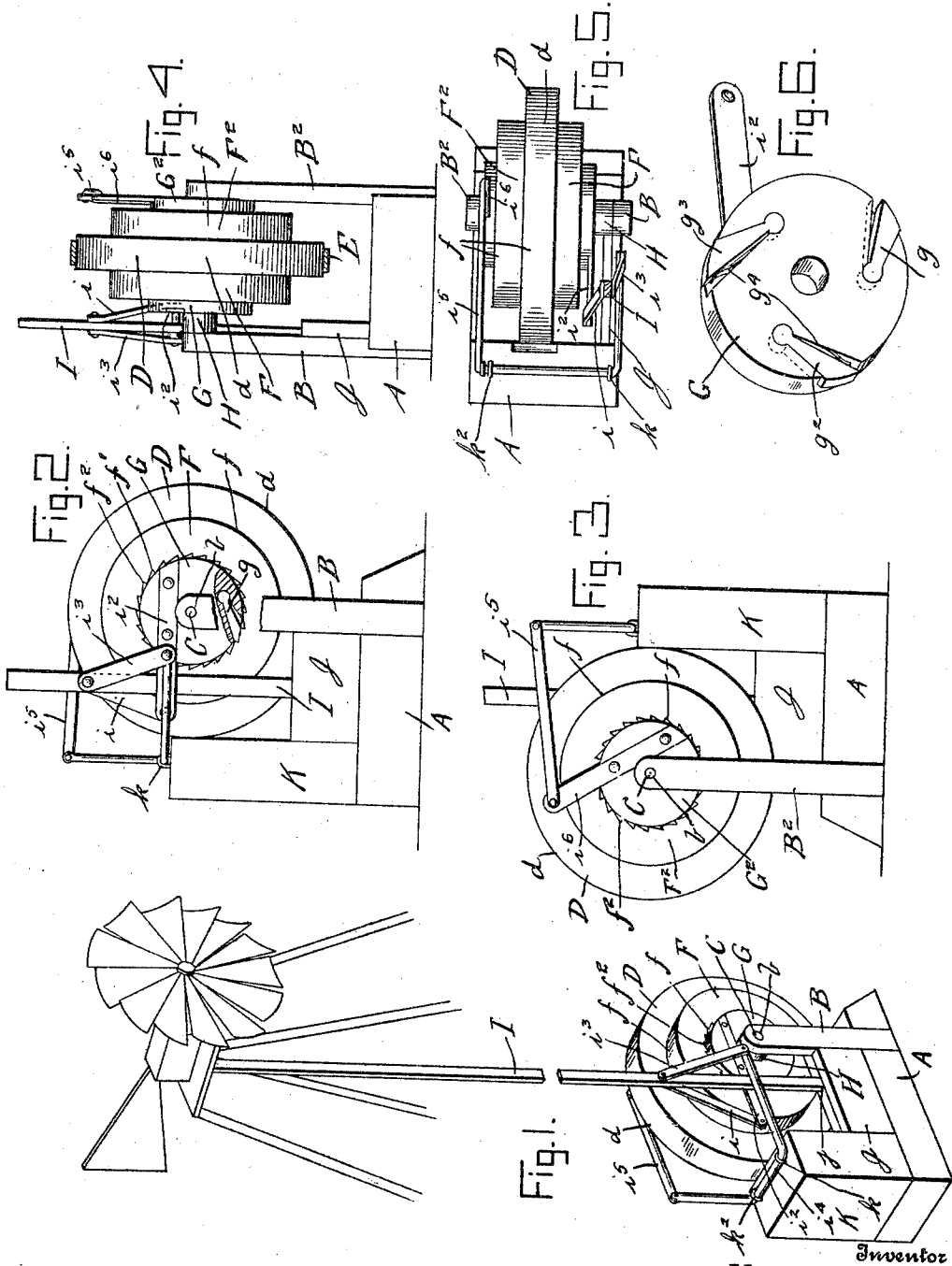


F. HANNAMAN.
 POWER TRANSMITTING MECHANISM FOR WIND MOTORS.
 APPLICATION FILED MAR 21, 1908.

950,750.

Patented Mar. 1, 1910.



