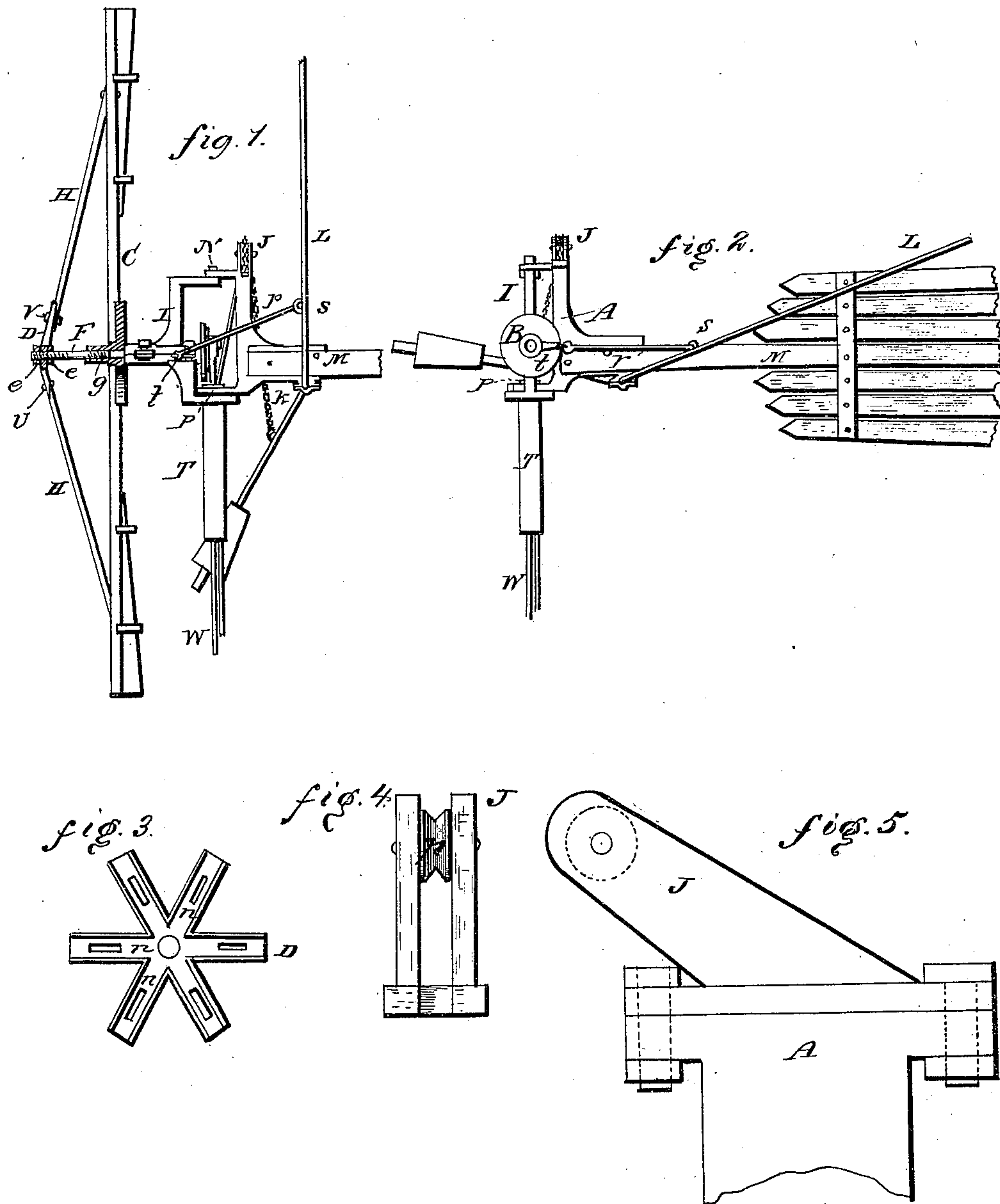


(No Model.)

L. C. CORIELL & J. ADAMS.
Windmill.

No. 234,392.

Patented Nov. 16, 1880.



Witnesses
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att'y

UNITED STATES PATENT OFFICE.

LEWIS C. CORIELL AND JOHN ADAMS, OF MARSHALL, MICHIGAN.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 234,392, dated November 16, 1880.

Application filed May 10, 1880. (No model.)

To all whom it may concern:

Be it known that we, LEWIS C. CORIELL and JOHN ADAMS, both residing in the city of Marshall, in the county of Calhoun, State of Michigan, have invented certain new and useful Improvements in Windmills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

Our invention relates, first, to the means of adjusting the bracing of the frame-work of the wheel; secondly, to the means of breaking the wheel to a dead stand-still when not in use; and, thirdly, to the means of handling the governing-vane, the last two being improvements upon the mill for which Letters Patent were granted, No. 218,715, dated August 19, 1879, to Lewis C. Coriell. We accomplish these results by means of the mechanism illustrated in the accompanying drawings, where—

Figure 1 is a side elevation. Fig. 2 is an elevation with the wheel removed, showing the position of the parts when at rest and the brake applied. Fig. 3 is a plan of the brace-spider D. Fig. 4 is an elevation of the pulley-block J. Fig. 5 is a side elevation of the same.

Like letters refer to like parts in the different views.

In the drawings, C is the wheel. F is an iron-rod extension of the shaft coupled thereto by means of a screw-coupling, *g*. This rod is screw-threaded for several inches at its outer end, and is provided with two nuts, *e e*, between which is secured the brace-spider D, a plan of which is shown in Fig. 3. Each of the arms of this spider is provided with a slot, *n*, for the passage of a bolt and nut, V, which secures the brace-rods H to the arms D. The slots *n* permit the slacking or relaxing or tightening of the brace-rods H. By means of the nuts *e e* the spider D can be set farther out or in at pleasure. In this way the correction of

any untruth in the set of the wheel-arms is provided for.

L is the lever, at the top of which is the vane. (Not shown.) The link *r* connects this lever L with an eye in the stud *t*, so that when the lever L is forced back the wheel is swung round nearly parallel with the rudder-vane M, as shown by Fig. 2. The crank-plate B is so proportioned that when the mill assumes this position it is brought in contact with the shank A of the rudder-vane, the two parts combining to form a brake, holding the mill at stand-still. The chain *k*, passing from the lower part of the regulator-lever, passes over the pulley J, thence down through the pivot T to the ground below, to enable the attendant to stop or start the mill at pleasure.

We now make the pulley-block J separate and bolt it to the top of the shank of the rudder-vane near the hinge N, as shown more clearly in Figs. 4 and 5.

In making these improvements we have sought to lessen the difficulty of keeping the wheel in true shape, and to obviate the running of the wheel when it should stand still.

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

1. The combination, with the wheel C, extension-rod F, and brace-rods H, of the adjustable spider D, having slotted arms to which said brace-rods are directly connected, substantially as and for the purpose herein shown and described.

2. In combination with the shank A of the rudder-vane, the crank-plate B, vane-lever L, and connecting-rod *r*, substantially as and for the purpose herein shown and described.

LEWIS C. CORIELL.

Witnesses:

JOHN ADAMS.

W. POWELL,
J. J. PERRIN.