J. KLOPFENSTEIN.

PUMP REGULATING MECHANISM.

APPLICATION FILED SEPT. 6, 1911.

1,067,662.

Patented July 15, 1913.

Fig. 1.

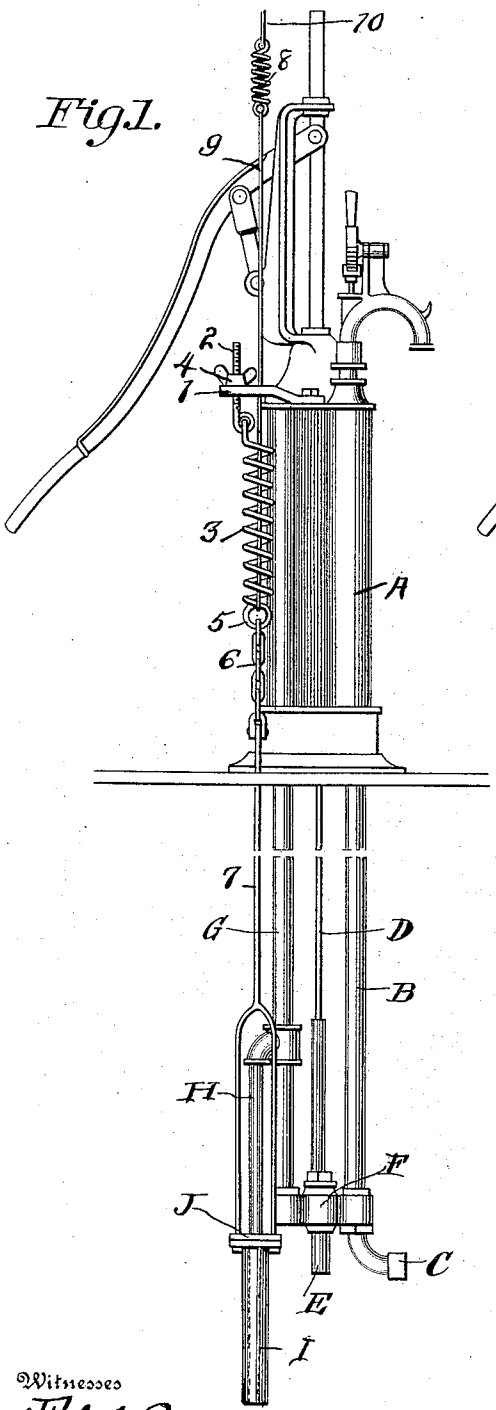
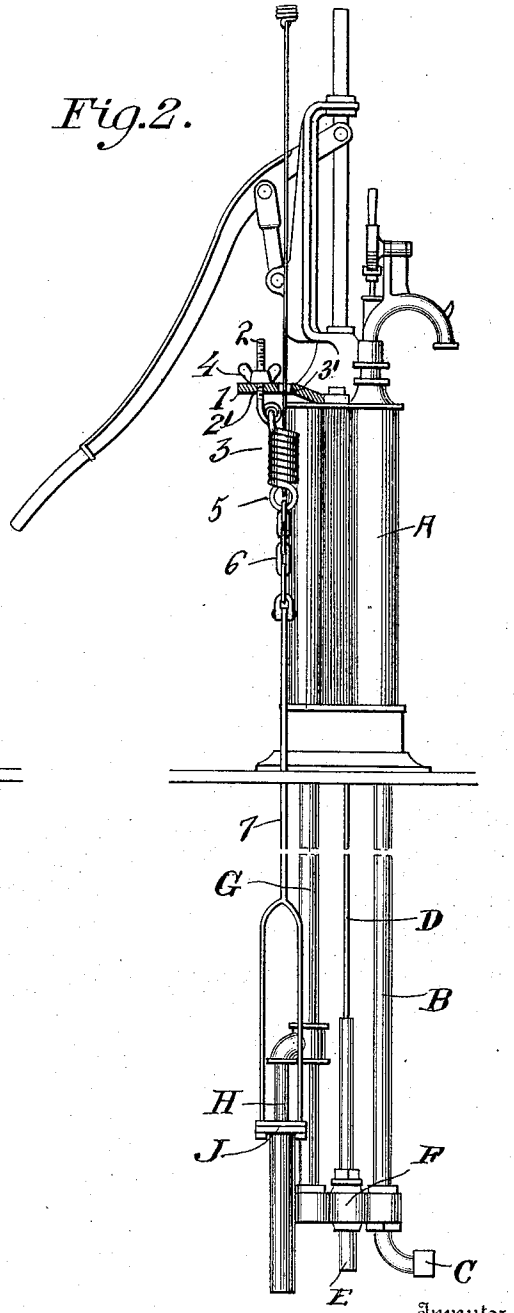


Fig. 2.



