

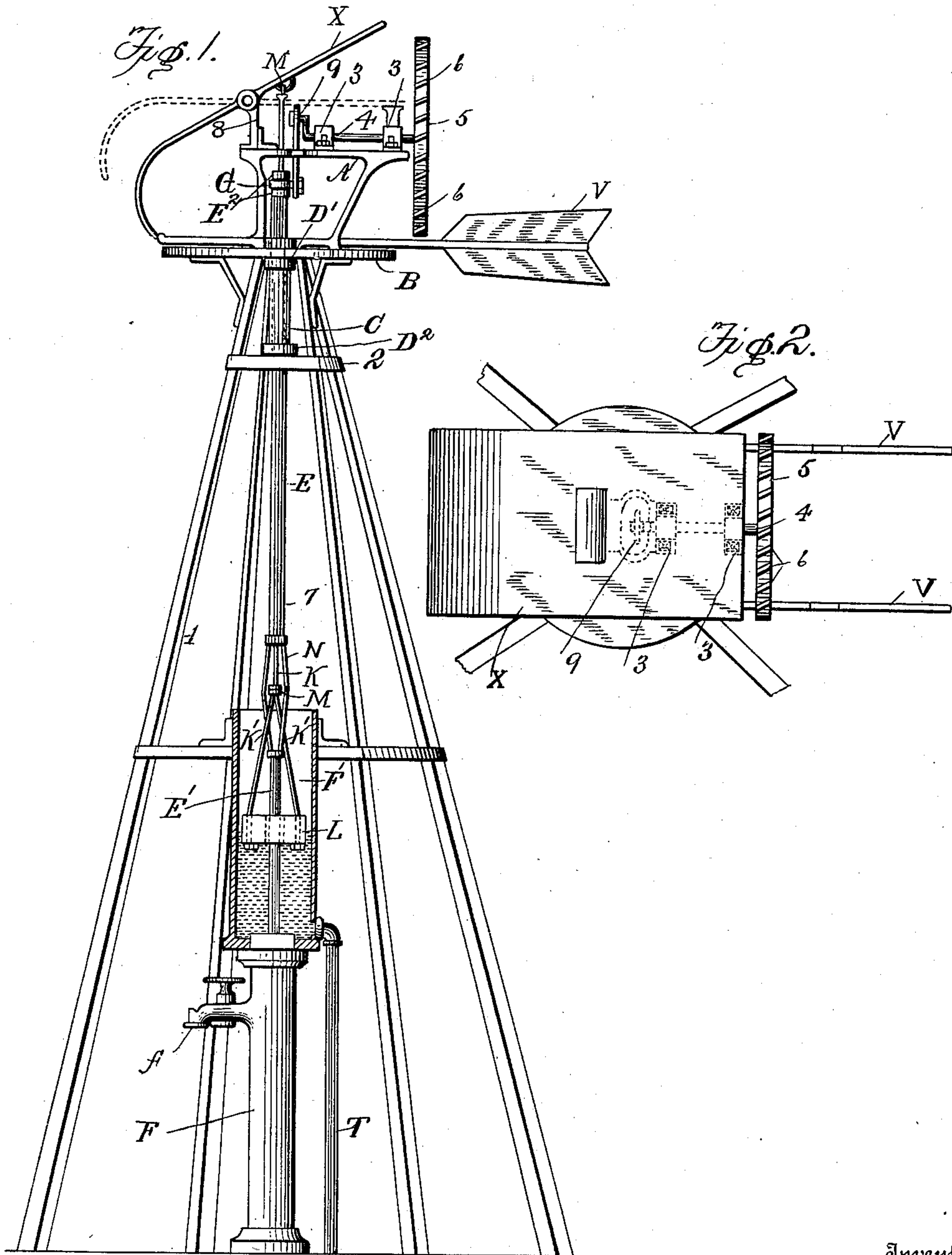
No. 661,809.

Patented Nov. 13, 1900.

P. MITSCH.
WINDMILL.

(Application filed Feb. 15, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

PETER MITSCH, OF CHICAGO, ILLINOIS.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 661,809, dated November 13, 1900.

Application filed February 15, 1900. Serial No. 5,287. (No model.)

To all whom it may concern:

Be it known that I, PETER MITSCH, a subject of the Grand Duke of Luxemburg, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Windmills; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to improvements in windmills.

One object of the invention is to provide simple, durable, and inexpensive means for regulating the mill, such means being adapted to gradually expose the face of the wheel to the force of the wind, thereby preventing injury to the wheel should it be suddenly exposed to the wind in a gale or during a sudden gust of wind.

