A. NORMAN.

WIND MOTOR.

APPLICATION FILED NOV. 16, 1909.

980,995.

Patented Jan. 10, 1911.

Fig. 1.

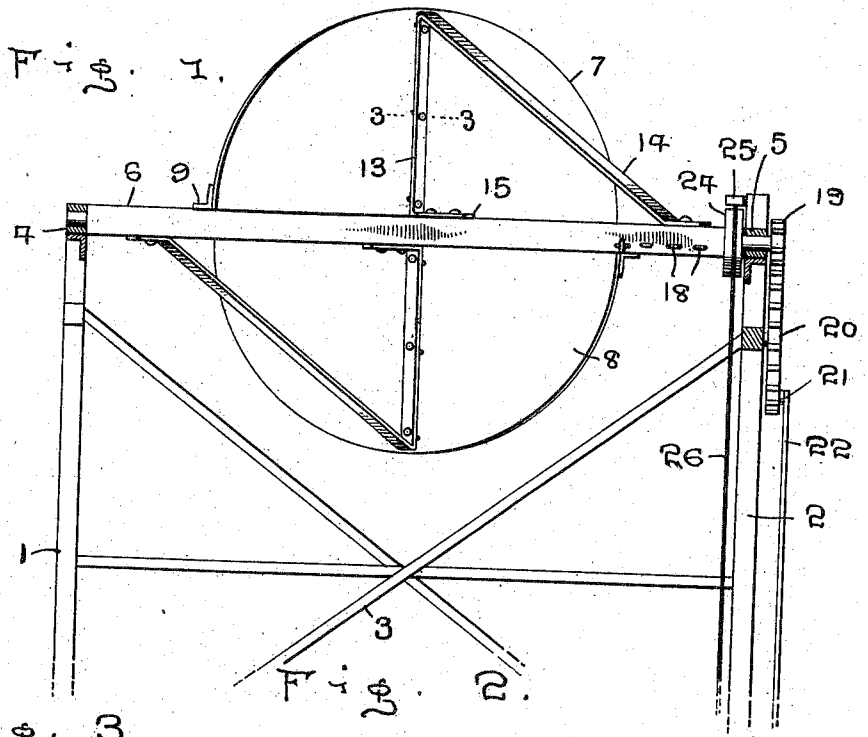
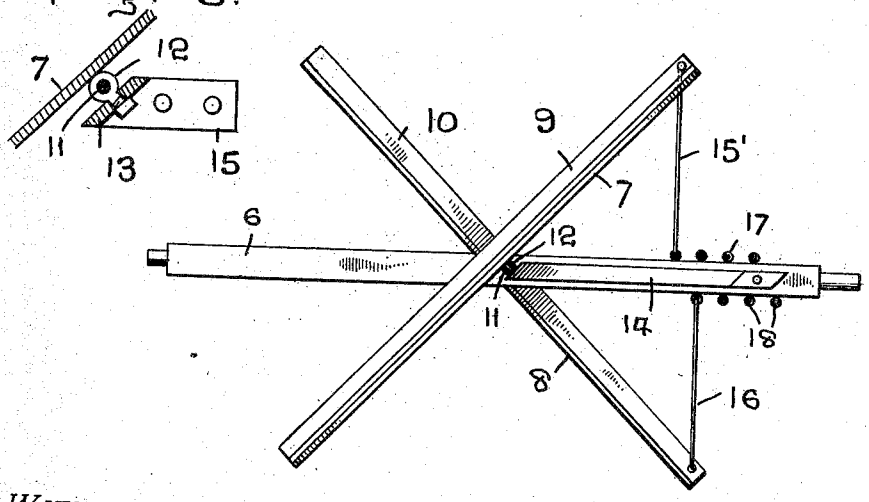



Fig. 2.

Fig. 3.




WITNESSES:

Thos. W. Riley

M. Dewoody

INVENTOR

A. Norman

BY

W. J. FitzGerald & Co

Attorneys

# UNITED STATES PATENT OFFICE.

ALEXANDER NORMAN, OF DOS PALOS, CALIFORNIA.

## WIND-MOTOR.

980,995. Specification of Letters Patent. **Patented Jan. 10, 1911.**

Application filed November 16, 1909. Serial No. 528,291.

*To all whom it may concern:*

Be it known that I, ALEXANDER NORMAN, a citizen of the United States, residing at Dos Palos, in the county of Merced and State of California, have invented certain new and useful Improvements in Wind-Motors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in wind motors and more particularly to that class adapted to be used for operating pumps and my object is to provide suitable blades for operating the pump mechanism.

A further object is to provide means for securely bracing said blades.

