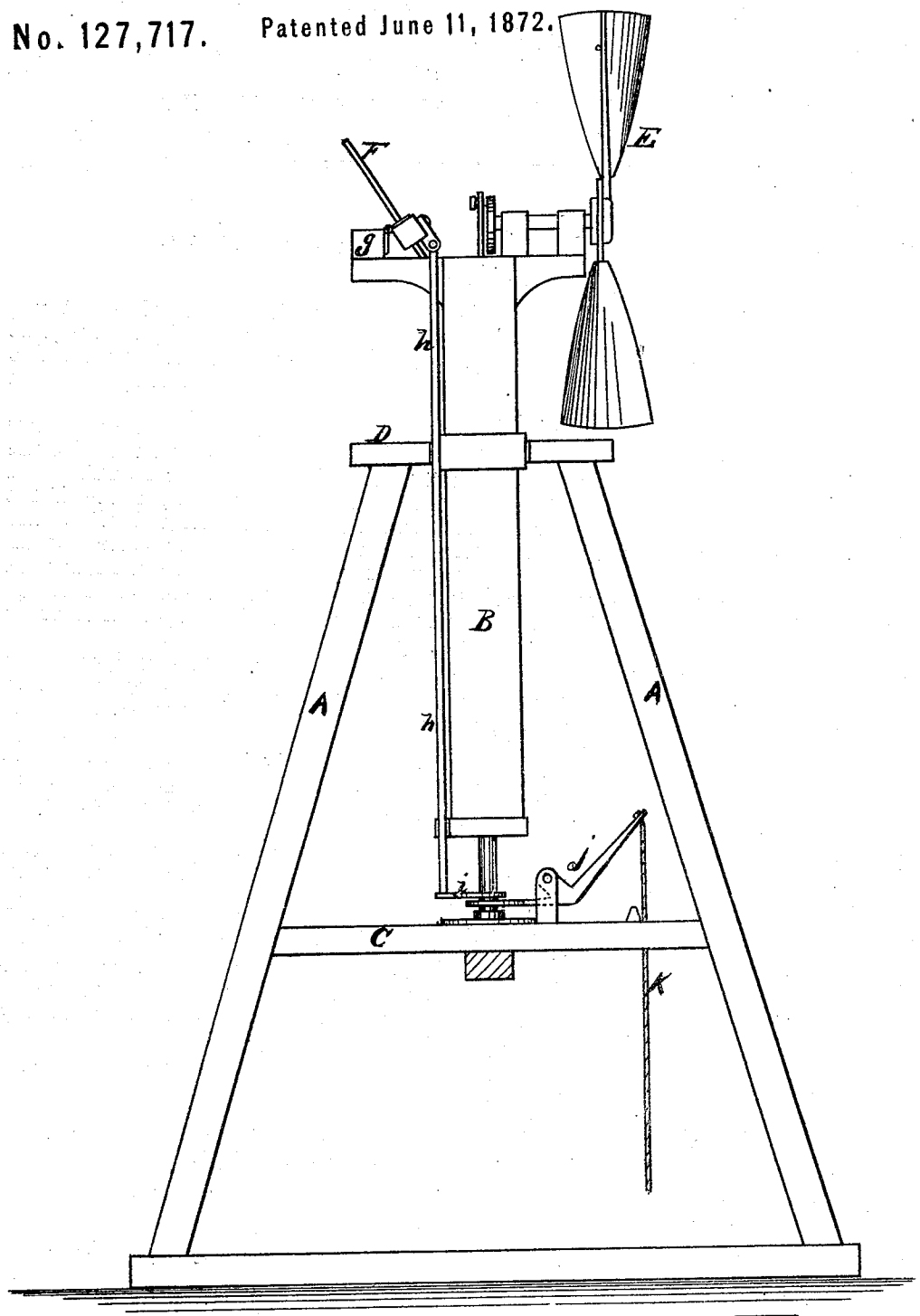
WILLIAM I. TUSTIN.

Wind-Wheels.

No. 127,717. Patented June 11, 1872.



Witnesses

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A.M. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

WILLIAM I. TUSTIN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN WIND-WHEELS.

Specification forming part of Letters Patent No. 127,717, dated June 11, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, WILLIAM I. TUSTIN, of the city and county of San Francisco, State of California, have invented an Improved Windmill; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My invention relates to a novel device for operating the rudder or guide-vane of a windmill when it is placed in a position parallel with the wind-wheel. My improvement consists in the employment of a vertical rod which is hinged to the vane-rod or beam, and extends downward either within reach of a person standing upon the ground, or to a convenient point along the length of the vertical beam which supports the wheel, so as to be operated from the ground by means of a lever and cord or equivalent device.

In order to more fully illustrate and explain my invention reference is had to the accompanying drawing forming a part of this specification, in which the figure is a side elevation, showing the rod-connection.

A represents the usual supporting-frame. The vertical hollow post B is supported in the cross-timbers C, and passes through the platform D on the top of the frame D. E is the wind-wheel, which is supported by a horizontal shaft at the upper end of the swiveling-post B. The guide-vane F is attached by means of hinges to the cross-beam *g* upon the upper end of the post B, parallel with the wind-wheel. A rod, *h*, has its upper end secured by a loose joint to the beam of the rudder-vane at a suitable point, and extends downward alongside of and parallel with the vertical swivel-post B to near the cross-timber C. To the lower end of this rod a ring, *i*, is secured, which encircles the small lower end of the vertical shaft B. A curved lever, *j*, is pivoted upon one of the cross-timbers, C, so that one end will extend below the ring *i*, while the opposite end extends toward the outside of the frame, and has a cord, *k*, attached to its end, which hangs down within easy reach of a person standing on the ground.

Now, by pulling upon this cord the lever will be caused to lift the rod *h*, so as to turn the rudder-vane upon its hinges to a horizontal position, and thus permit the wind to act upon the wheel; and, by releasing the cord, the rudder-vane will drop by its gravity to a vertical position, and thus throw the wheel out of the wind's power.

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

In combination with the rudder-vane F, hinged as described, I claim the vertical rod *h* and lever *j*, or equivalent device, substantially as and for the purpose above described.

In witness whereof I have hereunto set my hand and seal.

W. I. TUSTIN. [L. S.]

Witnesses:

J. L. BOONE,

ARTHUR L. HARRIS.