A further object is to provide means for shielding the wheel when it is cut off from the wind and deflect the wind from the wheel, the shield being positioned to offer the least possible resistance to the wind, thus reducing to a minimum the strain upon the tower.

A final object is to provide the improved details of construction by which the invention is carried out.

With these objects in view the invention consists in certain features of construction and combination of parts, which will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of my improved windmill. Fig. 2 is a top plan view.

In the drawings the same reference characters indicate the same parts of the invention.

1 denotes the tower, having at its upper end platforms B and 2.

A denotes a chair fixed to the upper end of a tube C, which is journaled in bearings D' D² in the platforms B and 2. The chair is provided with shaft-bearings 3, in which is journaled the shaft 4 of the wheel 5, which has fixed blades 6. Two vanes V are fixed to the chair and project rearwardly of the front face of the wheel.

X denotes a shield or shutter pivoted to a bracket 8, supported upon the frame, and of a width corresponding to the diameter of the wheel and of a length sufficient when the

shield is lowered to the position shown in full lines in Fig. 1 to entirely deflect the wind from the wheel.

F denotes a pump provided with a draw-off cock or spout f.

7 denotes a two-part pump-rod, the part E' of which extends downwardly through the pump-barrel and is provided with the usual plunger, and the part E of which is tubular and extends upwardly through the tube C and is provided with collars E², between which is loosely secured the eye of a bolt G, the end of which is connected to the crank of the wheel-shaft by a pitman or link 9. The parts E and E' of the pump-rod are connected together by the link N.

F' denotes the water-reservoir, which communicates with the pump F. L denotes a float arranged within said reservoir and connected by links K' with a rod K, that extends up through the tubular section E of the pump-rod and is provided at its upper end with a swiveled hook M, that is engaged with the loop M', secured to the shield X.

T denotes an outlet-pipe leading from the bottom of the reservoir F' to the dwelling or point of consumption.

Assuming the water in the reservoir to be at the level indicated in Fig. 1, the shield will be in the position shown in full lines in said figure and will deflect the wind from the wheel, which is at all times held to the wind by the vanes V. Now the instant the water-level in the tank is lowered by the removal of the water therefrom the float L will lower, and as the water is gradually drawn out of the reservoir so will the shield be gradually shifted to assume a horizontal position, as shown in dotted lines in Fig. 1, to expose the face of the wheel to the wind. The wheel being now operated by the force of the wind will actuate the pumping-rod, which will pump water into the reservoir, and as the reservoir fills the float will be raised and will gradually lower the shield to the position shown in full lines in Fig. 1 or until the wheel is entirely cut off from the wind. It will thus be seen that the device is entirely automatic and that the wheel in starting is gradually exposed to the wind, so that there is no liability of the parts being damaged or broken by the jerks and jars incident to a

sudden starting of the wheel when the wind is blowing at a swift rate. It is also evident that when the wheel is not in operation the parts supported above the upper platform are all shielded by the shield X, which when in its inclined position, as shown in full lines in Fig. 1, deflects the wind from all parts of the mill above the platform, and the shield itself, being in an inclined position, will offer the least possible resistance to the wind, and will therefore relieve the tower of any unnecessary strain.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my improved windmill will be readily apparent without requiring an extended explanation. It will be seen that the mill is simple in construction, that said construction permits of its manufacture at small cost, and that it is exceedingly well adapted for the purpose for which it is designed.

It will of course be understood that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination with a windmill, of a tubular pump-rod, a reservoir to receive the pumped water, a movable shield adapted,

when in one position, to shield the wheel and deflect the wind therefrom, and in the other position to expose the wheel to the wind and permit it to rotate, a float arranged within the reservoir and a rod connected to said float and extending through the tubular pump-rod and connected to the shield, whereby the shield is governed in its movements by the rise and fall of the water within the reservoir substantially as and for the purpose set forth.

2. The combination with a windmill, of a pump-rod connected to the windmill, a reservoir to receive the pumped water, a shield mounted to turn upon a horizontal axis and adapted when in a horizontal position to expose the face of the wheel to the wind and when in its inclined position to deflect the wind from the wheel and also to relieve the tower, the inclination of the shield serving to lessen the resistance of the wind against the tower, a float within said reservoir, and a connection between the float and the movable shield, substantially as and for the purpose set forth.

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

PETER MITSCH.

Witnesses:

WILLIAM F. PETERS,
JOE H. MYERS.