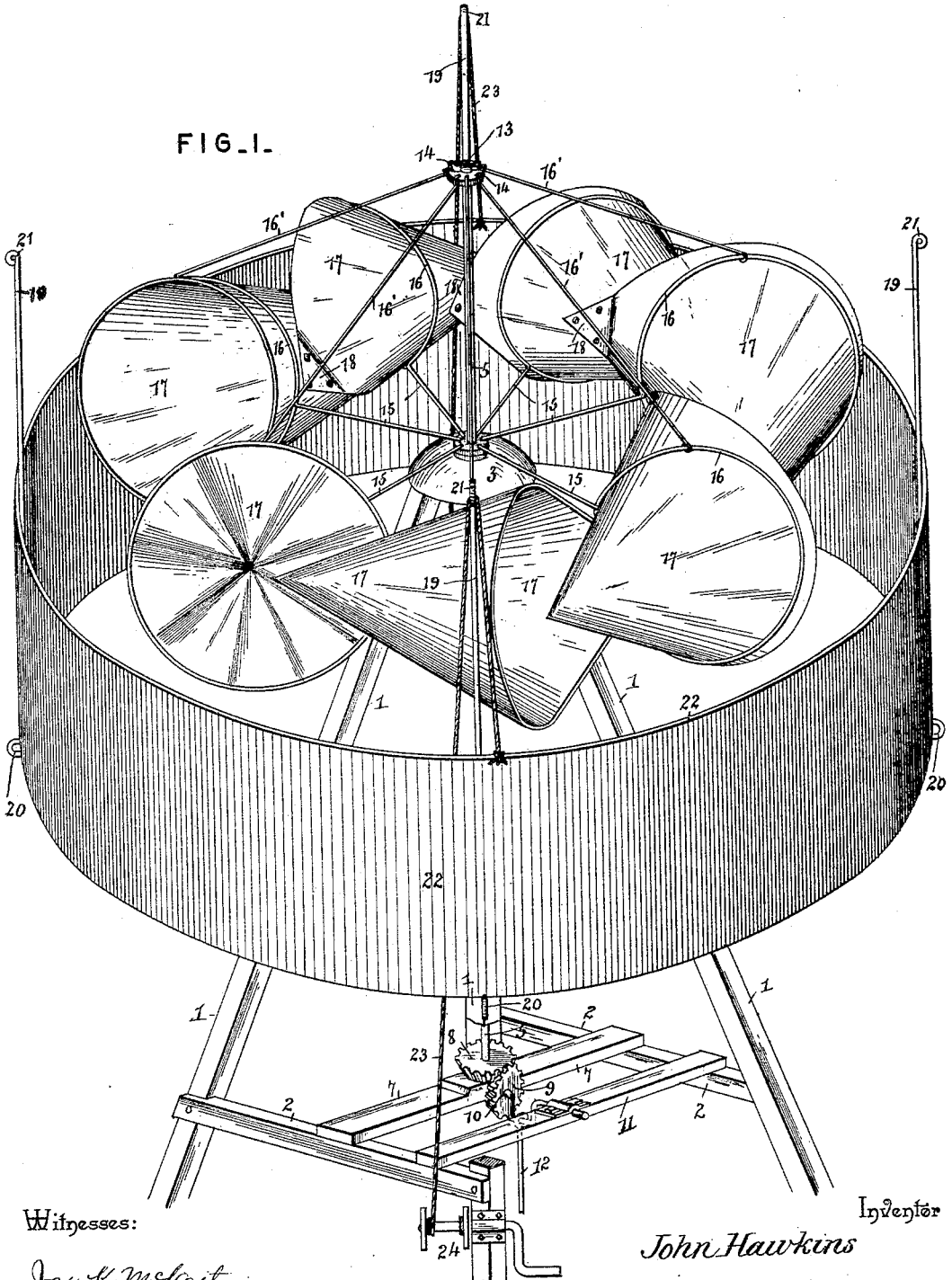
(No Model.) 2 Sheets—Sheet 1.

J. HAWKINS.

WINDMILL.

No. 459,184. Patented Sept. 8, 1891.

FIG. 1.



Witnesses:

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W. S. Dodge

Inventor

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(No Model.) 2 Sheets—Sheet 2.

