

(No Model.)

A. S. ERICKSON.
PUMP GEAR FOR WINDMILLS.

No. 531,523.

Patented Dec. 25, 1894.

Fig. 1.

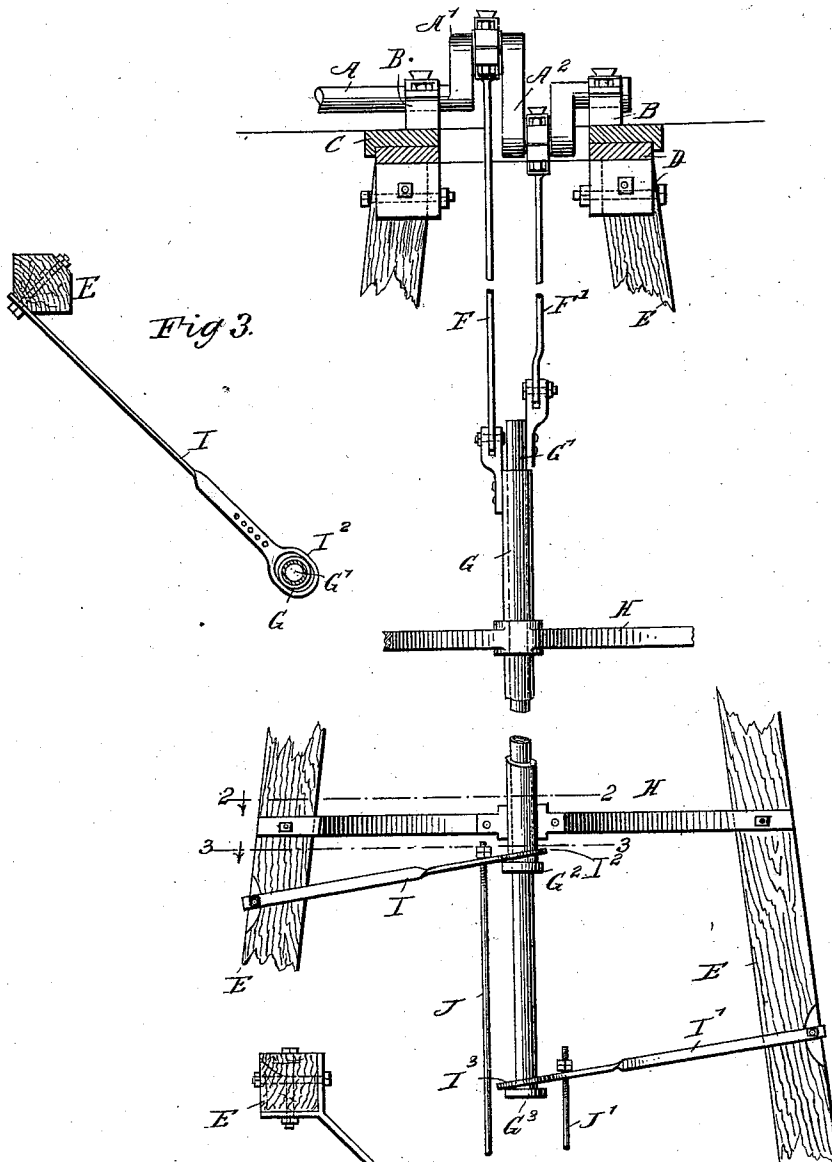


Fig. 3.

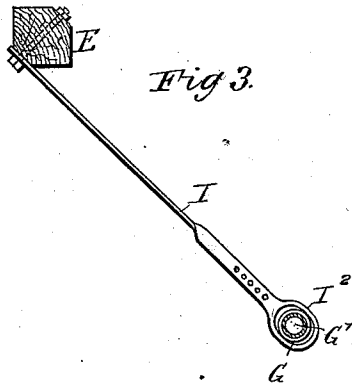
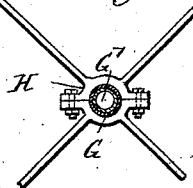


Fig. 2.

WITNESSES:
Paul J. Johnson
Rev. G. W. B. B. B.



INVENTOR
A. S. Erickson
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE,

ANDREW S. ERICKSON, OF HOLDREGE, NEBRASKA.

PUMP-GEAR FOR WINDMILLS.

SPECIFICATION forming part of Letters Patent No. 531,523, dated December 25, 1894.

Application filed September 10, 1894. Serial No. 522,959. (No model.)

To all whom it may concern:

Be it known that I, ANDREW S. ERICKSON, of Holdrege, in the county of Phelps and State of Nebraska, have invented a new and Improved Pump-Gear for Windmills, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pump gear for windmills, whereby the power of the windmill crank shaft is uniformly transmitted to the pump plunger, and the wind wheel is free to turn to the wind without affecting the position of the pump plungers.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement with part in section and part broken out. Fig. 2 is a sectional plan view of part of the same on the line 2—2 of Fig. 1; and Fig. 3 is a similar view of part of the improvement on the line 3—3 of Fig. 1.

The windmill is provided with the usual windmill crank shaft A, journaled in suitable bearings B attached to the ring C mounted to turn in the usual manner on the bearing D secured to the upper end of the tower E. On the crank shaft A are formed the two crank arms A' and A², extending in opposite directions and connected by the pitmen F and F' respectively with the tubes G and G' respectively, of which the tube G' is fitted to slide in the tube G, and the latter is mounted to turn and fitted to slide in bearings H attached to the tower E. See Fig. 2. The tubes G and G' form a cross head.

The lower ends of the tubes G and G' are provided with flanges G² and G³ respectively, on which rest the eyes I² and I³ respectively, of the levers I and I' respectively, fulcrumed on the tower E, as is plainly shown in Figs. 1 and 3. The levers I and I' are connected with the pump rods J and J', to impart a reciprocating motion to the plungers in the pump, to actuate the latter in the usual manner.

Now, it will be seen that by the arrange-

ment described the tubes G and G' are alternately raised and lowered to cause an up and down swinging motion of the levers I and I', so that the pump is actuated, it being understood that the flange G² imparts an upward swinging motion to the lever I, and the flange G³ imparts an upward swinging motion to the lever I' at the time the tubes G and G' are raised. Now it will be seen that when the wheel of the windmill turns into the wind, then the tubes G and G' readily turn with the ring C, without affecting the levers I and I', as their eyes I² and I³ loosely engage the lower ends of the said tubes.

It is understood that the tube G turns loosely in its bearings H, while the other tube G' is free to slide in the tube G, and also to turn therein. A solid rod may be used instead of the tube G'.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A pump gear for windmills, comprising an outer tube mounted to slide and to turn in bearings attached to the tower, an inner tube fitted to slide in the said outer tube, pitmen connecting the said tubes with the crank arms of the windmill shaft, and levers connected between their ends with the pump rods and having a sliding connection at their inner ends with the lower ends of the said tubes, the opposite outer ends of the levers being pivoted to the tower substantially as shown and described.

2. A pump gear for windmills, comprising an outer tube mounted to slide and fitted to turn in bearings held on the tower, an inner tube mounted to slide in the said outer tube, both tubes being provided at their lower ends with flanges, pitmen connecting the said tubes with the crank arms of the windmill shaft, and levers fulcrumed on the tower and connected with the pump rods, the said levers being formed with eyes loosely engaging the lower ends of the said tubes and resting on the flanges thereof, substantially as shown and described.

ANDREW S. ERICKSON.

Witnesses:

M. L. GASTREN,
JOHN A. PEARSON.