Witnesses

Phil. E. Barnes

Inventor

Jonas Klopfenstein

By Victor J. Evans

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JONAS KLOPFENSTEIN, OF SILVERTON, OREGON.

PUMP-REGULATING MECHANISM.

1,067,662. Specification of Letters Patent. Patented July 15, 1913.

Application filed September 6, 1911. Serial No. 647,840.

To all whom it may concern:

Be it known that I, JONAS KLOPFENSTEIN, a citizen of the United States of America, residing at Silverton, in the county of Marion and State of Oregon, have invented new and useful Improvements in Pump-Regulating Mechanism, of which the following is a specification.

This invention relates to pump regulating mechanism for windmills, and the object of the present invention is to provide simple and inexpensive means operatively connecting the governor mechanism with the hydraulic regulating cylinder so that the wheel can be automatically and effectively thrown into and out of operation according to the amount of water in the tank.

The above mentioned and other objects are attained by the construction, combination and arrangement of parts, as disclosed on the drawings, set forth in this specification, and particularly pointed out in the appended claim.

In the drawing, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views:—Figure 1 is a side elevation of the regulating mechanism showing the same applied to a pump. Fig. 2 is a similar view showing the regulator in position when the clutch mechanism is in gear.

For convenience the different portions of the pump will be described and are briefly illustrated by the following reference characters, the pump proper being designated at A, said stock being provided with the usual discharge pipe B having its discharge end C in communication with a tank (not shown). The piston rod D extends down in the main pipe E, said pipe being secured in any preferred manner to the chambered casting F. Said casting not only receives the discharge pipe B, but further receives the pump stock pipe G. Connected with the stock pipe G is a branch pipe H which is provided on its lower end with the usual piston or packing (not shown.) Over this packing fits snugly a sliding cylinder I having its head portion J operatively connected with the later on described actuating mechanism. The pump stock A carries an apertured rearwardly and laterally projecting arm 1 in which an eye bolt 2 is mounted for vertical adjustment, it being understood, however, that it is so constructed that it may be placed on pumps of any approved construction. The said arm 1 is provided with a pair of apertures, 2′ and 3′, the said aperture 2′ is for the reception of the top edges of the bolt 2, while the other said aperture 3′ serves as a guide opening for a suitable connecting rod, as will be hereinafter more fully explained. The spring 3 has its upper extremity engaged in the eye of the adjusting bolt 2 whereby the spring can be moved vertically as will be understood. The said eye bolt is provided with a suitable winged nut 4. The lower extremity of the spring is formed into an eye 5 with which the upper extremity of a chain 6 is secured. The lower extremity of the chain is connected to a cylinder actuating rod 7. It will be seen that the purpose of the chain is to prevent the buckling of the rod 7 during its operation. A retractile spring 8 is disposed immediately above the spring 3, and as illustrated, this spring is operatively connected at its lower extremity to the upper end of a rod or suitable connection 9. This rod extends downwardly through the guide aperture 3′ of the laterally extended arm 1 and through spring 3, and its lower end is attached thereto, as shown. The spring 8 has its upper extremity attached by a swivel to the lower end of a clutch controlling rod or element 10.

The construction of the regulating mechanism herein shown and described is such that it can be applied to various well known forms of pumps and its use will permit the pressure of the pump to be regulated in a convenient manner at the will of the operator. This is accomplished by reason of the fact that means are provided for regulating the retractile spring 3 whereby it can be moved vertically to adjust the stroke of the vertically movable hydraulic regulating cylinder B.

When the water in the supply tank is high it is obvious that the pressure within the regulating cylinder B will be sufficient to actuate the rod 7 so that the controlling element 10 can be operated to move the wheel of the mill out of the wind. When the water lowers in the supply tank the pressure in the regulating cylinder B will of course be less and the tension of the spring 3 will be sufficient to actuate the regulating cylinder so as to force the water therefrom and to actuate the connection 9

and the element 10 respectively so that the wheel of the mill can be thrown into the wind.

The construction herein described permits of a positive operation at all times, its parts being such that they will not be affected by sleet, or snow.

The construction is simple, light, strong and durable and when applied to the pump will take up but little space thereon, as is obvious.

I claim:

In a mechanism of the class described, a pump, a vertically movable cylinder connected with the pump, an arm having a pair of apertures secured to the stock of the pump and projecting rearwardly and laterally therefrom, an adjustable bolt extending through one of the apertures of the said arm, a controlling rod passing through the other of said apertures of the arm, upper and lower retractile springs interconnected by said controlling rod, said lower retractile spring having its outermost convolutions terminating in upper and lower eye portions respectively, the upper eye portion being connected with said adjustable bolt while the lower eye portion is connected with the pressure cylinder, said lower retractile spring embracing said controlling rod for a portion of its length.

In testimony whereof I affix my signature in presence of two witnesses.

JONAS KLOPFENSTEIN.

Witnesses:
E. A. RULE,
C. E. ROSS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."