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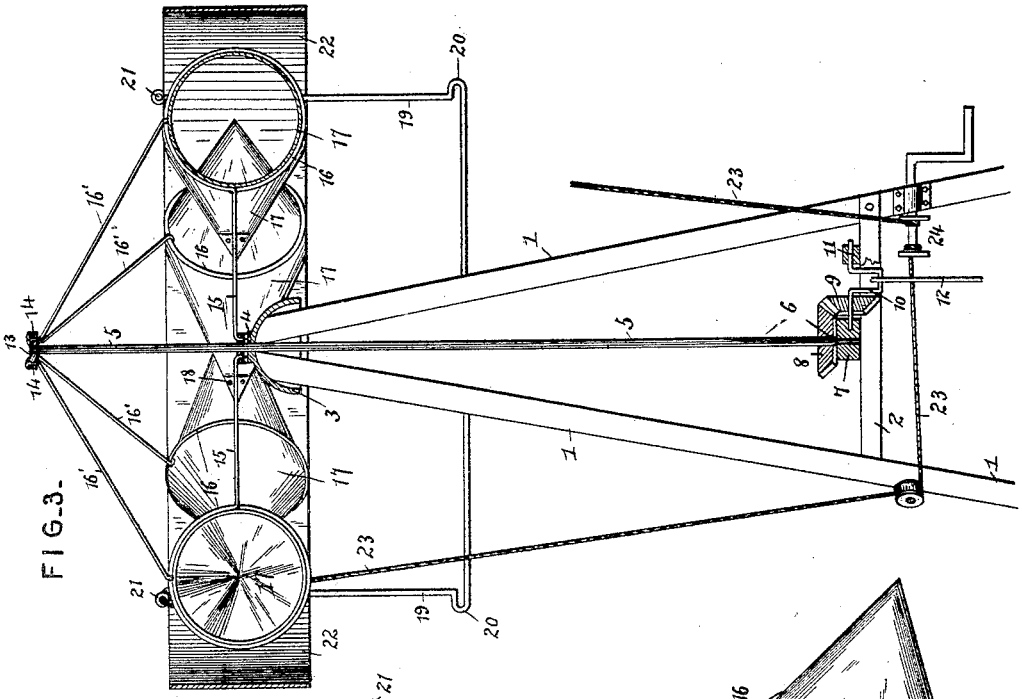

FIG. 3.

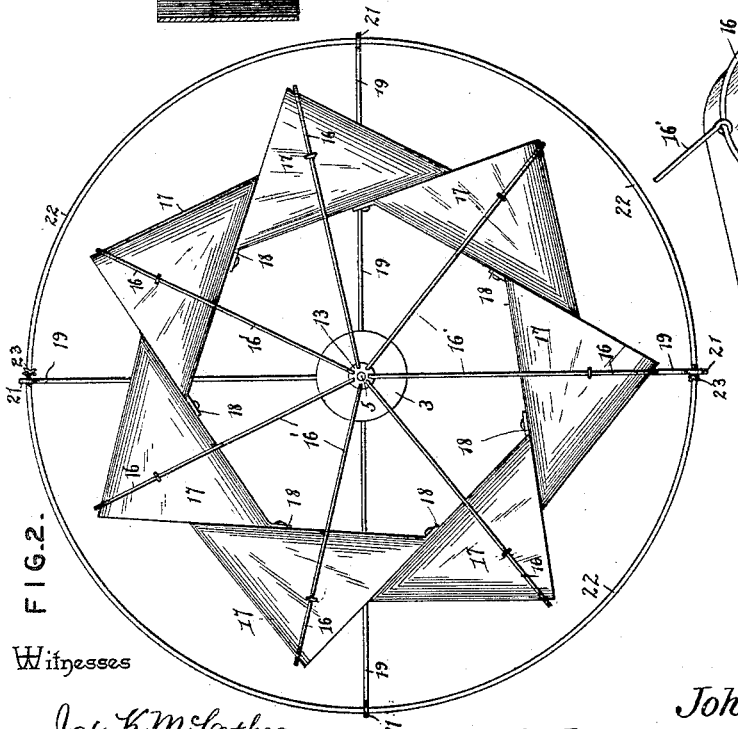

FIG. 2.

