M. D. CUMMINS.

WIND-MILLS.

No. 170,663. Patented Dec. 7, 1875.

Fig. 1.

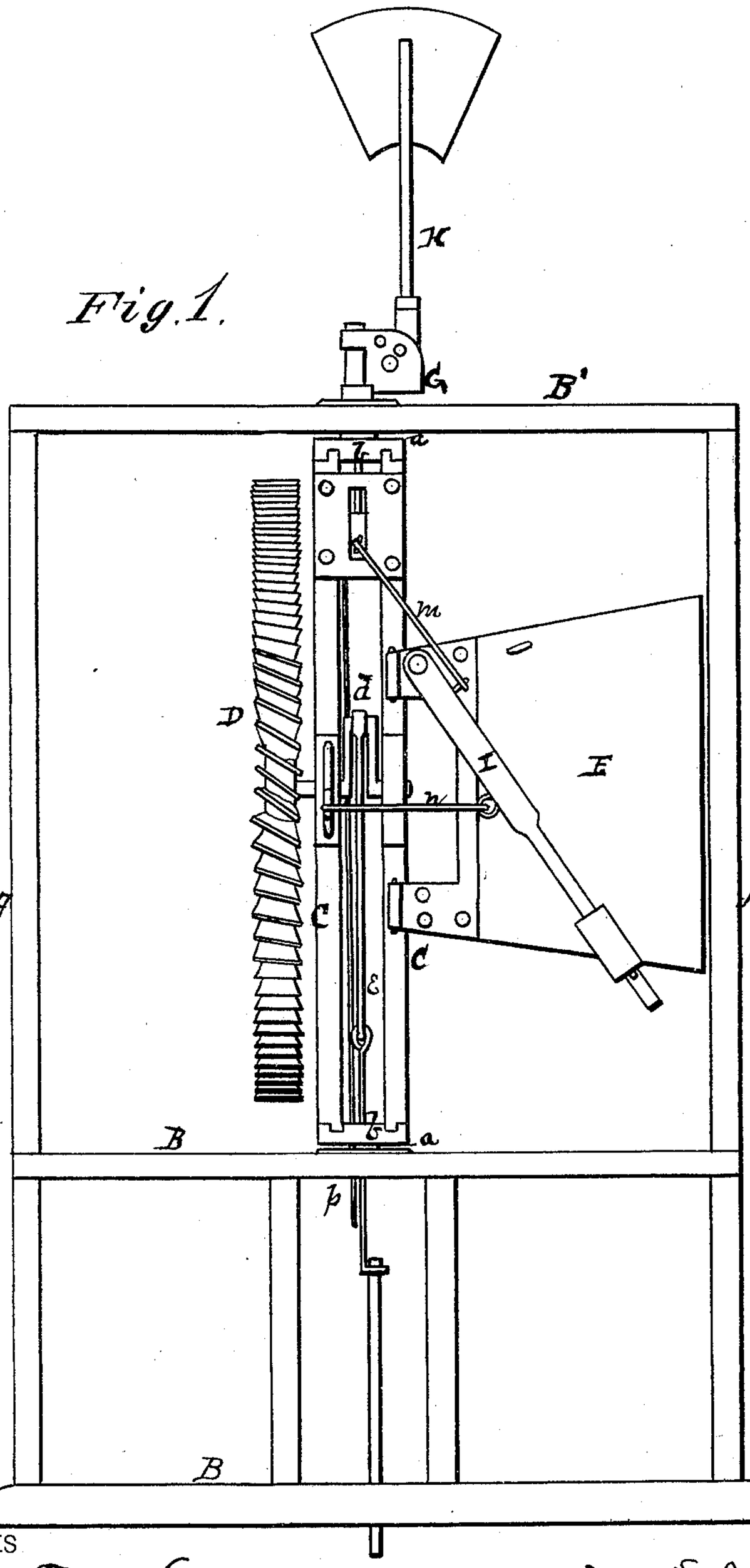
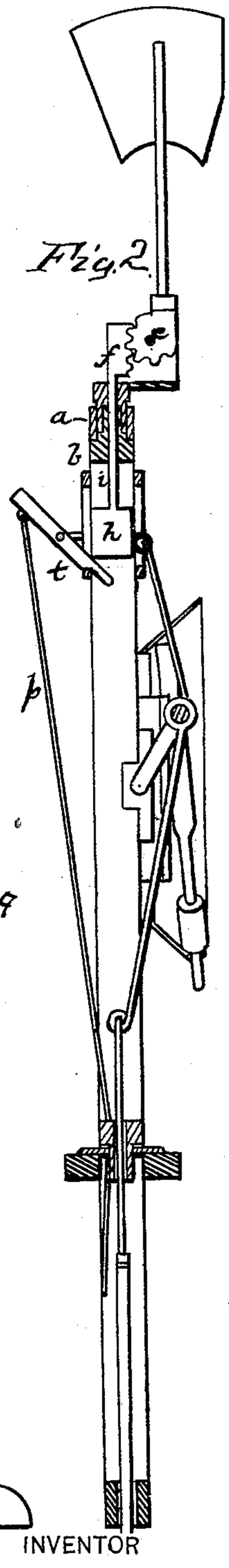