A further object is to provide means for attaching pump operating mechanisms to the driven shaft and a still further object is to provide means for stopping the rotation of the shaft when desired.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings forming part of this application, Figure 1 is an elevation partly in section of the upper end of the frame, showing my improved pump mechanism attached thereto. Fig. 2 is a top plan view of the driving blades and shaft to which they are attached, and, Fig. 3 is a sectional view on an enlarged scale as seen on line 3—3, Fig. 1.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 and 2 indicate frame sections, the upper ends of which are suitably reinforced by means of brace bars 3, the cross bars 4 and 5 at the upper ends of the frame sections forming bearings for the ends of a shaft 6, which shaft is preferably square in cross section or made in any shape desired.

Mounted upon opposite faces of the shafts 6, are blades 7, and 8, which blades are semi-circular and have their flat edges resting against the faces of the shaft, said blades resting normally at an angle to the axial trend of the shaft and crosswise of each other, the normal angle of said blades to the axial trend of the shaft being substantially 45°, although said blades may be positioned at various angles. The straight edges of the blades are reinforced by means of angle irons 9 and 10, respectively and one face of each blade is provided with a rod 11, with which engage eye bolts 12, the stems of said eye bolts being extended through the vertical section 13 of brace bars 14, the brace bars properly extending from the upper ends of the vertical sections at an engle to a point adjacent the ends of the shafts 6 and being secured to said shaft in any suitable manner, while the lower ends of the vertical sections 13 are each provided with a foot 15, which is likewise secured to the shaft 6 adjacent its longitudinal center. The blades 7 and 8 are held in their adjusted positions by means of rods 15′ and 16, respectively, said rods being engaged at one of their ends with the angle irons on the blades, while the opposite ends thereof are adapted to engage sockets 17 and 18, respectively, attached to the shaft 6 and when the rods are engaged with the sockets nearest the longitudinal center of the shaft 6, the blades will be set at their greatest angle, the angle of the blades being gradually decreased by moving the inner ends of the rods toward the outer end of said shaft, in which manner the speed of the shaft and blades carried thereby may be readily regulated to cause the pump to operate with greater or less speed.

One end of the shaft 6 projects beyond its bearing and has attached thereto a pinion 19 with which meshes a gear 20, said gear having a wrist pin 21 thereon to which is attached a pitman 22, and the rotation of said gear will cause the pitman to move upwardly and downwardly to operate the object attached to the lower end thereof.

In order to stop the rotation of the blades and shaft to which they are attached, a friction wheel 24 is attached to the shaft 6 and above said friction wheel is positioned a lever 25, which is adapted to direct pressure on said friction wheel when lowered, one end of the lever 25 being hingedly secured to the frame section 2, while the opposite end thereof extends over the friction wheel and has a cable 26 attached thereto, whereby by directing a downward pull on said cable, the lever will be moved into frictional engagement with the wheel 24 and thus retard or entirely stop the rotation of the blades and shaft.

Although I have shown and described the device as primarily used for operating

pumps, yet it will be readily understood that the same may be used for operating churns, and various other classes of machinery and it will likewise be seen that by constructing the blades and positioning the same in the manner shown, they will be operated by the wind when blowing in any direction. It will likewise be seen that as the frames and parts carried thereby remain substantially in a fixed position, but few wearing parts will result, thus producing an engine that may be very cheaply, as well as strongly and durably constructed.

What I claim is:

1. In a wind motor, the combination with a rotatably mounted shaft; of a pair of semi-circular blades extending across the faces of said shaft and normally at right angles to one another, brace bars secured to said shaft having the vertical portions thereof secured to said blades through the medium of rods on the faces of said blades in engagement with eye bolts carried by said brace bars, and means to adjust said blades to various angles.

2. A wind motor, comprising a shaft, a pair of blades extending across said shaft and at right angles to each other, brace bars carried by the shaft, means to pivotally attach the blades to said brace bars, rods attached to said blades and sockets on said shaft adapted to receive one end of said rods, whereby the blades may be positioned at various angles.

3. A wind motor, comprising the combination with a shaft; of a pair of blades adapted to fit on opposite sides of said shaft, angle irons at the lower edges of said blades, brace bars carried by said shaft, rods on said blades, eye bolts engaging said rods and pivotally securing the blades to said brace bars, means to dispose said blades at an angle to the axial trend of the shaft, and gears attached to said shaft.

4. In a wind motor, the combination with a rotatably mounted shaft; of a pair of semi-circular blades extending across the faces of said shaft and at right angles to one another, angle irons on the juxtaposed edges of said blades, brace bars secured to said shafts, means to pivotally mount said blades on the vertical portions of said brace bars and additional means to position said blades at various angles, comprising rods having one of their ends in engagement with said angle rions, and sockets on the faces of said shaft adapted to be engaged by the opposite ends of said angle irons, for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALEXANDER NORMAN

Witnesses:
A. Brown,
Mary E. Brown.