

H.M. Wheeler,

Wind Wheel.

No. 99,988.

Patented Feb. 15. 1870.

Fig. 1.

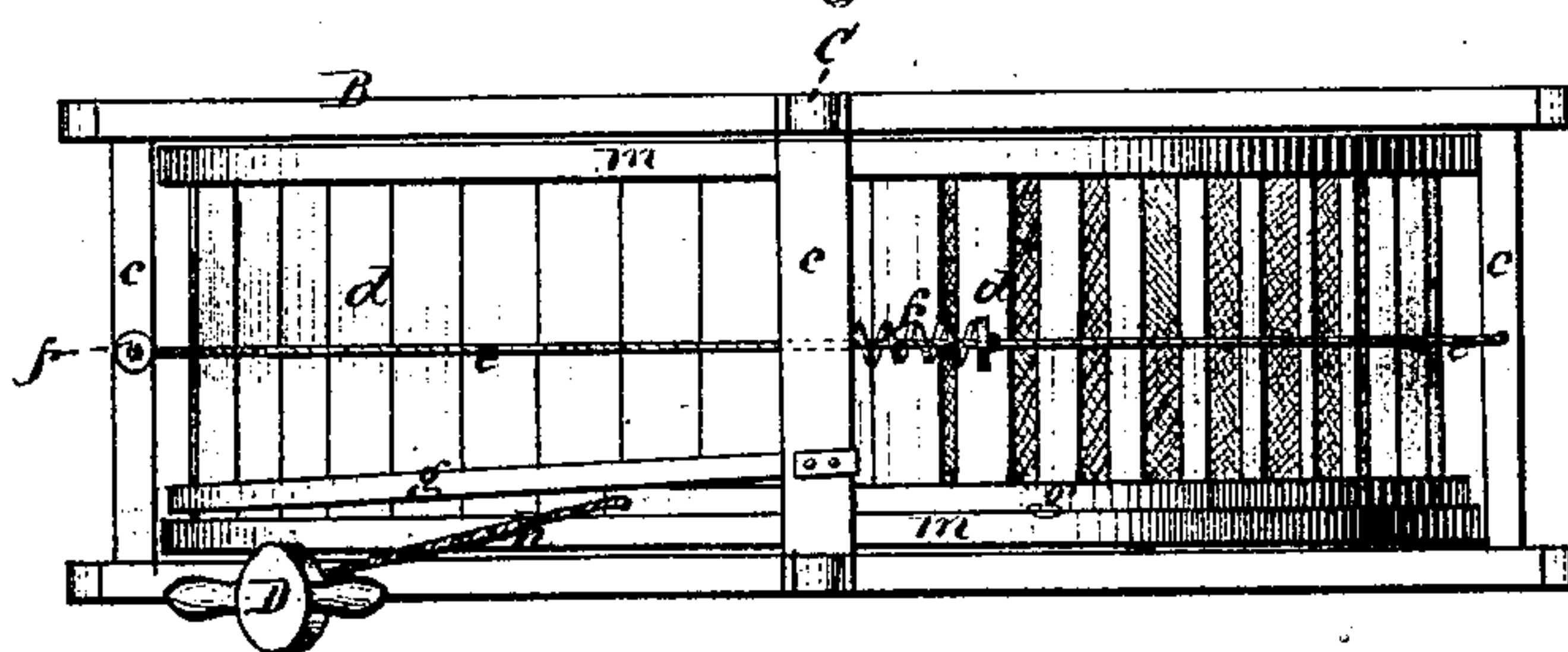
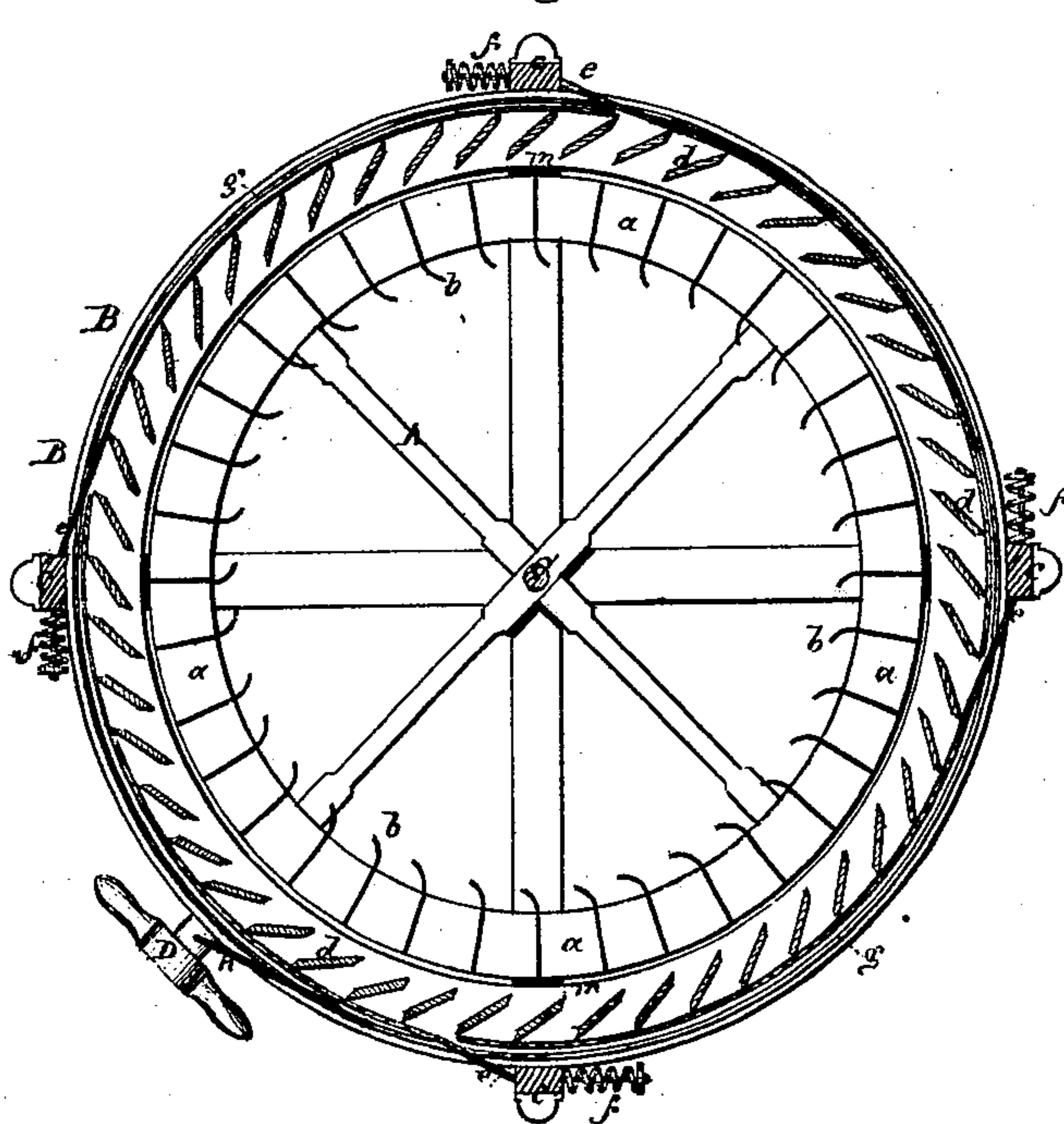


