No. 833,184.

PATENTED OCT. 16, 1906.

S. TERZIAN.

WINDMILL.

APPLICATION FILED APR. 9, 1906.

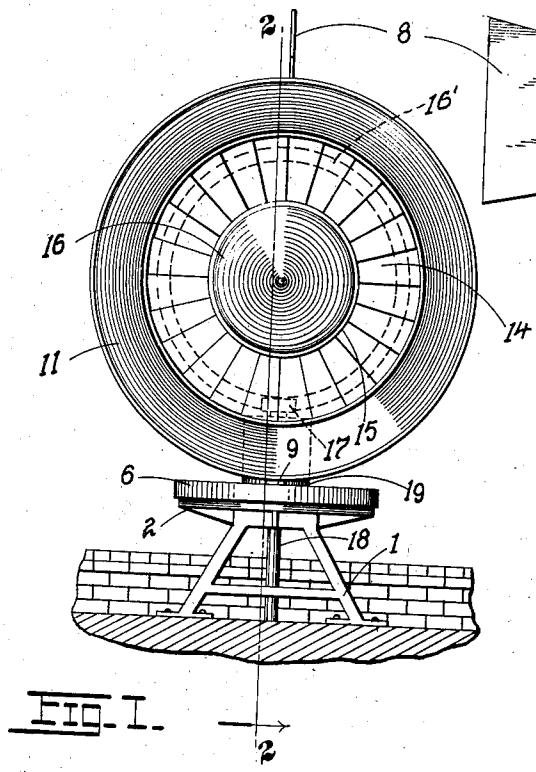


FIG. 1.

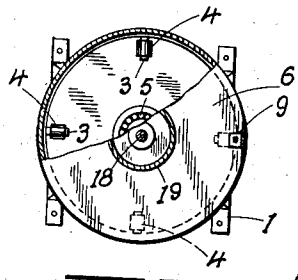


FIG. 3.

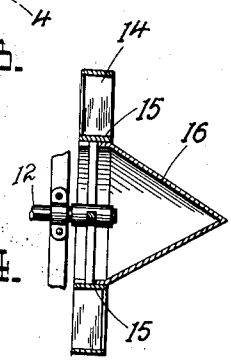


FIG. 4.

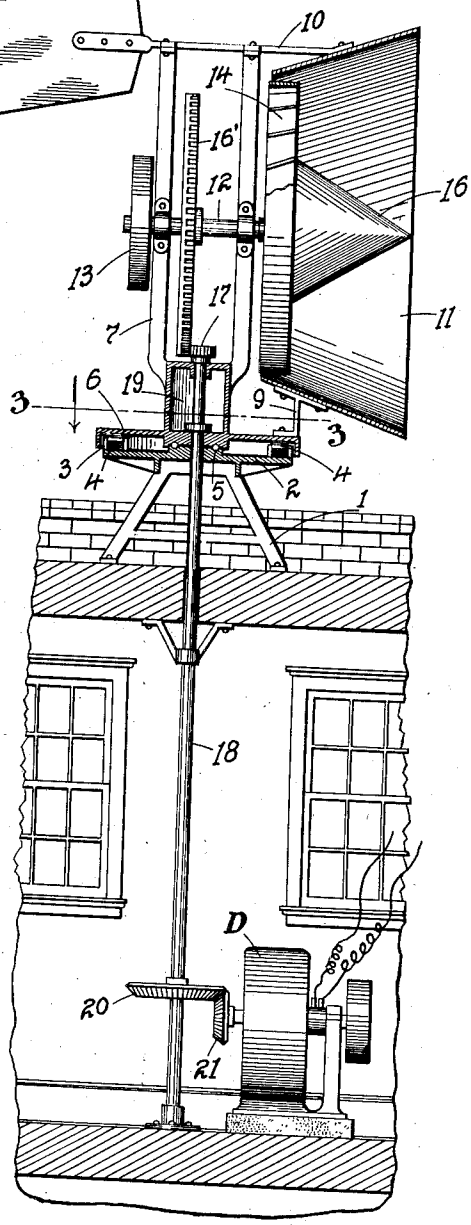


FIG. 2.

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WINDMILL.

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To all whom it may concern:

Be it known that I, SAHAG TERZIAN, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Windmills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in windmills; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a front elevation of the windmill. Fig. 2 is a vertical middle section on line 2 2 of Fig. 1. Fig. 3 is a horizontal section on line 3 3 of Fig. 2, and Fig. 4 is a sectional detail showing the construction of the bladed wheel.

The object of my invention is to construct a windmill which will develop a maximum efficiency, one which shall respond to a minimum atmospheric current, one which will positively direct such current against the blades of the driving-wheel, and one possessing further and other advantages better apparent from a detailed description of the invention, which is as follows:

Referring to the drawings, 1 represents a supporting-frame surmounted by a platform 2, along whose outer edge are mounted in brackets 3 a series of antifriction-rollers 4 and whose center is provided with a circular groove for the reception of ball-bearings 5. The rollers 4 and balls 5 serve to support the flanged base 6, forming the bottom of a rotatable frame 7, to the top of which the vane 8 is attached. Carried by the base 6 and secured, respectively, to a bracket 9 and to an arm 10, coupled to the vane, is a hood or collector 11 in the form of a frustum of a cone, the walls of the collector flaring outwardly. Mounted on the frame 7 in the line of the axis of the hood 11 and parallel to the vane 8 is a shaft 12, whose one end carries a fly-wheel 13 and whose opposite end has secured thereto the wind-wheel or bladed wheel 14, the blades of said wheel being disposed between the outer rim thereof and an inner ring 15. To this ring 15 is secured the base of a conical deflector 16, the apex of the cone pointing outwardly.

Within the frame 7 the shaft 12 is provided with a gear-wheel 16′, which meshes with a pinion 17 at the upper end of the vertical drive-shaft 18, the said end being properly guided and supported within a hollow box 19 at the base of the frame 7. The shaft 18 is provided with a bevel-gear 20, from which power may be transmitted through a pinion 21 to the shaft of a dynamo D, or it may be used for any purpose whatsoever.

The operation of the mill is as follows: Of course the vane 8 serves to present the hood 11 in proper direction to the wind, the frame 7, base 6, and the several parts carried thereby being freely rotatable about the platform 2, the gear-wheel 16′ freely playing about the pinion 17 in such rotations. The currents of air are collected by the hood, and then they are deflected or diverted by the conical surface of the deflector against the blades 14, imparting rotation to the blades and to the shaft 12, which in turn through the gearing, as described, will impart rotation to the drive-shaft 18.

Having described my invention, what I claim is—

In a windmill, a suitable rotatable frame having an enlarged base, a platform for the support of said base, a vane at the upper end of the frame, a shaft disposed parallel to the vane, a wind-wheel at one end of the shaft, a series of blades disposed contiguous to the outer rim of the wheel, a conical deflector secured to the wheel, the base of the cone terminating along a circle defining the inner ends of the blades, an outwardly-flaring hood or collector disposed about the deflector and encompassing the outer circle of the blades and secured to the base of the frame, the deflector serving to direct the air-currents gathered by the hood, against the blades of the wind-wheel, a gear-wheel on the shaft of the wind-wheel, a vertical drive-shaft, and a pinion on the shaft meshing with the gear-wheel, substantially as set forth.

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

SAHAG TERZIAN.

Witnesses:
EMIL STAREK,
MARY D. WHITCOMB.