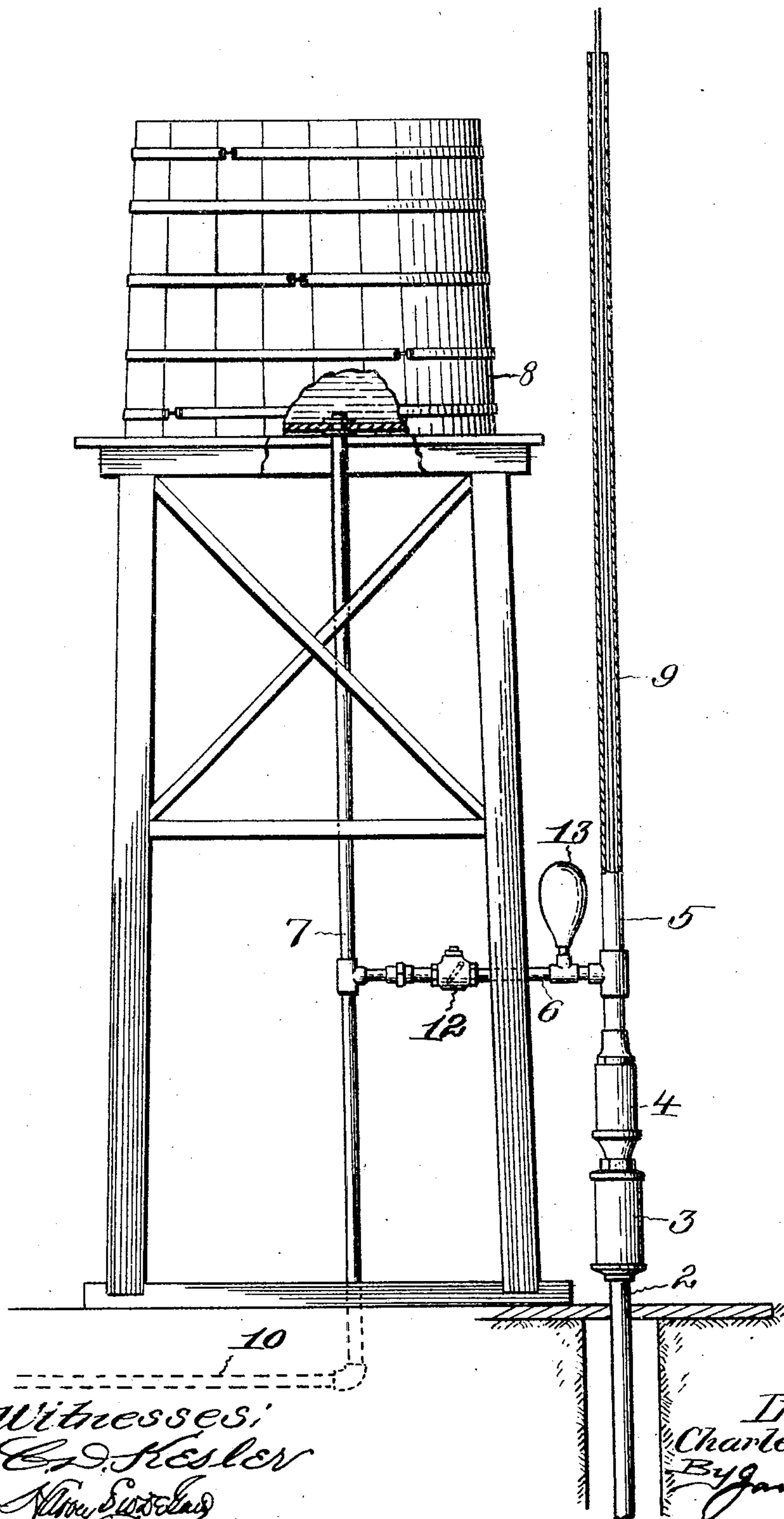


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C. H. PERRY.
PUMP MECHANISM.

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UNITED STATES PATENT OFFICE.