Fig. 2.



Witnesses:

E. J. Sommer.
Phil. T. Dodge.

Inventor:

H. M. Wheeler
by Dodge & Munn
his Atty.

United States Patent Office.

H. M. WHEELER, OF WOODBINE, IOWA.

Letters Patent No. 99,988, dated February 15, 1870.

IMPROVEMENT IN WINDMILLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, H. M. WHEELER, of Woodbine, in the county of Harrison, and State of Iowa, have invented certain new and useful Improvements in Wind-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention relates to wind-mills, and consists in constructing the wheel with a series of curved buckets, and mounting it in a frame surrounded with a series of gates, arranged to be opened and closed in a novel manner, for regulating the admission of the wind.

In the drawings—

Figure 1 is a side elevation, and

Figure 2 is a horizontal section through the center of fig. 1.

In constructing my device, I make a wheel, A, of two parallel rims or rings *a*, connected by arms to a central shaft, C, and between these rings insert, at equal distances from each other, a series of curved buckets, *b*, as shown in fig. 2.

This wheel I mount in a casing, B, made of four or more posts *c*, connected at top and bottom, and supporting two parallel rims, *m*, having an internal diameter a little larger than the diameter of the wheel A, and arranged so as to be at the same distance apart with the rims of the wheel A, as shown in figs. 1 and 2.

Between the rims *m* of the case B, I mount a series of blinds or gates *d*, so as to turn freely on journals at the middle of each of their ends, and divide them into four sections, each section consisting of the gates between two of the posts *c*, as shown in both figures.

To the center, or near it, of the outer edge of each of the gates of each section, I connect a cord, *e*, and pass it through a hole in the post *c*, next in the rear of the section, and on through a spiral spring, *f*, attached to the rear side of the post, and fasten it to the outer end

of the spring in such a manner as to cause the spring to hold the gates open, and thus allow the wind, from whatever direction it may come, to pass through them and act upon the buckets of the wheel.

The gates I so arrange as to incline toward the curved buckets of the wheel, and so that the wind will act directly against their curved surfaces.

In order to regulate the motion or speed of the wheel, I provide a metallic band or strap, *g*, and secure it at one end to one of the posts *c*, and then pass it around the outside of the gates, and connect its opposite end, by means of a cord or chain, to a drum, D, secured to the frame, so that by turning the drum the strap may be tightened, and cause the gates to close.

By this arrangement of the gates with the cords *e* and spiral springs *f*, and the strap *g* connected to the drum D, it will be seen that the gates may be allowed to stand open at any desired distance, and the motion or speed of the wheel be regulated by regulating the admission of the wind.

If desired, the drum D may be provided with a ratchet and pawl, or any other suitable device for holding it in any position; and it is obvious that instead of a single cord for each section of gates, with a spiral spring on each post, a cord may be attached to all the gates, and extend about all the sections, and be connected to a single spiral spring.

Having thus described my invention,

What I claim is—

1. The case B, gates *d*, cords *e*, and springs *f*, in combination with the wheel A, provided with buckets *b*, all constructed and arranged to operate substantially as and for the purpose set forth.

2. In combination with the case B, gates *d*, cords *e*, and springs *f*, the strap *g*, and drum D, when constructed and arranged to operate substantially as and for the purpose set forth.

H. M. WHEELER.

Witnesses:

G. SMITH STANTON,
WM. A. JONES.