J. M. WHITNEY.
Windmill.

No. 221,641. Patented Nov. 11, 1879.

Fig. 1.

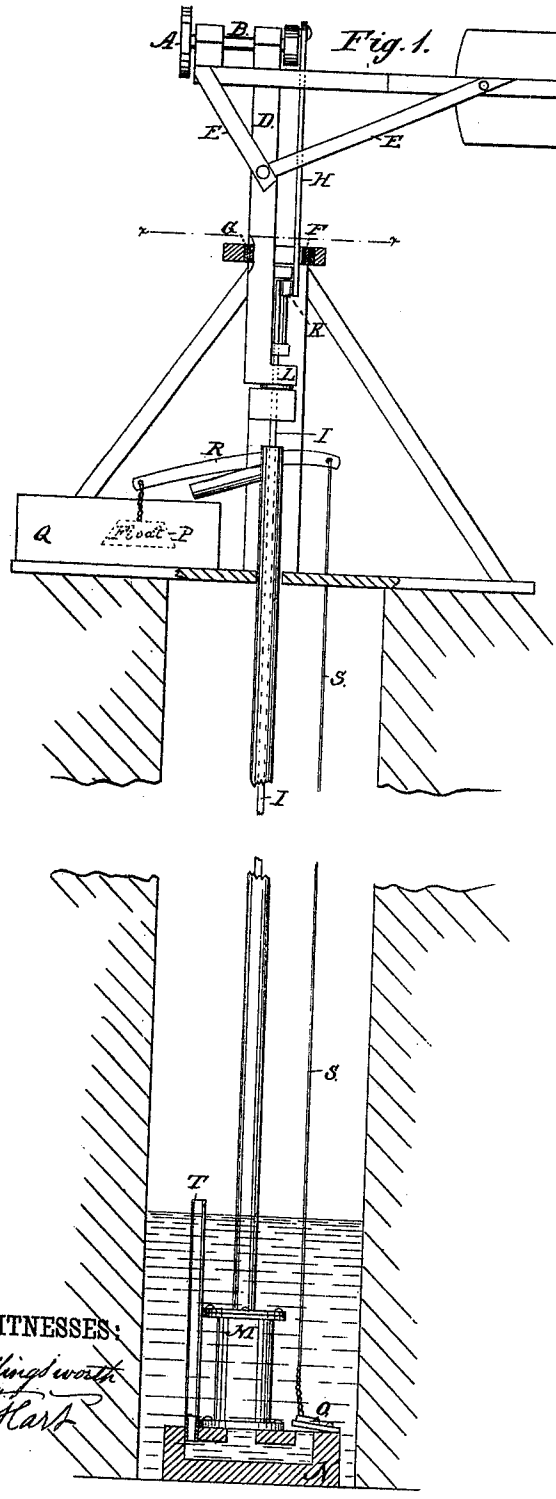
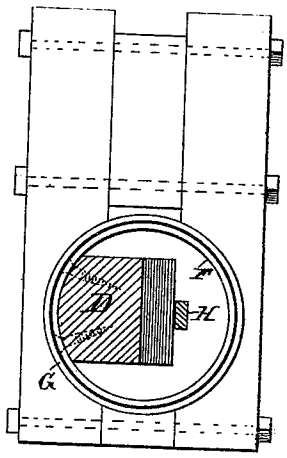


Fig. 2.



WITNESSES:
W. W. Hollingsworth
Amos W. Hart

INVENTOR:
J. M. Whitney
BY
ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN M. WHITNEY, OF MOUNT PULASKI, ILLINOIS.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **221,641**, dated November 11, 1879; application filed September 4, 1879.

To all whom it may concern:

Be it known that I, JOHN MURRAY WHITNEY, of Mount Pulaski, in the county of Logan and State of Illinois, have invented a new and Improved Windmill and Pump; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention is to provide a combined windmill and pump for use in supplying water for stock and other purposes, which shall be so constructed that the wind-wheel may be in operation so long as the wind blows with sufficient force, while the pump will operate intermittently, or only at such times as the tank or trough is empty, or nearly so.

