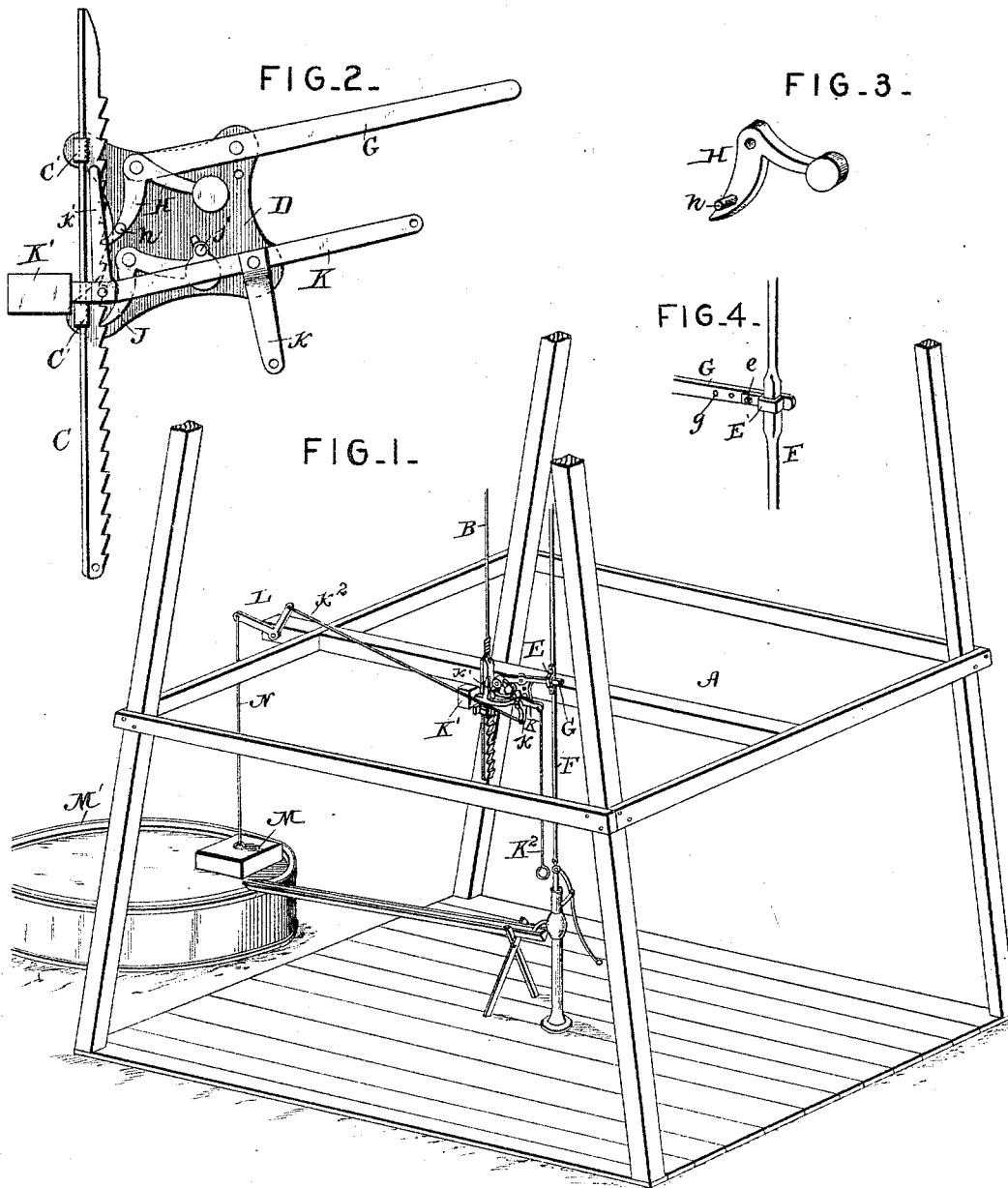


(No Model.)

H. GROSZ.
WINDMILL REGULATOR.

No. 491,550.

Patented Feb. 14, 1893.



Witnesses

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UNITED STATES PATENT OFFICE.

HERMAN GROSZ, OF MENDOTA, ILLINOIS.

WINDMILL-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 491,550, dated February 14, 1893.

Application filed February 26, 1892. Serial No. 422,860. (No model.)

To all whom it may concern:

Be it known that I, HERMAN GROSZ, a citizen of the United States, residing at Mendota, in the county of La Salle and State of Illinois, have invented a new and useful Windmill-Regulator, of which the following is a specification.

My invention relates to an attachment for windmills for throwing the wheel into and out of operation; and its object is to provide mechanism possessing superior advantages in simplicity, convenience, and general efficiency, by means of which the wheel will be automatically thrown into and out of operation by a float in a tank; and the water in the latter will be automatically kept at the same level. The details and advantages of construction will be more fully hereinafter described and claimed.