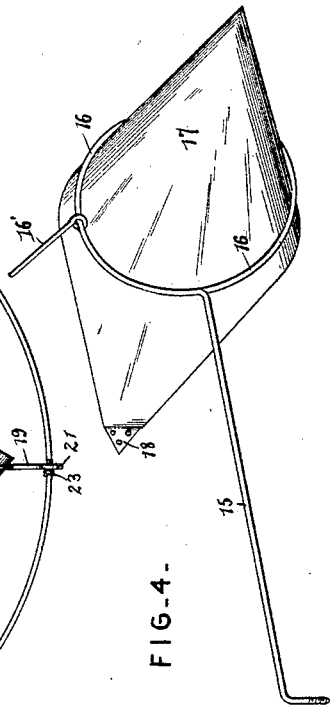

FIG. 4.

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UNITED STATES PATENT OFFICE.

JOHN HAWKINS, OF NEW LONDON, INDIANA.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 459,184, dated September 8, 1891.

Application filed February 26, 1891. Serial No. 382,849. (No model.)

To all whom it may concern:

Be it known that I, JOHN HAWKINS, a citizen of the United States, residing at New London, in the county of Howard and State of Indiana, have invented a new and useful Windmill, of which the following is a specification.

This invention relates to windmills for running pumps, &c.; and the objects in view are to provide a mill the vanes of which are always in the wind, requiring no adjustment or governor, and, furthermore, to provide a means for housing said vanes during storms or for graduating the supply of wind thereto.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a windmill constructed in accordance with my invention. Fig. 2 is a top plan. Fig. 3 is a vertical longitudinal section. Fig. 4 is a detail in enlarged perspective of one of the vanes and its supporting-frame.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the four uprights, (in this instance employed in the formation of the usual supporting-tower,) the said uprights being connected at suitable points by transverse connecting-bars 2 to lend stability to the structure. The uprights converge toward their upper ends and are surmounted by a cap 3, having a central perforation 4, through which passes a vertical shaft 5. The shaft 5 is stepped at its lower end in a bearing-recess 6, formed in a transverse bar 7, connecting two of the opposite connecting-bars 2, and said shaft is provided immediately above its bearing with a beveled pinion 8, which intermeshes with and drives a second beveled pinion 9, disposed at a right angle to the first-mentioned pinion and mounted upon a short cranked shaft 10, journaled in the bar 7 and in an adjacent bar 11. From the crank 10 depends the pump-rod or other power-conveying device 12.

Immediately above the cap 3 and at its upper extremity the shaft is provided with disks 13, provided with vertically-opposite perforations 14. From the lower disk there radiates a series of arms 15, which terminate at their outer ends in rings 16, which are stayed in position by means of stay or guy wires 16′, connected to the rings and to the upper disk. In each of these rings is seated a vane 17. These vanes are of cornucopia or conical shape and are inclined at their flared ends and terminate at the inner portions of the same in securing portions 18, each one of which is riveted to the inner wall of the preceding vane. It will thus be seen that the mouths of the vanes are disposed at a tangent to their orbit, so that regardless of the direction in which the wind travels the same acts upon the vanes which hold the wind, and are thus revolved beyond the same, and in returning to their starting position present their conical or pointed ends to the wind, and hence offer but slight obstruction thereto.

From each of the uprights of which the tower is composed there projects an L-shaped supporting-rod 19, which at its lower angle is provided with a shoulder 20 and at its upper end with an eye 21. These rods are encircled by a wide band or belt 22, designed to slide upon the rods between the shoulders and eyes thereof, and thus brought opposite or below the line of vanes. Cords or ropes 23 are connected to the band opposite the supporting-rods, have their free ends passed through the eyes, and are connected to a windlass 24, journaled at one side of the tower.

By operating the windlass it will be obvious that the band may be lowered or raised, so as to wholly expose the vanes or partially or completely cover the same, and in this manner the mill may be operated to its fullest extent to a lesser degree or wholly stopped.

Having described my invention, what I claim is—

1. In a windmill, a series of conical vanes rotatably mounted in position and having their mouths cut away diagonally and arranged tangentially to their orbit and terminating at their front ends in plates secured to the inner walls of the adjacent vanes.

2. In a windmill, the combination of a tower, a shaft rotatably mounted therein, radial arms extending from the shaft and provided at their outer ends with rings, and a series of conical vanes secured together and mounted in the rings, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN HAWKINS.

Witnesses:
ELI MILTON SMALL,
HENRY C. ROBBINS.