, respectively. Said support  $a^4$  is provided with a discharge-pipe  $a^8$ , which extends from the same down through a suitable aperture formed in the top of the cistern, so that all waste water from the sup-

port  $a^4$  will drain back into the cistern again and not be wasted.

The pump-cylinder B is suitably secured to the lower contracted end of the stock A. The piston C comprises the cylinder  $c^4$  and a vertically-movable rod  $c^5$ , mounted therein and bifurcated at its upper end, as at  $c^2$ , to permit of the attachment of the piston-rod  $c$ . The said cylinder  $c^4$  is provided with a suitable packing-ring  $c'$ , whereby a water-tight joint is formed between the piston and the cylinder. The lower end of said rod  $c^5$  is provided with a valve-disk  $c^3$ , suitably secured thereto and adapted to close the lower end of the cylinder  $c^4$  upon the upward stroke of the piston. The upper end of said rod  $c^5$  is provided upon diametrically opposite sides with supports  $c^6$ , suitably secured thereto and adapted to limit the downward movement of said rod  $c^5$ . As shown in Fig. 3, the piston occupies the position it takes upon the down-stroke to permit the water to rush up through the cylinder  $c^4$ , so that upon the reverse movement when the valve  $c^3$  is brought in contact with the lower end of the cylinder the water above the piston will be discharged from the spout  $a^2$ .

The lower end of the cylinder B is mounted in an annular groove  $e$ , formed in the casing E, which latter is provided with a central valve-opening  $e'$ , covered by an upwardly-opening flap-valve  $e^2$ . Said casing E is also provided with a recess  $c^x$  for the reception of a wooden block  $c^0$ , by means of which the flap-valve may be screwed in position. This latter valve is adapted to open upon the upstroke of the piston to permit the water to pass into the cylinder B, but closes upon a reverse movement of said piston to prevent the water descending again. The said plate E is also provided with a peripheral flange, so located as to catch the drip from the spout  $a^8$ , and thus form a water-joint in said plate E to prevent the escape of air therethrough. This plate E is secured to the lower end of said cylinder B by bolts  $e^3$ , which pass through said plate and through suitable apertured lugs  $e^4$ , mounted upon the cylinder B. The said plate E is further provided with a pendant annular flange  $e^5$ , having a wedge shape, whereby the upper wedge-shaped end  $d$  of the pipe-section D may be firmly jammed therein.



The said upper section D is supported in position by a brace-rod  $d'$ , secured thereto by suitable nails or bolts and extending up to the said stock A, to which it is secured in a similar manner. This brace-rod  $d'$  passes through apertured lugs  $b$ , formed upon the cylinder B, and is adapted to assist in supporting said cylinder by wedges  $b'$ , which jam in said lugs, and thus secure said rods  $d'$  firmly therein.

The pipe-sections D D are connected together by a casting  $d^2$ , provided with an internal annular enlargement or groove  $d^3$  and flaring ends  $d^4$ , the latter being adapted for the reception of the respective flaring ends of the pipe-sections. The upper of said flaring ends  $d^4$  is provided with an annular segmental flange  $d^5$ , forming a water-channel  $d^6$ , whereby an air-tight joint is formed at this point. The upper flaring end of the section D is adapted to be expanded into the channel  $d^3$  by an annular wedge  $d^7$ , forced down within the same. The said pipe-sections D D are further held together by a connecting-rod  $d^8$ , secured to the respective sections by nails or rivets  $d^9$  and passing through an apertured lug  $d^{10}$ , formed upon the connecting casting or joint. The rod is held firmly within this apertured lug by a wedge  $d^{11}$ , whereby all the parts are secured firmly together. The lower end of the lower section D is provided with suitable apertures  $d^{12}$  for the ingress of the water. These apertures are covered by wire screens  $d^{13}$ , formed by lacing suitable wires about a plurality of pins  $d^{14}$ , arranged on opposite sides of said apertures. These screens are adapted to prevent the entrance of any foreign substance into the pipe-sections, and thus prevent them from being drawn upward through the pump.

It will be observed from the foregoing description that the sections of my pump are respectively attached together in such manner as to form, practically, air-tight joints,

which would prevent the perfect action of the pump because of the suction through said pipe-sections caused by the cylinder and piston.

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

1. The combination with a pump, of a plurality of pipe-sections, connectors for said sections having annular water-channels formed about their upper ends, and means for discharging the waste water from the pump into said channels so as to keep them always supplied with water and thus form air-tight joints between the pipe-sections, substantially as described.

2. The combination with a pump, of a plurality of pipe-sections having conical ends, a connecting-casting having flaring mouth adapted to receive said conical ends, said connecting-casting being provided with an external flange forming a water-channel and with an apertured lug, a rod passing through said apertured lug and having its respective opposite ends secured to the pipe-sections, and a wedge adapted to pass through the apertured lug to secure said rod in position, substantially as described.

3. The combination with a pump-stock and cylinder, of a piston mounted in said cylinder, means for operating said piston, a plurality of pipe-sections having conical ends, a flaring-mouth casting connecting said sections and provided with external flanges forming water-channels, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE HARRISON LAUB.

Witnesses:

W. A. BALES,  
C. E. BALES.