

No. 816,213. .

PATENTED MAR. 27, 1906.

P. B. F. BORN.  
WINDMILL GOVERNOR.  
APPLICATION FILED MAY 31, 1905.

*Fig. 1.*

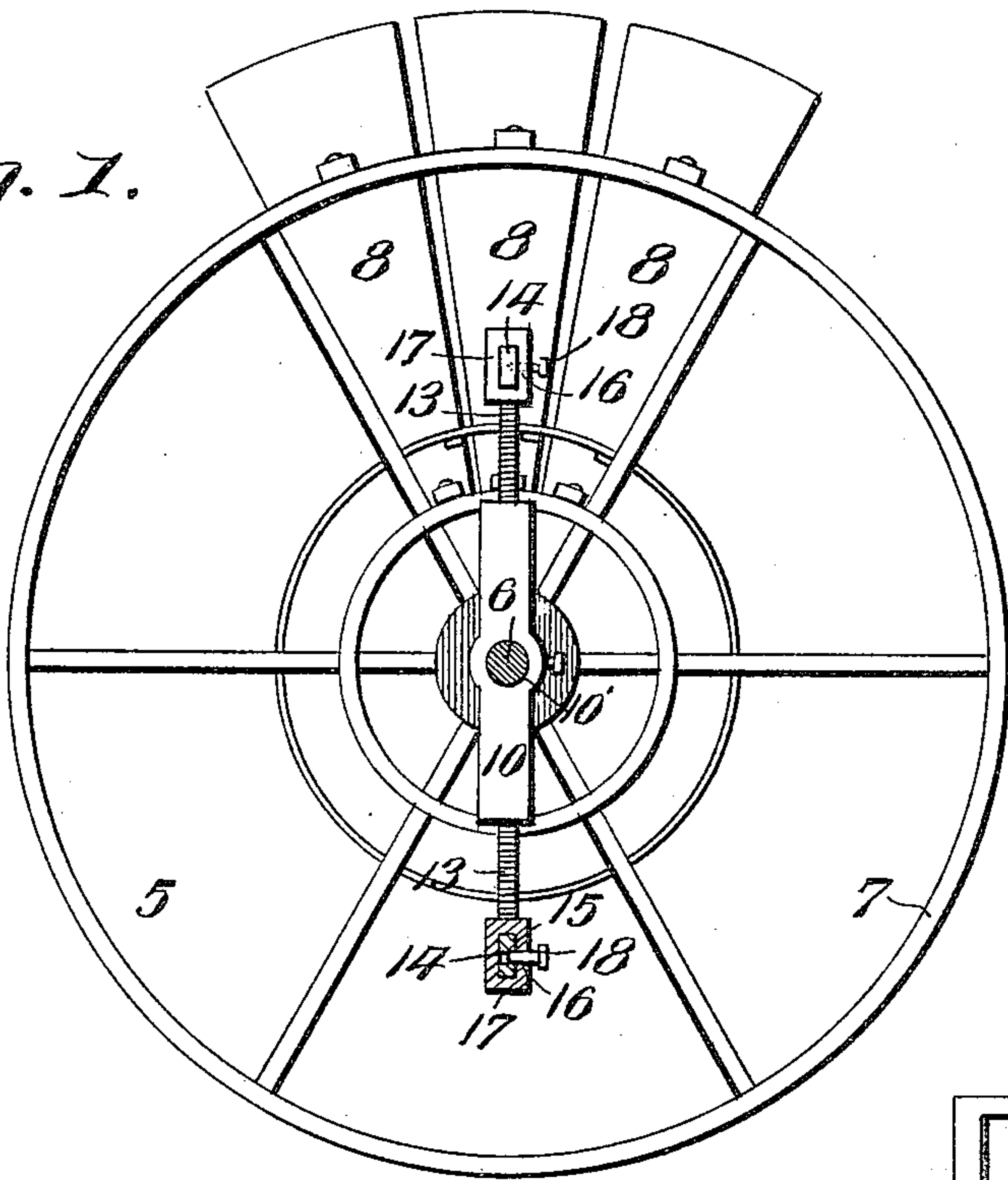
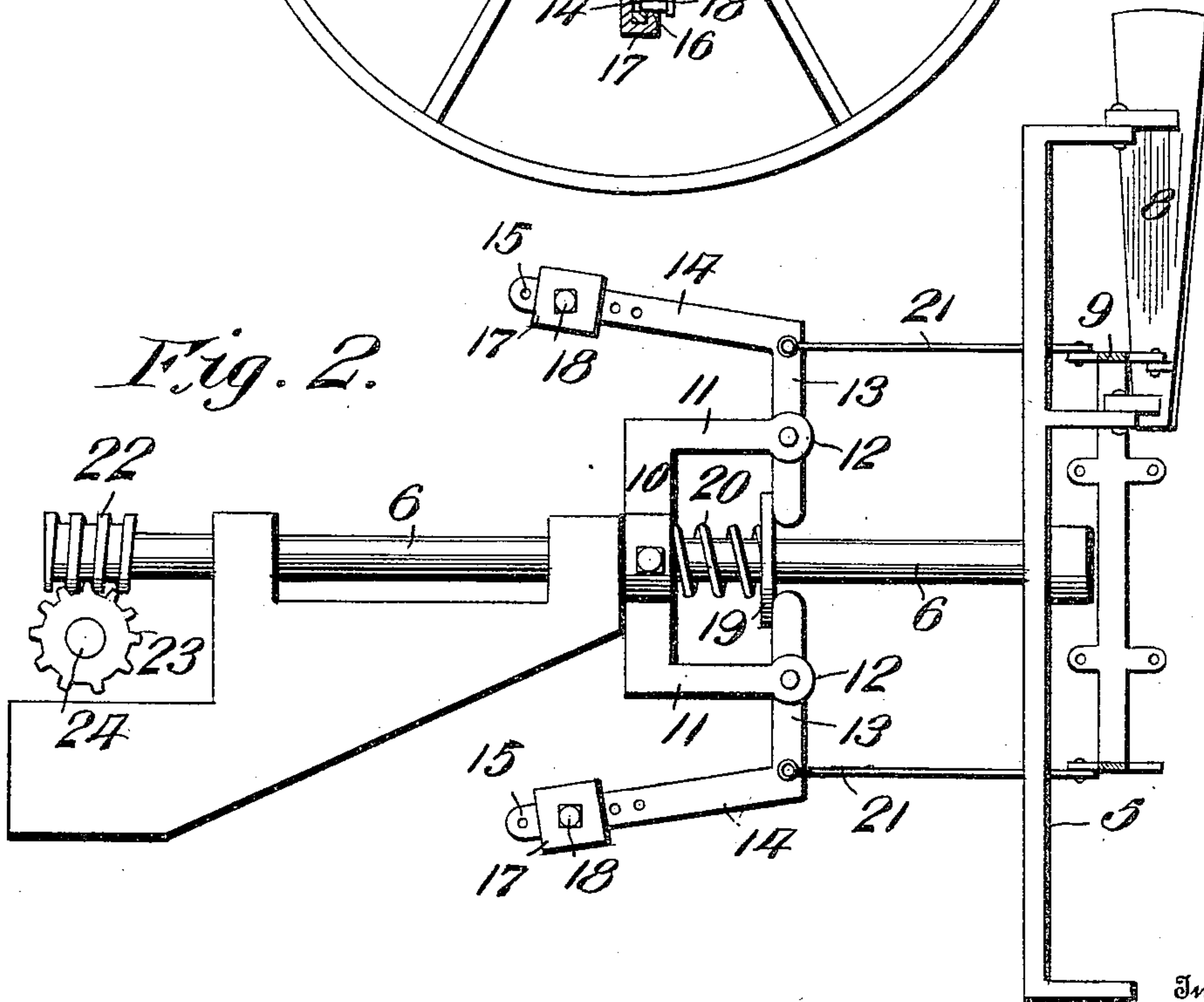


Fig. 2.



