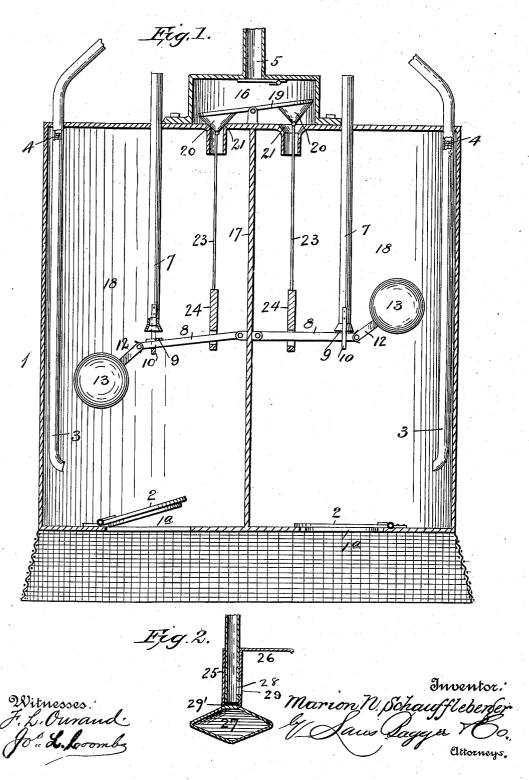
M. N. SCHAUFFLEBERGER. PNEUMATIC WATER ELEVATOR.

(Application filed July 8, 1890.)

(No Model.)



UNITED STATES PATENT OFFICE.

MARION NOEL SCHAUFFLEBERGER, OF BRISTOL, VIRGINIA, ASSIGNOR OF ONE-THIRD TO JOHN W. BOLTON, OF SAME PLACE.

PNEUMATIC WATER-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 654,764, dated July 31, 1900.

Application filed July 8, 1899. Serial No. 723,233. (No model.)

To all whom it may concern: '

Beit known that I, MARION NOEL SCHAUF-FLEBERGER, a citizen of the United States, residing at Bristol, in the county of Washing-5 ton and State of Virginia, have invented new and useful Improvements in Pneumatic Water-Elevators, of which the following is a specification.

My invention relates to pneumatic water-10 elevators of that class or character in which a tank is located in a well, mine-shaft, or other place and is provided with an inletvalve, an outlet-pipe, and an air-pipe for forcing air into the tank, whereby the water is 15 displaced from the tank and forced up through the outlet-pipe to the top of the well or shaft.

The object of the invention is to provide an improved construction of water-elevator whereby when the water in the tank falls be-26 low a predetermined level the air-pressure will be automatically reduced by the opening of a valve in an exhaust-pipe, allowing water to enter the tank until the proper level is reached, when the valve will close and the 25 water be forced up the outlet-pipe.

The invention consists in the novel construction and combination of parts herein-

after fully described and claimed.

In the accompanying drawings, Figure 1 is 30 a central longitudinal section of a water-elevator constructed in accordance with my invention. Fig. 2 is a detailed sectional view of a modified construction of the air-pipe valve.

In Fig. 1 I have shown a double-acting ele-35 vator provided with a housing 16 at the upper end, with which the air-pipe 5 communicates. The tank is divided by a central partition 17 into two compartments 18, in each of which are located an outlet-pipe 3, exhaust-40 pipe 7, pivoted arm 8, valve 9, float 13, and inlet-valve 2. The outlet-pipes come together above the tank and are connected with a single discharge-pipe. (Not shown.) Located in said housing is a horizontal lever 19, each 45 end of which is provided with a valve 20, which engages with a seat 21 in the upper end of short air-pipes extending into the tank. Said lever is also provided with rods 23, which pass down through the said air-pipes and are 50 provided with arms 24, the lower ends of which are formed with slots, through which the arms 8 loosely pass. The operation of this con-

struction will be readily understood. As one

float rises to close the exhaust-pipe, so that the air-pressure will force the water out of 55 the outlet-pipe, the float in the other compartment will fall to reduce the air-pressure and allow water to enter the compartment. By this means the operation of elevating the water will be continuous, as while one com- 60 partment is discharging the other will be filling.

A suitable strainer may be placed at the lower end of the tank, as is usual in water-

In Fig. 2 I have shown a modified construction of float and valve for the exhaust-pipe. In this instance the numeral 25 designates a vertically-movable tube telescoping upon the exhaust-pipe and provided at the upper 70 end with an arm 26 and at the lower end with a float 27. Said tube is formed with an opening 28, adapted to register with a corresponding opening 29 in the exhaust-pipe. The operation will be readily understood. When 75 the float falls, the said openings will come into coincidence and the air in the tank will escape through the exhaust-pipe. When the float again rises, the openings will close. The numeral 29' designates a rubber bumper car- 80 ried by the float.

Having thus fully described my invention.

what I claim is-

In a duplex pneumatic water-elevator, the combination with the tank divided by a cen- 85 tral partition into two compartments, each having an inlet-opening in the bottom provided with a valve, the outlet-pipes, the exhaust-pipes, the pivoted arms provided with valves, the rods pivoted thereto and the floats, 90 of the housing at the upper part of the tank, the air-pipe communicating therewith, the pivoted lever having a valve at each end, the air-pipe with which said valves engage, the rods connected with said lever passing 95 through said air-pipes, and the bars connected therewith having slots at the lower ends through which said pivoted arms pass, substantially as described.

In testimony whereof I have hereunto set 100 my hand in presence of two subscribing wit-

nesses.

MARION NOEL SCHAUFFLEBERGER.

Witnesses:

I. B. LEONARD, Jr., G. F. DUMHAND.