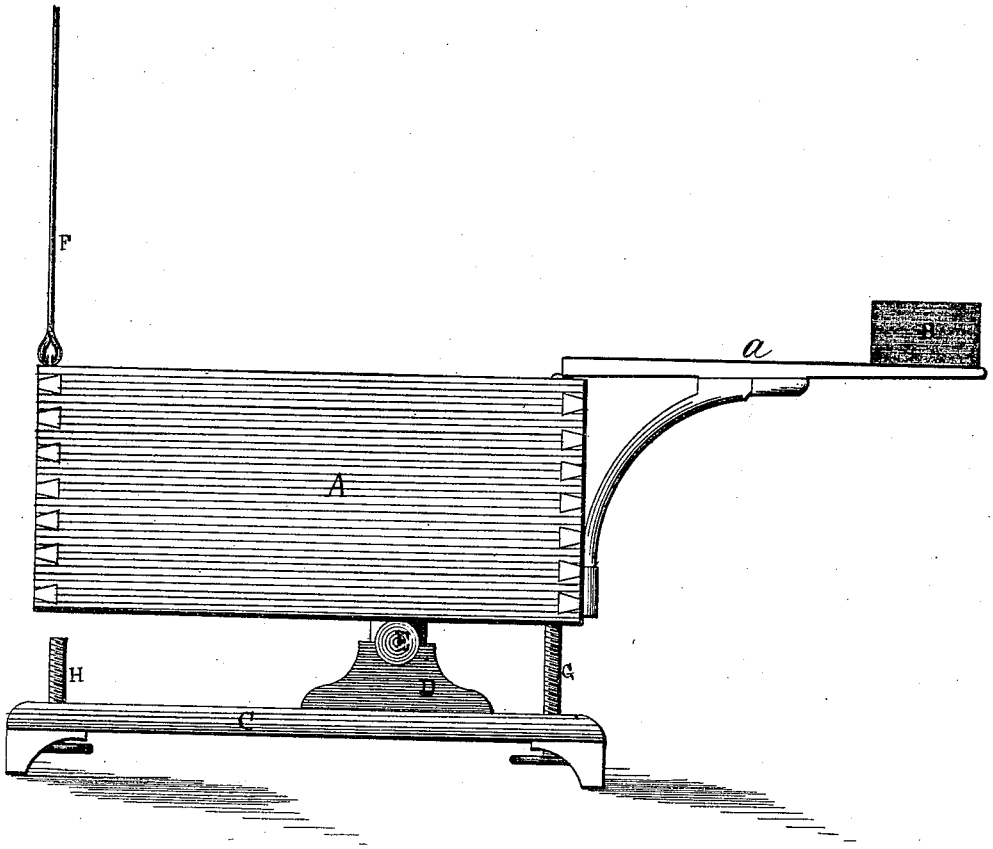
A. WILLSON.

Wind-Mill.

No. 168,950. Patented Oct. 19, 1875.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ANSON WILLSON, OF CASCADE, MINNESOTA.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **168,950**, dated October 19, 1875; application filed January 26, 1875.

To all whom it may concern:

Be it known that I, ANSON WILLSON, of Cascade, in the county of Olmstead, State of Minnesota, have invented certain Improvements in Automatic Regulators for Windmills, of which the following is a specification:

My invention relates to certain improvements upon that class of devices for automatically regulating the windmills employed for pumping water into a trough, for the use of animals, and for other purposes; and the object is to render such apparatus more simple and effective in operation.

My invention consists in combining, with the water trough or receptacle, set-screws or adjustable bearings, arranged beneath the ends of the journaled trough, whereby the power of the reservoir can be increased or diminished by adjusting said set-screws to give the trough a greater or less pitch, all of which will be hereinafter described.

Referring to the accompanying drawing, the figure represents a side elevation of my invention.

The letter A represents the trough or water-reservoir for receiving and holding the water; C, a base for supporting the trough, which latter is provided with suitable journals E, applied to the pedestals or blocks D on the base. The journals of the trough are located at such distance from the center that the preponderance of weight of the trough is at its front end. With the trough, journaled as described, is combined a box or receptacle, B, which, in the present example, is supported by a horizontal arm attached to the end of the trough, and which box or receptacle is intended to receive and to hold counterpoise-weights, whereby the trough can be entirely filled with water before it is permitted to tilt, in order to have plenty of water in readiness in case there should not be wind for several days sufficient to operate the pump, this result being accomplished by placing sufficient weight in the box or receptacle for the same to counterpoise the weight of water in the trough; but when the latter is filled a quantity of weights can be removed, in order to allow the trough to tilt and stop the pumping operation. Moreover, it is not necessary that all the water be used from the trough before it can be put in operation, as, by adding weights at any time sufficient to bring the trough to a horizontal position, or to counterpoise the amount of water in the long end of the trough, the mill can be put in operation at any time.

It will also be seen that the trough can be so nicely balanced that it is adapted to hold any quantity of water and govern the operation of the windmill, which is accomplished by adding or removing a number of weights.

At each end of the base C is arranged a set-screw or adjustable bearing, G and H, and on which the ends of the trough rest alternately. These screws or bearings can be adjusted so that the power of the trough or water-reservoir can be increased or diminished, this being accomplished by imparting more or less pitch to the trough by the set-screws, and thereby regulating the amount of water necessary to operate the trough. To one end of the trough or water-reservoir is attached one end of a rod, F, which is connected with an operating part of the windmill employed to operate a pump for supplying the trough with water, in such a manner that when the trough is supplied with sufficient water to overcome the weight of the counterpoise in the box B the front end of the trough will be automatically tilted downwardly, and be supported by the set-screw H, and the connecting-rod F will operate to disconnect some operating part of the mill, so as to cause the same to cease operating the pump.

When the water has been exhausted, or used from the trough to such an extent that the counterpoise at the rear end of the same will cause it to assume a horizontal position and be supported by the set-screw G, the connecting-rod F will operate to connect the mechanism of the mill for operating the pump and replenishing the trough or water-reservoir with water.

I am aware that it is not new to control or govern the action of a windmill by the weight of water pumped into a receiving-

trough, the latter being, for this purpose, connected with the windmill, so that when the trough is filled the weight of water will tilt the same and stop the pumping operation, and such, broadly, I disclaim.

What I claim is—

The combination, with the trough or water-reservoir, having the rod F for connecting it with the windmill, of the adjustable bearings G and H, for regulating the pitch of the reservoir, substantially as and for the object specified.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of July, 1874.

ANSON WILLSON.

Witnesses:
J. M. SHEARDOWN,
C. O. MORGAN.