(No Model.)

T. V. P. VREELAND.

WINDMILL.

No. 587,887. Patented Aug. 10, 1897.

Fig. 1.

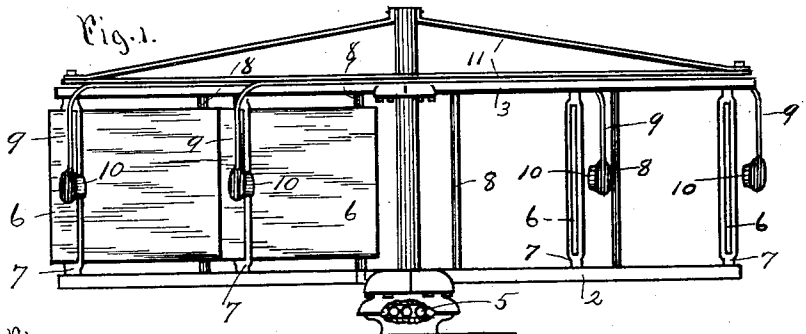


Fig. 2.

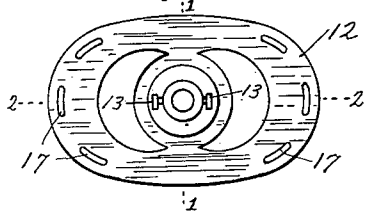


Fig. 3.

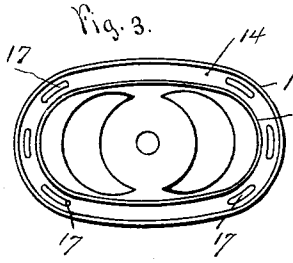
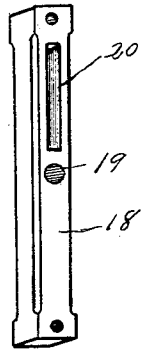


Fig. 4.