I also aim to so locate and construct the pivots or bearings of the post of the wind-wheel as to lessen the friction and increase the strength of the wheel, as well as provide for attachment of the pump-rod to the pitman, so that the post or standard of the wind-wheel shall rotate around them.

In the accompanying drawings, forming part of this specification, Figure 1 is mainly a side elevation (part being in section) of my improved machine placed in working relation to a well. Fig. 2 is a cross-section, enlarged, on line *x x* of Fig. 1.

The arms (not shown) of the wind-wheel are in practice attached to the disk A, fixed on one end of the horizontal crank-shaft B, and the vane C has a fixed relation to the post D, being suitably supported by braces E. Said post D is set vertical, as usual, but pivoted eccentrically.

A ring, F, encircles the middle portion of the post D, and is attached to one side thereof. Said ring is fitted in the fixed ring G, and they together constitute the upper bearing of the post. The pitman H, attached to the crank-shaft B, passes through the ring F, and is attached to cross-head K, which slides on rods fixed on the side of post D. The pump-rod I is also attached to said cross-head, and passes through the hollow lower bearing, L, of the post, being connected at its lower end with the pump-valve in cylinder M, in the usual way.

By the above-described arrangement, the wind-wheel post D rotates together with the pitman H and pump-rod I, and space is afforded for play of the pitman within the circular upper bearing, F G, while the wrist-pin of the crank B and the cross-head and pump-rod are as nearly in the same vertical plane as practicable. Thus the friction and wear are reduced, and the strength, durability, and efficiency of the wheel correspondingly increased.

The pump-cylinder M, which is attached to a block or pedestal, N, is designed to be wholly or partly submerged in the water in a well or other source of supply, and the admission of water to the cylinder is controlled by a valve, O, which is hinged to said pedestal N, and closes or opens a passage leading to the check-valve in the bottom of the cylinder M.

The position of the valve O is controlled by the float P in tank or trough Q, said float being connected with the longer arm of a pivoted lever, R, and the valve O with the shorter arm thereof by means of the rod S. When the trough Q becomes filled to a certain height, the float P will be raised, and the valve O thereby allowed to fall and close the passage leading to the pump-cylinder, so as to exclude the admission of water. The wind-wheel may continue to rotate, but no more water will be raised into the tank Q, because none will be supplied to the cylinder M.

To relieve friction of the pump and prevent injury thereof during such exclusion of water, I provide for admission of air to the cylinder M through the medium of a pipe, T, which projects above the surface of the water in the well, and is suitably attached to the pedestal N. The pipe may communicate with the cylinder through the water-passage controlled by valve O, or through a separate passage, as preferred; or a chamber may be formed in the pedestal N, with which the cylinder, air-pipe, and valve-opening may have common communication.

By the above-described arrangement, I avoid the use of feathering-blades for the wind-wheel, or any device for throwing the same out of action when the force of the wind exceeds a certain limit, and I avoid wasting water, since none will be raised except when the quantity in the trough has become diminished to a certain extent.

What I claim is—

1. The wind-wheel post set eccentrically, the ring attached to one side thereof, a fixed ring encircling the first and forming the upper bearing of the post, the pump-rod passing through the pivot or lower bearing of the post, and connected with the pitman which works through the upper or ring bearing, all combined as shown and described, for the purpose specified.

2. The combination of a wind-wheel and a pump operated thereby and a regulator for cutting off the supply of water to the pump, so that, although the same may continue to operate, no water will be raised or forced into the tank, substantially as shown and described.

3. The combination of a wind-wheel and pump, and a tank, a float, and a valve, and a device which connects said float and valve, all arranged, substantially as shown and described, so that water will be admitted to or cut off from the pump-cylinder according as the supply in the tank falls below or rises above a certain height.

4. The combination of the float, the lever and rod, and the valve with the wind-wheel, the tank, pump, and pedestal having a passage or chamber communicating with the pump-cylinder, all as shown and described.

5. The combination of the air-pipe with the pump-cylinder and wind-wheel and a valve for cutting off the supply of water to said cylinder, as shown and described.

JOHN MURRAY WHITNEY.

Witnesses:

CHARLES C. MERRILL,

J. W. EWING.