No. 820,988. PATENTED MAY 22, 1906.

J. PESTOR.

WINDMILL.

APPLICATION FILED JAN. 10, 1906.

Fig. 1.

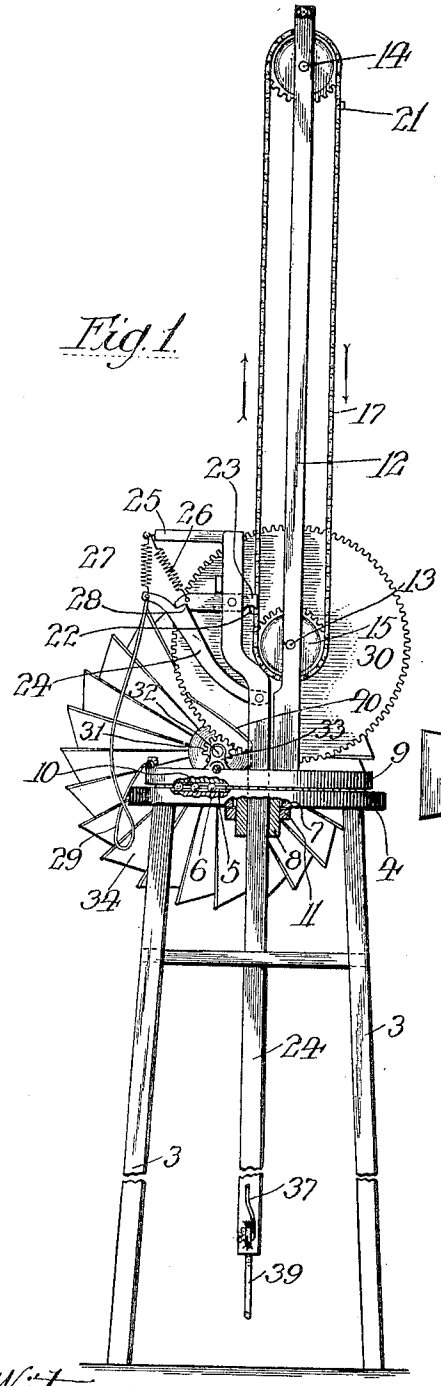
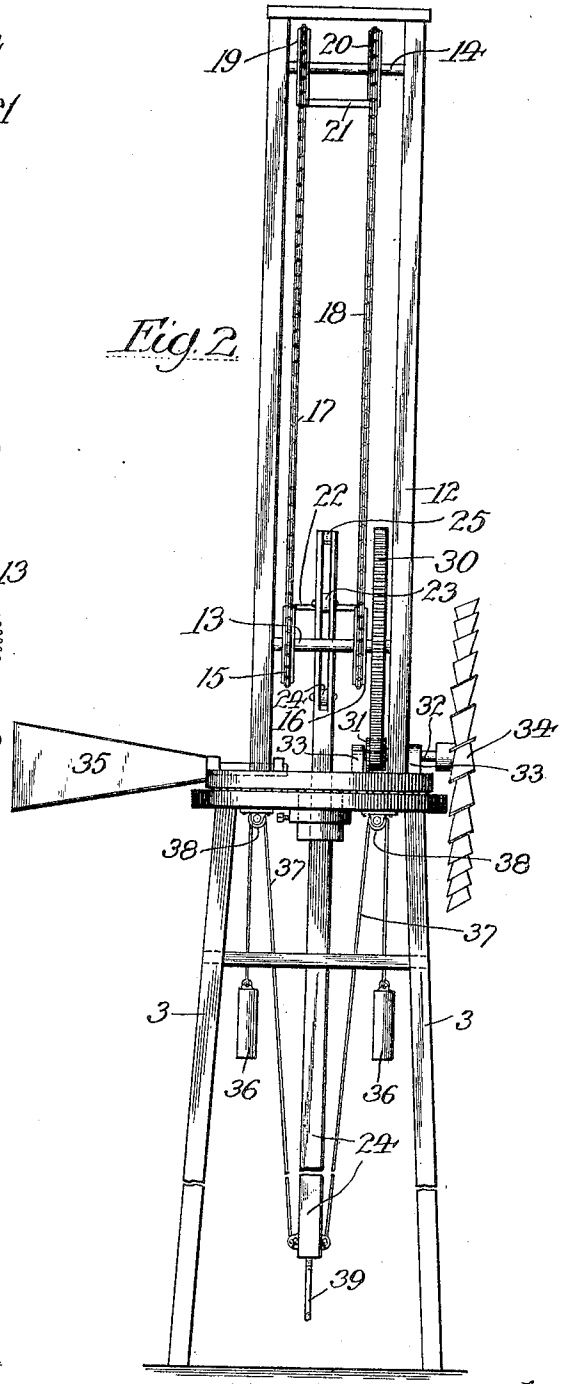


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JULIUS PESTOR, OF LOS ANGELES, CALIFORNIA.

WINDMILL.

No. 820,988. Specification of Letters Patent. Patented May 22, 1906.

Application filed January 10, 1906. Serial No. 295,477.

To all whom it may concern:

Be it known that I, JULIUS PESTOR, a citizen of the German Empire, residing at Los Angeles, county of Los Angeles, and State of California, have invented new and useful Improvements in Windmills, of which the following is a specification.

My invention relates to means for operating a windmill having a vertical stroke which can be automatically regulated and which will operate with a very small amount of wind power.

I accomplish these objects by the mechanism described herein and illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of the wind-wheel mechanism with parts broken away. Fig. 2 is a side elevation.