CHARLES H. PERRY, OF COCOANUTGROVE, FLORIDA.

PUMP MECHANISM.

No. 803,358.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed April 24, 1905. Serial No. 257,247.

To all whom it may concern:

Be it known that I, CHARLES H. PERRY, a citizen of the United States, residing at Cocanutgrove, in the county of Dade and State of Florida, have invented new and useful Improvements in Pump Mechanisms, of which the following is a specification.

This invention relates to pump mechanism adapted primarily for use in conjunction with windmills involving an overhead tank; and the object of the invention is to provide mechanism of this character which is effective in operation and the capacity of which is increased as regards those of other types with which I am familiar.

The invention includes other objects and advantages, which, with the foregoing, will be set forth at length in the following description, while the novelty of said invention will be included in the claims succeeding said description.

In the drawing accompanying and forming a part of this specification I illustrate a simple form of embodiment of the invention, which I will describe in detail to enable those skilled in the art to practice the invention; but I do not restrict myself to the disclosure thus made, for certain variations may be adopted within the scope of my claims.

The figure of the drawing represents, in sectional elevation, a pump mechanism including my invention.

In the drawing the numeral 2 denotes a well-pipe, to the head of which is connected in some suitable way—say by screw-threading—a cylinder, as 3, preferably, though not necessarily, made from brass. Connected with the top of the cylinder 3 is a union 4, which is of the character disclosed in detail in my application for patent filed October 21, 1904, and serially numbered 229,449, the union covered by said application being termed a “slip-joint” union. In the top of the union 4 is fitted the stand-pipe 5. By the employment of a union between the stand-pipe and the well-pipe I avoid the presence of a stuffing-box and naturally of the friction attending the use of the same and the grease which also follows the use of such a device. By the union 4 I may readily get at the valve or valves in the well-pipe. Extending laterally from the stand-pipe 5, above the well-pipe 2 and in the present case above the union 4, is a pipe 6, connected at its outer end with a pipe 7, extending upwardly and downwardly from said pipe 6. The upwardly-extending

portion or branch of the pipe 7 opens directly into the tank 8, it being in the present instance connected with the bottom of said tank. The tank 8 may be of the ordinary kind and supported in the customary way. The upper end of the stand-pipe extends at least to the top of the tank, or substantially so, in order that I can assure that the level of the water in the stand-pipe will be equal to that of the water in the tank. In the drawing the upper end of the stand-pipe is represented as extending a little above the upper edge of the tank.

In the stand-pipe is a pump-rod 9, and in the present case it is made of wood, an advantage of prime character following this feature, as will hereinafter more particularly appear. To the extreme lower end of the downwardly-extending branch of the pipe 7 I represent as united a main, as 10, through which the water from the tank may be delivered into one or more “laterals,” as they are termed, as is common in this art. The water from the tank, however, may be disposed of in other ways. The opposite ends of the pipe 6 are connected with the stand-pipe and intermediate portion of the pipe 7 by means of ordinary T's, and the sections of the pipe 6 are connected by an ordinary union, so that said sections can, when occasion requires, be readily separated. The said pipe 6 is provided between the stand-pipe and the pipe 7 with a check-valve 12, which serves its customary function. The pump-rod 9 is provided with some suitable form of plunger or piston.

On the upstroke of the pump-rod the water is free to pass up into the stand-pipe 5, and as it ascends about one-half of it will pass into the discharge-pipe 6. On the downstroke of the pump-rod the water in the stand-pipe will descend and will pass into the pipe 6 and then into the pipe 7 and finally into the tank 8. As there is no stuffing-box, the pump-rod runs with very little friction. There is no grease, nor is there any waste water. As the upper end of the stand-pipe 5 extends at least to the upper edge of the tank 8, the level of the water in the tube will always be practically the same. There is a steady discharge of water into the tank, this being aided, as will hereinafter appear, by an air-chamber.

