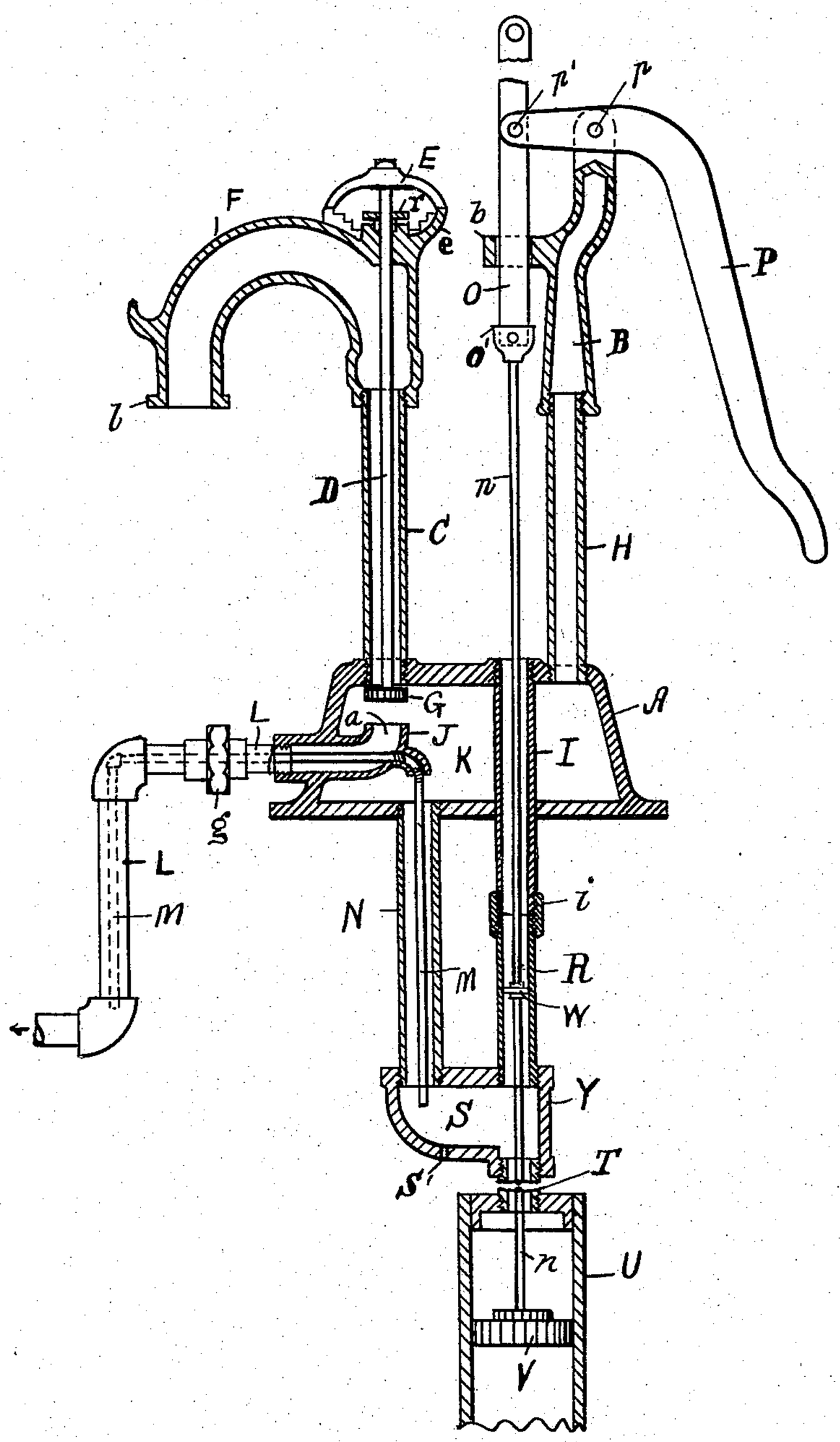
(No Model.)

M. R. TURNER.

AUTOMATIC DRAIN FOR PUMPS.

No. 568,817. Patented Oct. 6, 1896.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC DRAIN FOR PUMPS.

SPECIFICATION forming part of Letters Patent No. 568,817, dated October 6, 1896.

Application filed February 12, 1896. Serial No. 578,969. (No model.)

To all whom it may concern:

Be it known that I, MOSES R. TURNER, a citizen of the United States, residing at Greensburg, in the county of Decatur and State of Indiana, have invented certain new and useful Improvements in Automatic Drains for Pumps; and I do 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, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which forms a part of this specification.

My invention relates to pumps of the class that discharge water both above ground and through underground distributing-pipes; and it consists of a new and novel application of certain devices and combination of elements whereby the chambers and pipes of a pump located above ground are effectually drained to prevent damage to the parts by freezing, as will be more fully described hereinafter.