In the drawings, 3 is the tower or frame, on the top of which is a platform 4, which is preferably circular and is provided with a ball-race 5, in which the balls 6 are received. In the center of the platform is an aperture 7, through which projects sleeve 8, which sleeve is secured to base-plate 9, which has a ball-race 10 in the lower side thereof which fits over balls 6. A collar 11 is secured to the sleeve to hold base-plate 9 from separating from platform 4. To the base-plate is secured the upwardly-projecting frame 12, in which are mounted shafts 13 and 14. On shaft 13 are rigidly mounted sprocket-wheels 15 and 16, which are connected by sprocket-chains 17 and 18 with sprocket-wheels 19 and 20, mounted on shaft 14. These sprocket-chains carry the lifting-bars 21 and 22, which are adapted to engage with latch 23 as the chains are moved. Latch 23 is pivotally mounted on the upper end of the vertically-movable plunger-bar which passes through sleeve 8. Below the latch is trigger 24, which is also pivotally connected to the plunger. To the top of the plunger is an arm 25, to the end of which is secured the spring 26, which is also connected to the outer end of the latch. Spring 27 is also connected to arm 25 and to the upper end of the trigger. The trigger is provided with a shoulder 28, which rests beneath the outer end of the latch, as best shown in Fig. 1, when the mill is in its working position. A stroke-regulating rope 29 is also secured to the outer end of the trigger and to the base-plate 9. By changing the length of this rope the latch may be released at any point on the upward travel of the plunger. A gear-wheel 30 is rigidly secured upon shaft 13. This gear-wheel meshes with pinion 31, which pinion is rigidly secured to shaft 32, which is mounted in bearings 33, secured to the base-plate. Upon the outer end of shaft 33 is the wind-wheel 34. Vane 35 is secured to the base-plate on the opposite side from the wind-wheel. Counterbalancing-weights 36 are secured by ropes 37 to the plunger 24. These ropes pass over pulleys 38, secured to the platform. To the plunger is fastened the pump-rod 39, by means of which the pump (not shown) is operated.

When the wind drives the wind-wheel, motion is transmitted through pinion 31 to gear 30, thereby rotating the sprocket-wheels on shaft 13, which carries the sprocket-chains in the direction indicated by the arrows in Fig. 1, thereby causing one of the lifting-bars secured to the sprocket-chains to engage the latch and carry the same upward, as at this time the latch is locked against movement by means of the trigger, as best shown in Fig. 1. As the plunger moves upwardly the stroke-regulating rope withdraws the trigger from supporting the outer end of the latch, which then turns on its pivot, releasing its hold on the lifting-bar, which permits the plunger to fall by gravity. A spring 40, secured to the plunger, may be used to break the fall of the plunger. It will be seen by this construction that by making the gear-wheel and pinion larger or smaller in proportion to each other the power and speed of the mill can be varied at will. It will also be seen that by this construction a pump of any stroke may be operated and that a very long stroke may be obtained with a very light wind.

Having described my invention, what I claim is—

1. A windmill comprising a suitably mounted base-plate; a frame secured thereto and projecting upwardly therefrom; shafts mounted in said frame one near the top and one near the bottom thereof; sprocket-wheels secured upon said shafts; sprocket-chains upon said sprocket-wheels; lifting-bars secured to said sprocket-chains; a gear-wheel secured to the lower of said shafts; another shaft mounted in bearings secured to said base-plate; a wind-wheel on said last-named shaft; a pinion on said last-named shaft meshing with the gear-wheel on the shaft mounted in the frame; a vane secured to said base-plate; a plunger-bar; and means secured to said bar to engage the lifting-rods on the chains; and means to release said engaging

means at a predetermined height of movement of the plunger-bar.

2. A windmill comprising a frame; a platform secured upon the top of said frame; a ball-race in the top of said platform, said platform having a central aperture therein; a base-plate having a sleeve projecting downwardly through the aperture in said platform; a ball-race in the bottom of said base-plate; balls in said race and in the race in the platform; a collar on said sleeve below said platform; a frame projecting upwardly from said base-plate and secured thereto; shafts mounted in said frame secured to the base-plate, one near the top and one near the bottom thereof; sprocket-wheels secured upon said shafts; sprocket-chains upon said sprocket-wheels; lifting-bars secured to said sprocket-chains; a plunger-bar vertically movable through the sleeve and base-plate; a latch pivotally secured to said plunger-bar one end of which engages the lifting-bars; a trigger pivotally secured to said plunger-bar, said trigger being adapted to engage the latch and lock it against movement when the inner end thereof engages the lifting-bar; springs secured to said latch and trigger and to said plunger-bar, said springs being adapted to hold said latch and trigger in engagement with each other; a stroke-regulating cord secured to said base-plate and to said trigger; a shaft revolubly mounted in bearings secured to said base-plate; a wind-wheel and a pinion secured upon said last-named shaft; and a gear-wheel secured upon the lower shaft in the frame secured to the base-plate, said gear meshing with said pinion; and a vane secured to said base-plate.

3. In a windmill a plunger-bar vertically movable therein; rotating means to move said plunger-bar vertically; and means to release said plunger-bar at any predetermined height in the movement thereof.

4. In a windmill a plunger-bar vertically movable therein; rotating means engaging said plunger-bar; and means to release said movable means from said plunger-bar at any predetermined height in the movement thereof.

In witness that I claim the foregoing I have hereunto subscribed my name this 4th day of January, 1906.

JULIUS PESTOR.

Witnesses:

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HENRY T. HAZARD.