Fig. 2.



WITNESSES

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IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **170,663**, dated December 7, 1875; application filed October 15, 1875.

To all whom it may concern:

Be it known that I, M. D. CUMMINS, of Hope, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Windmills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification:

The nature of my invention consists in the construction and arrangement of a windmill, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a side elevation of my windmill. Fig. 2 is a central vertical section of the same.

The frame of my windmill is composed of two upright posts, A A, connected by three horizontal bars, B, B, and B′, the two lower ones of which form the support for the mill, and the upper one simply forms a bearing for the upper pivot of the mill. C C are two upright parallel bars placed a suitable distance from each other, and connected at both ends by castings *b b*, from which project hollow central pivots *a a*, having their bearings in the two upper horizontal bars of the frame A B. In the center of the bars C are formed suitable bearings for the crank-shaft *d*, to which the pump-rod *e* is connected, the bars C being just such a distance apart as to allow the crank to pass between them. On one end of the shaft *d* is secured the wind-wheel D, which is of the form known as the rosette or solid wheel. By this arrangement of parts the shaft has a bearing on each side of the crank, and the wheel is brought so close to the crank and pump rod that no power is lost. Furthermore, the frame C turning upon small pivots, say, two inches in diameter, there is a very small amount of friction. E represents the main or tail vane hinged to the side of one of the bars C in such a manner that it can turn from the same in one direction, but not in the other. On the upper pivot *a* is placed a small frame or socket, G, in which is pivoted the regulating-vane H. The shank of this vane forms, at its inner or pivoted end, a cogged segment, *e*, which connects or gears with a short rack-bar, *f*, said rack-bar being, by a rod, *i*, connected with a slide, *h*, placed between the two bars C C. The slide *h* is, by a rod, *m*, connected with a weighted lever, I, pivoted to the inner end of the vane E. The lever I is then, by a rod, *n*, connected with the bar C nearest to the wheel D, as seen in Fig. 1. When the regulating-vane H is turned on its pivot the segment *e* raises the rack-bar *f* and slide *h*, and by these means the lever I is raised, which causes the wheel D and vane E to turn toward each other, or, in other words, throwing the wheel out of the wind. As the wind slackens the weighted lever I returns the wheel to the wind and raises the regulating-vane. Through the lower pivot is passed a stop-rod, *p*, which connects with a pivoted finger, *t*, the inner end of which is under the slide *h*, so that by these means the mill may be stopped when desired from the ground.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the frame C, wheel D, and vane E, of the pivoted regulating-vane H, with cogged segment *e*, rack-bar *f*, with rod *i* and slide *h*, rod *m*, weighted lever I, and rod *n*, substantially as and for the purposes herein set forth.

2. The stop-rod *p* and pivoted finger *t*, in combination with the slide *h* and its connections with the wheel D and vane E, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I herewith affix my signature in presence of two witnesses.

MONTROVILL D. CUMMINS.

Witnesses:
FRANK CUMMINS,
JOHN PERRY.