The object is essentially to improve the general construction of the pump, more particularly those parts relating to the water-chambers and devices for changing the discharge from an underground distribution to a surface discharge, and to provide a means by which all parts liable to damage from the freezing of the liquid are automatically drained after using the pump. In my invention these objects are accomplished in an economical manner, and, furthermore, my pump is efficient and durable in use.

Referring to the drawing, the pump is represented by the figure, which is a vertical sectional view showing a portion of the underground distributing-pipe in elevation, with siphon-pipe indicated by dotted lines. In the view the lower portion of the cylinder is broken away and the connecting-pipe above is also broken to shorten the view.

In the drawing, A represents the base, which rests upon the ground or a well-platform and is cast in one piece, hollow, providing the chamber K. Suitable holes are provided to receive the necessary pipe connections. A pipe I passes through the base and is open at the top flush with top of base and at its lower end it is connected by means of the coupling *i* to a similar piece of pipe R, but which is smooth inside and preferably made of brass. The lower end of this is screwed into the casting Y, having a chamber S. This casting is connected below by means of a pipe T to the pump-cylinder U, the latter having a piston or plunger V, operated by means of the rod *n*, which is attached at O′ to the bar O, working vertically through the guide *b*. The bar O is connected by a pin *p′* to the handle P, fulcrumed by a pin *p* to the standard B, which is attached to the pipe H, which is screwed into the base, the two parts of the standard providing an air-chamber. A pipe N connects the bottom of the base with the casting Y any suitable distance away from the pipe R. Attached to the top of the base is a discharge-pipe C, the lower end of which forms a valve-seat, against which the cut-off valve G may be seated. To the upper end of the pipe C is a curved spout F, having a hose connection *l*. On a line above the pipe C, at the top of the spout-casting, is a step-rest *e* to support the yoke E, to which is attached the upper end of the rod D, the latter passing through a stuffing-box or packing-gland *r*. A disk-valve G is secured to the lower end of the rod D, and is made to either close the upper discharge-pipe C, when in the position shown, or the lower or ground discharge-pipe L, when lowered and seated over the opening *a* of the elbow J. For convenience in making connections I use a union *g* in the ground-pipe L.

Inserted in the ground distributing-pipe L is a small siphon-pipe M, leading from a point below ground upward, thence through the horizontal portion, through the base-chamber and down through the vertical pipe N, terminating in the chamber S, which is located at a point lower than the lowest part of the pipe L. This siphon-pipe is the essential feature of my invention. By its use all the water remaining in the pipe above ground after use is siphoned over to the chamber S, and the water remaining in the pump and base drains down the pipe N to the same chamber, where it finds an outlet into the underground or the well through the small drain-hole S′ at bottom of chamber S.

To prevent the water from overflowing

through the pipe I, I use a packing-washer W, secured to the rod *n* in the smooth-bored tube R.

The various functions and operation of the pump are obvious and will be readily understood by those versed in the art to which it appertains. In the pump shown the guide-bar O may be connected to a motor of any kind or the pump be operated by means of the handle P, as may be desired.

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

1. The combination to form an automatic drain for the aboveground chambers and discharge-pipe of a pump, of a hollow base having suitable openings for connecting inlet and outlet pipes; a hollow casting having at its underside a small drainage-hole and suitable holes for connecting piping located at a convenient distance below said base and connected thereto by a pipe or casing inclosing a pump plunger-rod, and by a discharge-pipe adjacent; a well-pipe leading from said hollow casting downward to a pump-cylinder provided with a suitable piston or plunger attached to said plunger-rod; an air-chamber and standard attached to top of said base; a surface discharge-pipe attached to top of said base, said pipe having at its upper part a step-rest and packing-box; a yoke resting on said step-rest secured to the upper end of a rod passing through said packing-box and through said discharge-pipe to the bottom thereof; a disk valve secured to the lower end of said rod arranged to be seated either against the lower end of said discharge-pipe or against a discharge-opening below leading to an underground distributing-pipe; an underground distributing-pipe attached to said base, leading from the base above ground to a suitable distance below ground; a smaller pipe inserted into said underground pipe, said base and said discharge-pipe below said base, said smaller pipe beginning at a suitable point below the ground-surface and leading upward through the portions above ground, through the base and continuously downward to a point in said hollow casting below the level of the point of beginning, and means for operating said pump, substantially as and for the purpose shown and described.

2. In a pump, the combination with the hollow base and underground distributing-pipe, of the part Y having the chamber S provided with the drainage-hole S′, said chamber being connected at top by a pipe inclosing a plunger-rod and below by a well-pipe leading downward to a pump-cylinder; the pipe N connecting said base with said chamber S; the siphon-pipe M leading from the underground distributing-pipe upward through its upper portions, through said pump-base and downward through said pipe N, terminating in said chamber S at a point of lower level than the point of beginning, substantially as shown and described.

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

MOSES R. TURNER.

Witnesses:
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