Owing to the fact that the pump-rod is of wood and that there will always be a considerable volume of water in the stand-pipe in which said rod works, I rely upon the buoyancy of the rod to reduce very considerably

the power necessary to elevate said rod or to impart to it its working stroke. In other words, the working stroke is augmented by the water itself in the stand-pipe, which is possible by virtue of the described relation of the parts.

I have not deemed it necessary to show any means for operating the pump-rod, for the same may be of any desirable kind.

10 Connected with and rising from the pipe 6 is a casing 13 of substantially dome form. This casing is imperforate except, of course, where it communicates with the pipe 6, and to bring about this communication the casing
15 and pipe may be connected by an ordinary T. The chamber of the casing is adapted to contain air, which upon the upstroke of the plunger is compressed, so that on the downstroke of said plunger the air thus compressed can
20 aid in causing the elevation of the water into the tank. The compressed-air-containing casing is very simple, and as there is no outlet of air therefrom except by way of the pipe 6 there will be no waste of air, but, on the
25 contrary, there will be an effective action.

A mechanism constructed as hereinbefore described is simple, capable of easy, ready, and inexpensive installation, and the parts when in working relation operate with a
30 minimum of power and without any of the disagreeable features attending pump mechanisms of the ordinary kind, to some of which disagreeable features I have hereinbefore briefly alluded.

35 Having thus described my invention, what I claim is

1. In a pump mechanism, the combination of a tank, a stand-pipe extending to the top of the tank, a wooden pump-rod in the stand-pipe, a discharge-pipe extending laterally from
40 the stand-pipe, and a pipe connected with said discharge-pipe and extending therefrom and opening into the tank.

2. In a pump mechanism, the combination
45 of a tank, a stand-pipe extending to the top of said tank, a wooden pump-rod in the stand-pipe, a pipe extending laterally from the stand-pipe, and a pipe connected with and extending upwardly and downwardly from the laterally-extending pipe, and the upper branch
50 of which opens into the bottom of the tank.

3. In a pump mechanism, the combination of a tank, a stand-pipe extending to the top of said tank, a pump-rod in the stand-pipe, a
55 pipe extending laterally from the stand-pipe, a pipe connected with the laterally-extending

pipe and opening into the tank, and a casing for containing compressed air, in communication with the interior of and extending from said laterally-projecting pipe. 60

4. In a pump mechanism, the combination of a tank, a stand-pipe extending to the top of said tank, a wooden pump-rod in the stand-pipe, a pipe extending laterally from the stand-pipe, a pipe connected with and extending upwardly and downwardly from the laterally-extending pipe, and the upwardly-extending portion of which opens into the bottom of the tank, a check-valve in the laterally-extending pipe, and a casing for containing compressed
65 air, in communication with the interior of and projecting from said laterally-extending pipe. 70

5. In a pump mechanism, the combination of a tank, a stand-pipe extending to the top of said tank, a buoyant pump-rod in the stand-pipe, a discharge-pipe extending laterally from the stand-pipe, a pipe connected with said discharge-pipe and extending therefrom and opening into the bottom of said tank, and a casing for containing compressed air, in
75 communication with the interior of and rising from said laterally-extending pipe, said casing being imperforate except for its port that affords it communication with said discharge-pipe. 80

6. In a pump mechanism, the combination of a tank, a stand-pipe extending to the top of said tank, said stand-pipe involving a union consisting of detachable sections, and the part thereof below the union being adapted
85 to extend into a well, a discharge-pipe extending laterally from the stand-pipe and provided with a check-valve, a pipe connected with the discharge-pipe and extending oppositely therefrom, one section thereof extending
90 into the bottom of the tank, and the other downwardly from said discharge-pipe, and a casing for containing compressed air, in communication with the interior of and rising from said laterally-extending pipe between
95 the check-valve and the stand-pipe, said casing being imperforate except for its port that affords it communication with said discharge-pipe. 100

In testimony whereof I have hereunto set
my hand in presence of two subscribing witnesses. 105

CHARLES H. PERRY.

Witnesses:

BERNICE S. POTTER,
ARTHUR W. SANDERS.