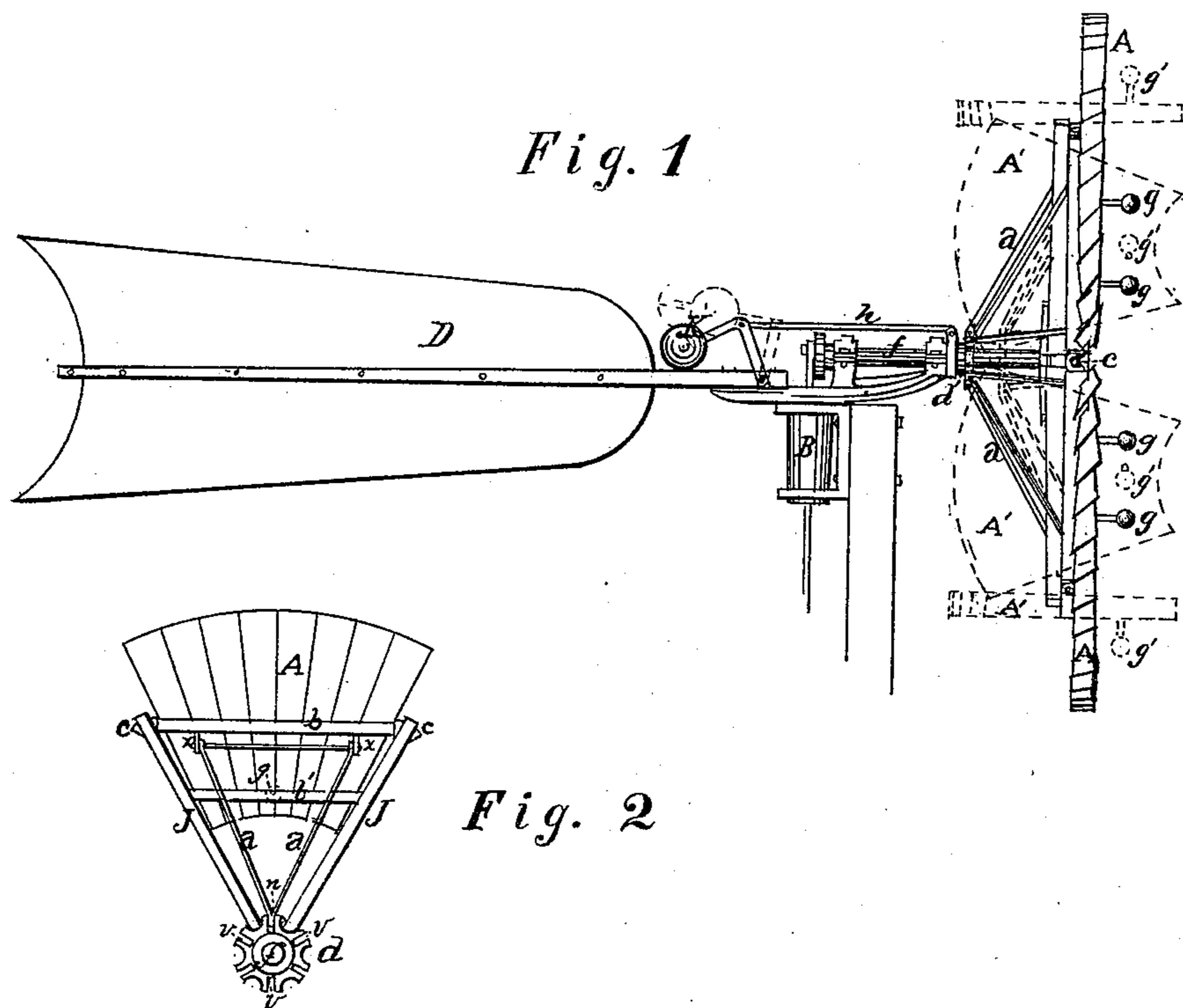


G. CRAMTON & E. L. CORIELL.

WIND-MILL.

No. 175,670.

Patented April 4, 1876.



Witnesses

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# UNITED STATES PATENT OFFICE.

GILES CRAMTON AND ELIJAH L. CORIELL, OF MARSHALL, MICHIGAN.

## IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. 175,670, dated April 4, 1876; application filed September 7, 1875.

*To all whom it may concern:*

Be it known that we, GILES CRAMTON and ELIJAH L. CORIELL, of Marshall, Michigan, have invented a new and useful Improvement in Windmills, of which the following is a full and accurate description, reference being had to the accompanying drawing.

Like letters on the different figures refer to like parts.

Figure 1 is a side view of the mill. Fig. 2 is a rear view of one of its sections.

Our invention relates to the rods connecting the sections to the slide-head in that class of mills in which the sections are so hinged as to turn out at right angles to the plane of the wheel upon an axis in the plane of the wheel, and at right angles to the radius through the center of the section.

The manner of hanging the sections is shown in Fig. 2.

At each end of the bar *b* is a suitable journal, turning in bearings *c c* near the ends of the arms *J J* of the wheel. Near the ends of the bar *b* are short arms *x x*, projecting inward toward the center of the wheel. To the ends of these arms *x x* are hinged the ends of the connecting-rods *a a*. These two rods are brought together and hinged at one point, *n*, in one of the slots *v v* in the slide-head *d*.

It is immaterial whether the two rods are

united in one piece at *n*, or are hinged separately to one point on the slide-head. The main point is to form the triangular arrangement of the rods *a a* and bar *b*, so as to make the connection between the section *A* and slide-head *d* rigid laterally, and avoid the necessity of using a square main shaft or groove and key to prevent the tendency of the slide-head to turn on the shaft.

Small weights *g g* are attached, by short arms, to the front of the sections. These weights tend to turn the sections out, approaching the position shown by the dotted lines, when the wheel is in motion. This tendency is opposed by the weight *K* on the bent lever *w* through the rod *h*, slide-head *d*, and connecting-rods *a a*, thus making it a self-regulating wheel.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a windmill, the triangular arrangement of the rods *a a*, to form a connection between the sections and the slide-head, substantially as and for the purpose shown and described.

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