In the drawings—Figure 1 is a perspective view of a portion of a windmill frame, tank, and appurtenances, showing my improvement applied thereto. Fig. 2 is an elevation of the improvement detached. Fig. 3 is a detail perspective view of one of the pawls. Fig. 4 is a perspective view of a modification.

Referring to the drawings, A represents a portion of the tower or framework of a windmill, on the upper end of which is secured a wind-wheel, which may be of any preferred construction and is not herein shown as it forms no part of this invention. The wheel will be provided with mechanism by means of which it may be thrown out of the wind, said mechanism being controlled by a wire or cord B. Attached to this wire or cord B is a bar C having ratchet-teeth formed on its inner edge, and which has a sliding movement in guides C' on a cast or other metal frame D, which is secured to a portion of the tower.

F represents the pump or plunger-rod, which is connected with the crank-wheel of the windmill and reciprocates vertically when the windmill is rotated in the usual well-known manner. On said pump or plunger-rod is mounted the clip E, through which is passed the end of a lever G. The said lever G is pivotally connected to the metal frame D and carries a gravity-pawl H on the front end thereof, which is adapted to engage the ratchet-teeth of the bar C. On said frame D is also pivoted another pawl J, adapted to hold

the said bar C in position, while the aforesaid pawl H works said bar downward through the movement of the pump or plunger-rod F.

A gravitating bar K is pivoted to the lower part of the frame D and carries a weight K' on one end thereof, and to the other end of the same may be connected an operating cord and handle K²; said bar K is also provided with arms *k* and *k'* projecting from opposite edges thereof and at right angles thereto. To the bar *k* is secured a cord or wire *k*², running to one arm of a bell-crank lever L, and to the other arm of said bell-crank lever a float M, located in a trough M', is connected by a cord or wire N. The upper arm *k'* of said bar K is adapted to contact with projections *h* on pawl H to thereby throw said pawl out of engagement with the ratchet-teeth of the bar C when found necessary and desirable, and on the pawl J is a projection *j*, which is adapted to be engaged by the bar K, and thereby release said pawl J from connection with the ratchet.

The operation is as follows: It will be supposed that the tank or trough M' is empty, and that the wheel is set in motion to fill the same with water. When the water rises in the tank it lifts the float M, and the gravitating bar K is lowered and brings the pawls H and J in contact with the teeth of the bar C to work the latter downward until the mill is out of gear. On the contrary, when the water is lowered in the tank the float will lower itself and change the position of the bar K in order to throw the pawls H and J out of engagement with the ratchet-teeth of the bar C, thereby allowing the mill to run free. As soon as sufficient water is pumped into the tank or trough to raise the float, the pawls are again thrown into engagement with the bar C, and in this manner the operation is continued.

The conveniences and advantages of my improved regulating attachment will be readily apparent to those skilled in the art and need not be further explained herein.

In Fig. 4 a modified form of construction is shown and in this form the lever G is formed with a series of holes *g* to receive a removable bolt *e* passing through an arm of a clip or lever E', secured to the lever G, as shown and embracing the rod F of the pump to hold the

same in connection with the said lever G. By means of the holes *g* in the lever G, the said clip E' is made adjustable, and can thereby accommodate different forms of construction.

5 What is claimed as new is—

In an attachment for a windmill of the character set forth, the combination of a metallic frame D having guides C' thereon, a bar C having ratchet-teeth formed on its inner
10 edge only and vertically movable in said guides C', a lever G pivotally connected to the upper part of the said frame and carrying a gravity-pawl 26 on one end thereof adapted to engage the ratchet-teeth of said bar C' and
15 provided with a projection *h* near the engaging end thereof, a pawl J pivotally attached to the frame D below the lever G and pawl H, having a projection *j* and adapted to hold said
20 said bar downward, a gravitating bar K pivoted to the lower part of the said frame D having a weight on one end thereof and having an upwardly-projecting arm *k'* nearer the

weighted end thereof adapted to contact with the projection *h* of the pawl H, and a depend- 25
ing arm *k* nearer the free end thereof, the free end of said bar K having a cord connected thereto to operate the same to disengage the pawl H from the teeth of the bar C, and said
30 bar K of itself being adapted to engage the projection of pawl J, a cord *k*² attached to the said arm *k*, a bell-crank lever to one portion of which said cord *k*² is attached, a float connected to the other portion of said bell-crank
35 lever, a wire or cord B secured to the upper portion of the bar C and running to the wheel mechanism, and a pump-rod having a clip E thereon through which the free end of the said lever G passes, substantially as described.

In testimony that I claim the foregoing as 40
my own I have hereto affixed my signature in the presence of two witnesses.

HERMAN GROSZ.

Witnesses:

A. M. ANDERSON,
HENRY HOEGER.