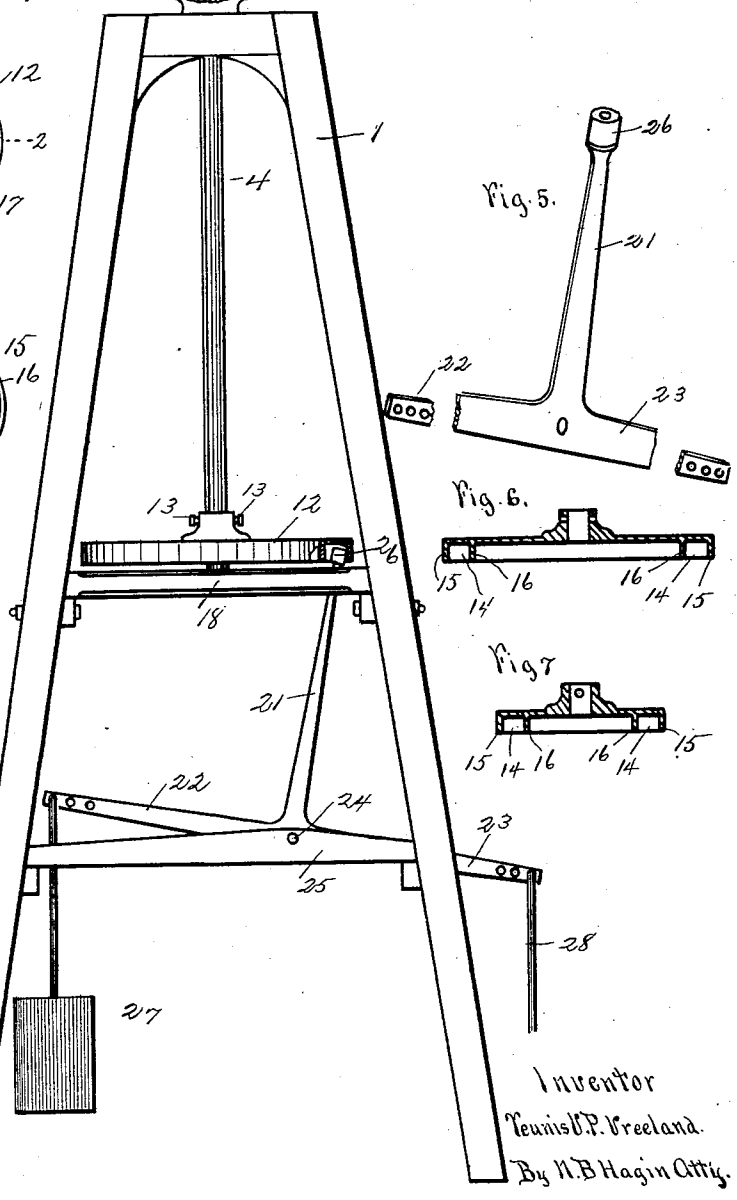


Fig. 5.

Fig. 6.

Fig. 7

Witnesses

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WINDMILL.

SPECIFICATION forming part of Letters Patent No. 587,887, dated August 10, 1897.

Application filed July 23, 1896. Serial No. 600,275. (No model.)

To all whom it may concern:

Be it known that I, TEUNIS V. P. VREELAND, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Windmills, of which the following is a specification, reference being had therein to the accompanying drawings, and the figures of reference thereon, forming a part of this specification, in which—

Figure 1 is a side elevation of my improved windmill. Fig. 2 is a top plan of the elliptical wheel. Fig. 3 is a bottom plan of the same. Fig. 4 is a perspective view of a cross-brace. Fig. 5 is a perspective view of a three-armed lever. Fig. 6 is a cross-section taken through line 2 of Fig. 2. Fig. 7 is a like view taken through line 1 of the same figure.

This invention relates to certain improvements in windmills; and it consists of the construction of the elliptical wheel for transmitting power and the three-armed lever; and the object of my invention is to provide an attachment for a mill of cheap construction, durable, and one that will do a large amount of work.

Referring to the drawings, 1 represents a windmill-frame.

2 and 3 are lower and upper horizontal arms of a wind-wheel. 4 represents a shaft to which said arms 2 and 3 are permanently secured. Said shaft is supported by the ball-bearing 5.

6 represents fans secured near one end to the shafts 7, which are journaled in the arms 2 and 3.

12 represents an elliptical cam secured near the lower end to the shaft 4 by the set-screws 13.

14 represents a track in the under part of the elliptical wheel 12.

15 and 16 are ribs, as shown in Figs. 3, 6, and 7, which form the track 14.

17 represents holes cut through the top of said elliptical cam 12 for the purpose of the admission of oil to the roller 26.

18 represents a cross-brace secured to the frame 1.

19 is a hole in the said cross-brace 18 in which said shaft 4 is journaled.

20 is a slot in said brace through which the arm 21 oscillates.

21, 22, and 23 represent three arms integral at one end and journaled at 24 to the cross-braces 25.

26 represents a roller journaled to the outer end of the lever 21. Said roller is adapted to run in said track 14 as said wheel 12 rotates.

27 represents a balance-weight secured to the outer end of the arm 22.

28 is a pump-rod.

This windmill operates in the following manner: All of the weight of said wind-wheel rests on said ball-bearing 5 as the shaft 4 rotates, carrying with it the elliptical wheel 12. The roller 26 will run in the track 14, causing the arm 21 to oscillate. The said arm will make two complete strokes with every revolution of the said elliptical wheel, thus giving two strokes to the pump-rod to each revolution of the wind-wheel.

Pump-rods can be attached to each of the arms 22 and 23, or a balance-weight can be attached to one of said arms.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is as follows:

The combination of a horizontal wind-wheel secured to a perpendicular shaft, an elliptical cam, having a grooved elliptical track, said elliptical cam secured at its center to the lower end of said shaft, a three-armed lever, one of said arms having a small wheel adapted to run in said elliptical track, said elliptical cam adapted to give two complete strokes to said lever to one revolution of said elliptical cam.

TEUNIS V. P. VREELAND.

Witnesses:
J. G. WILLIAMS,
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