Witnesses

G. K. Reichenbach

Thomas Shaw

Fred Hannaman,
 Inventor

Edmund H. Parry
 His Attorney

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UNITED STATES PATENT OFFICE.

FREDRICK HANNAMAN, OF BLUE EARTH, MINNESOTA.

POWER-TRANSMITTING MECHANISM FOR WIND-MOTORS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDRICK HANNAMAN, citizen of the United States, residing at Blue Earth, in the county of Faribault and State of Minnesota, have invented certain new and useful Improvements in Power-Transmitting Mechanism for Wind-Motors, of which the following is a specification.

This invention relates to wind motors.

The object is to utilize, in a convenient and effective manner, the power to be derived from certain operating parts of the ordinary wind-motors, and to transmit such power to actuating parts, such as a rotating-member, disposed in juxtaposition to said wind-motor, whereby a belt which encircles said rotating-member may be employed to operate any desired form of machinery or mechanism.

With this object in view, the invention resides in the novel construction and combination and arrangements of parts, as hereinafter more fully described and particularly claimed.

In the accompanying drawings, forming a part of my specification, and in which like letters of reference indicate corresponding parts, I have illustrated one of many embodiments of my invention; it being understood that other embodiments thereof may be utilized without departing from the spirit of the invention.

In these drawings:—Figure 1—is a view in perspective, illustrating the principal parts of the mechanism of my invention; Fig. 2—is a view in front elevation thereof, partly in section to display one of the dog-members; Fig. 3—is a view in rear elevation of the same; Fig. 4—is a view in end elevation; Fig. 5—is a top plan view; and Fig. 6—is a view in detail of the dog-carrying-member, and showing the dogs carried thereby and their relative form and position.

Referring to these drawings, and, particularly, to Figs. 1, 2, 3, 4 and 5, A designates a base-element which, preferably, constitutes a platform to support other parts of the motor. Disposed toward one end of the base and, by preference, at the front and rear edges thereof, are standards B, B², that extend vertically to a considerable height. Near the top of each of these standards is an aperture b, b, to serve as a bearing for each end of a horizontal shaft C. Supported on this shaft and about centrally thereof, is a rotatable member, in this instance, a

large wheel D, upon the periphery *d* of which a belt E or other appropriate band-element may be operated to transmit power to machinery or mechanism disposed contiguous to the motor. Arranged at each side of the wheel D (and secured thereto in any desired manner, or, in some instances, if desired, formed integral with said wheel D) is an enlarged cylindrical member or flange F, F². Upon the periphery *f* thereof, the belt E may run, if desired, in lieu of running upon the periphery of the wheel D. As shown, a large portion of the central section of the members F, F² is cut out, and the circumferential wall *f'* of this cut-out portion is serrated or otherwise formed with indentations to present teeth *f*².

Supported upon the shaft C, and setting into and rotating within each of the cut-out portions of the members F and F², is a rotatable operating-member or disk G, G², in the inner face of which is loosely supported one or more dogs *g*, *g*², *g*³, constituting engaging-elements, the form and arrangement of which more clearly appear in Fig. 6. It is to be understood that there may be a set of the members F and G employed, on each side of the wheel D, or only one, as the requirements of any particular situation or condition may necessitate; in other words, one set thereof on one side may be dispensed with. The members or dog-carrying disks G, G² are free to rotate upon the shaft C, and the dogs *g*, *g*², are so disposed that they will engage the teeth in the circumferential wall of the members F, F², respectively, and effect a rotation of the same, which, by reason of the fact that they are secured to, or formed with, the wheel D, produces a revolution thereof, and this in turn gives movement to the belt E to actuate the adjunctive machinery or mechanism designed to be operated by the motor. It is to be understood, of course, that other instrumentalities for effecting engagement between the wheel D and the members G and G², may be utilized. The teeth *f*² are so formed and the dogs are so disposed that when the wheel has been given momentum, it can continue to revolve even if the described rotating-devices cease or slacken in their movements. Between the rotating-members G, G² and the standards, I may, if desirable, interpose washers H, as shown.

