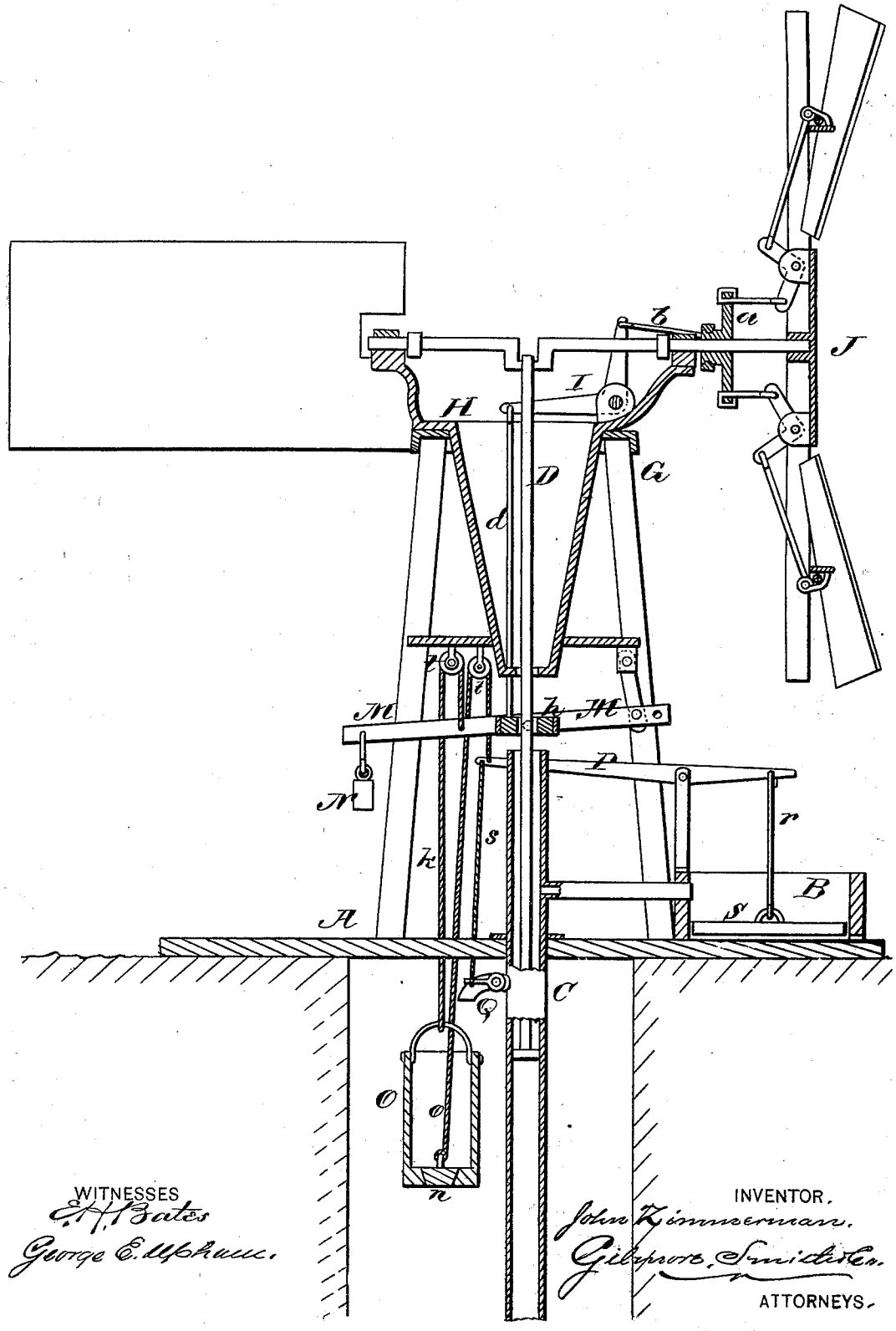
J. ZIMMERMAN.

WIND-MILL.

No. 175,814. Patented April 4, 1876.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN ZIMMERMAN, OF EARLVILLE, ILLINOIS.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **175,814**, dated April 4, 1876; application filed March 18, 1876.

To all whom it may concern:

Be it known that I, JOHN ZIMMERMAN, of Earlville, in the county of La Salle and State of Illinois, have invented a new and valuable Improvement in Windmills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing represents a vertical sectional view of my windmill.

My invention relates to windmills for pumping water; and it consists in the construction and arrangement of devices for automatically starting and stopping the wheel, as will be hereinafter more fully set forth.

In the annexed drawing, A represents a well-cover, with trough B arranged thereon for receiving the water drawn from the well by the pump C. This pump is constructed in any ordinary manner, and its plunger-rod D connected to the horizontal crank-shaft, which is arranged in bearings upon a turn-table, H, on top of the tower G, said shaft having upon end the wind-wheel J. The blades or fans of the wheel are connected, by suitable rods and levers, with a sliding collar, *a*, on the shaft, and this collar, by rods *b*, with two L-shaped levers, I, which, in turn, are, by rods *d*, connected with a rotating disk, *h*, within a lever, M, so arranged that the disk can turn freely therein and yet be raised and lowered by the raising and lowering of the lever, and thus throw the fans of the wheel in and out of gear. From the end of the lever M is suspended a weight, N, balanced by means of a bucket, O, hanging from the end of a rope or chain, *k*, which passes up through the well-cover over a pulley, *t*, and is attached to said lever. In the bottom of the bucket O is a valve, *n*, which is operated to let out its contents by means of a rope, *o*, passing up through the well-cover A and attached to one end of a lever, P, pivoted to a standard on the edge of the trough B. The other end of the lever P is, by means of a rod, *r*, connected to a float, S, in the trough. To the same end of the lever P as the cord *o* is attached another cord, *s*, which passes upward over the pulley *t* and downward through the well-cover, and is attached to the valve of a faucet, Q, in the pump stock.

When the wheel is in motion the water is pumped into the trough B, and the float S rises with the water. This depresses the outer end of the lever P, which, by the cord *s*, opens the faucet Q and allows the water to flow into the bucket O. When this bucket is full it overbalances the weight N and raises the lever M, thereby throwing the wheel out of the wind and stopping the motion of the pump. As the water is drawn off from the trough B the float S descends, raising the outer end of the lever P. This closes the faucet Q and opens the valve *n* in the bottom of the bucket O, when the contents of the bucket will flow out, allowing the weight N to depress the lever M and throw the wheel in the wind again, and thus again set the pump in motion.

It will thus be seen that the wheel is automatically thrown in and out of the wind to start and stop the pump, according to the state of the water in the trough B.

If a continuous supply of water is required, the valve or spigot of the trough is to be left open, so that the float S will always be down, and thereby holding the wheel in the wind.

What I claim as new, and desire to secure by Letters Patent, is—

In combination with the weighted lever M, arranged to operate upon a wind-wheel for throwing the same in and out of the wind, the float S, lever P, cord *s*, faucet Q, bucket O, with valve *n* and cords *k o*, all arranged to operate substantially in the manner and for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN ZIMMERMAN.

Witnesses:

M. M. MORSE,

WM. WILSON.