Inventor

*P. B. F. Born.*

Witnesses

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Attorneys



# UNITED STATES PATENT OFFICE.

PAUL B. F. BORN, OF GROVER, SOUTH DAKOTA.

## WINDMILL-GOVERNOR.

No. 816,213.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed May 31, 1905. Serial No. 263,097.

*To all whom it may concern:*

Be it known that I, PAUL B. F. BORN, a citizen of the United States, residing at Grover, in the county of Codington, State of South Dakota, have invented certain new and useful Improvements in Windmill-Governors; 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.

This invention relates to fluid-motors, and has for its object to provide a motor including blades movable into and out of position to receive the force of the fluid and a governor connected with the blades to move the latter to maintain the motor at or below a predetermined rate of speed.

Another object is to provide a governor which while being extremely simple and cheap will be efficient.

Other objects and advantages will be apparent from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a rear elevation of the wheel and governor. Fig. 2 is a side elevation.

Referring now to the drawings, the present invention comprises a wheel 5, mounted upon a shaft 6 for rotation therewith, and including a frame 7, in which blades 8 are mounted for movement into and out of position to receive the force of the wind thereagainst. These blades are connected for simultaneous movement, as shown at 9.

Mounted upon the shaft 6 for rotation therewith there is a transversely-extending arm 10, the shaft being secured in a passage 10', formed in the arm intermediate of its ends, and this arm has its end portions turned at right angles toward the wheel, as shown at 11. The outer ends of these end portions are broadened, as shown at 12, and pivoted thereto are levers 13, which extend radially of the shaft and beyond the portions 11 in opposite directions. Outwardly of the portions 11 the levers 13 are turned to extend away from the wheel, as shown at 14, the portions 14 being provided with longitudinally-arranged series of perforations 15; adapted for registration with perforations 16, formed

in weights 17, which are slidably mounted upon the portions 14, the registering perforations being adapted for the reception of pins 18 to hold the weights in the desired position.

Slidably mounted upon the shaft 6 between the arm 10 and the inwardly-extending portions of the levers 13 there is a plate 19, which is held with its outer face against the levers by means of a helical spring 20, engaged with the shaft between the plate and the arm 10. Rods 21 are connected with the levers 13 outwardly of their pivot-points and with the blades 8 for movement of the blades when the levers are moved. The governor may be adjusted by moving the weights 17 upon the portions 14 of the levers.

A worm 22 is carried by the shaft 6 and meshes with a worm-gear 23, carried by the driven shaft 24 of an operative mechanism.

It will be apparent from the foregoing that the weighted ends of the levers 13 are held against outward movement by the action of the helical spring 20, and the connections between these levers and the blades 8 are such that the blades lie in position to receive the fluid-currents thereagainst when the levers are in their normal positions. It will be seen, however, that with rotation of the shaft 6 centrifugal force will tend to move the weighted ends of the portions 14 of the levers outwardly, and that when the speed of the shaft 6 has reached a certain point the levers 13 will have been moved to bring the blades 8 out of operative position, and the speed of the motor will be consequently reduced.

What is claimed is—

In a mechanism of the class described the combination with a revoluble shaft, of a frame carried by the shaft, blades mounted in the frame for movement into and out of position to receive fluid-currents thereagainst, an arm secured to the shaft and extending therebeyond in opposite directions, said arm having end portions turned to extend parallel to the shaft and toward the frame, levers pivoted to the ends of said turned portions of the arm and extending radially of the shaft and at opposite sides of their pivot-points, said levers having their outer end portions turned at an angle away from the frame, weights adjustably mounted upon said end portions, a plate slidably mounted upon the

shaft between the inwardly-extending portions of the levers and the arm, a helical spring engaged with the shaft between the plate and the arm and resting thereagainst  
5 to hold the plate yieldably in spaced relation to the arm and against the inner portions of the levers, and connections between said levers and the blades for movement of the lat-

ter out of operative position when the levers are moved against the action of the spring. 10

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

PAUL B. F. BORN.

Witnesses:

S. B. SHELDON,  
F. A. BORN.