To effect movement of the parts heretofore described, I elect to connect them (by

instrumentalities presently to be described) with the ordinary pitman I of a wind-motor, the pitman, in this instance, serving as a power-producing-member and deriving movement from any of the well-known or preferred forms of wind-wheels. The pitman is, preferably, guided in its vertical reciprocations by a guide-way *j* in the block J located adjacent to the standards B. Depending from the pitman (at a point somewhat above the plane of the upper end of the standards B, B²) is a link *i*, preferably pivoted upon the back-face of the pitman, as shown. Pivottally connected to the lower end of this link is a horizontally-extending arm *i*² which, at its opposite portion is secured to the member G. It will be understood that the upward movement of the pitman carries the link *i* upward, which, thus, operates the arm *i*², and this, in turn, gives a partial rotation to the member G, and by reason of the dogs thereon engaging with the teeth in the member F, the latter and the wheel D are actuated. Likewise depending from the pitman, and, preferably, from the same point as the link *i*, is another link *i*³, to which, at its lower end, is pivottally attached a shaft *i*⁴, which is supported, for a portion of its length, upon the block K secured to the base A. To hold said shaft *i*⁴ in position, I may provide the guide-elements or staples *k*, *k*². To the other end of the shaft *i*⁴, I pivot a connecting-arm *i*⁵ which, at its opposite end, connects with an arm *i*⁶, secured to the dog-carrying member G². The movement of the pitman effects (through the link *i*³, the shaft *i*⁴, and arm *i*⁵ and the arm *i*⁶) partial rotation of the member G². The actuation of the members F and F² is, preferably, so timed that they will tend to operate the wheel D successively and, thus, produce a continuous revolution of said wheel.

Where I employ three movable dogs on the dog-carrying members, as shown in Fig. 6, it is desirable to maintain the two upper dogs in operative position for engagement with the adjacent teeth by means of resilient members, such as the springs *g*⁴, *g*⁴.

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

1. In a wind-motor, the combination with a base, of a vertically-disposed, power-transmitting pitman-member, a belt-carrying wheel supported on said base and provided with central recesses in each side and with teeth arranged in the circumferential walls of said recesses, rotatable dog-carrying members set in said recesses in the belt-carrying member and traveling therewith, said dog-carrying members being also provided

with recesses, movable dogs supported in said recesses and engaging the circumferential teeth in the belt-carrying member, a set of vertically-oscillating links carried by and movable with said pitman-member, and a tiltable angular arm hinged on said base and connecting with and operated by said links, said dog-carrying members, links and arms being disposed to operate upon the belt-carrying wheel alternately to rotate said wheel continuously.

2. In a wind-motor, the combination with a base, of a vertically-disposed, power-transmitting pitman-member, a belt-carrying wheel supported on said base and provided with central recesses in each side and with teeth arranged in the circumferential walls of said recesses, rotatable dog-carrying members set in said recesses in the belt-carrying member and traveling therewith, said dog-carrying members being also provided with recesses, movable dogs supported in said recesses and engaging the circumferential teeth in the belt-carrying member, a set of vertically-oscillating links carried by and movable with said pitman-member, and a tiltable angular arm hinged on said base and connecting with and operated by said links, said dog-carrying members, links and arms being disposed to operate upon the belt-carrying wheel alternately to rotate said wheel continuously, and a shaft upon which the belt-carrying member and dog-carrying members are rotatably supported.

3. In a wind-motor, the combination with a base, of a vertically-disposed power-transmitting pitman-member, a belt-carrying wheel supported on said base and provided with central recesses in each side and with teeth arranged in the circumferential walls of said recesses, of rotatable dog-carrying members set in said recesses in the belt-carrying member and traveling therewith, said dog-carrying members being also provided with recesses, movable dogs supported in said recesses and engaging the circumferential teeth in the belt-carrying member, a plurality of links at one side of the belt-carrying member and connecting with said pitman-member at a point thereon common to two of the links and normally occupying a position at an angle to each other, a link at the opposite side of the belt-carrying member, and a tiltable angular arm hinged on said base and connecting with the links at opposite sides of said belt-carrying wheels.

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

FRED. HANNAMAN.

Witnesses:

W. E. C. ROSS,
J. A. HANSON.