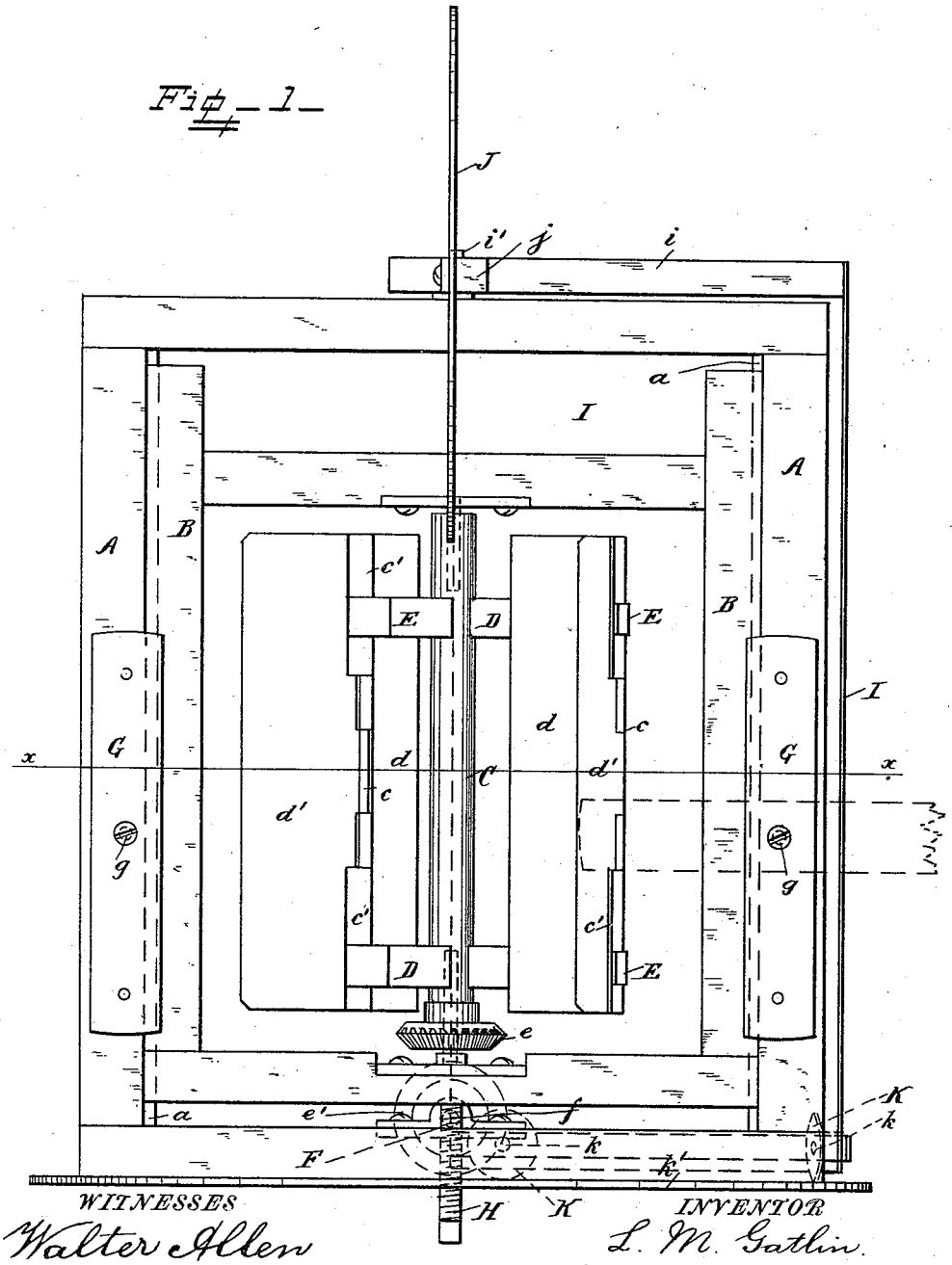
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L. M. GATLIN.

WIND WHEEL.

No. 434,108. Patented Aug. 12, 1890.

Fig. 1.



WITNESSES

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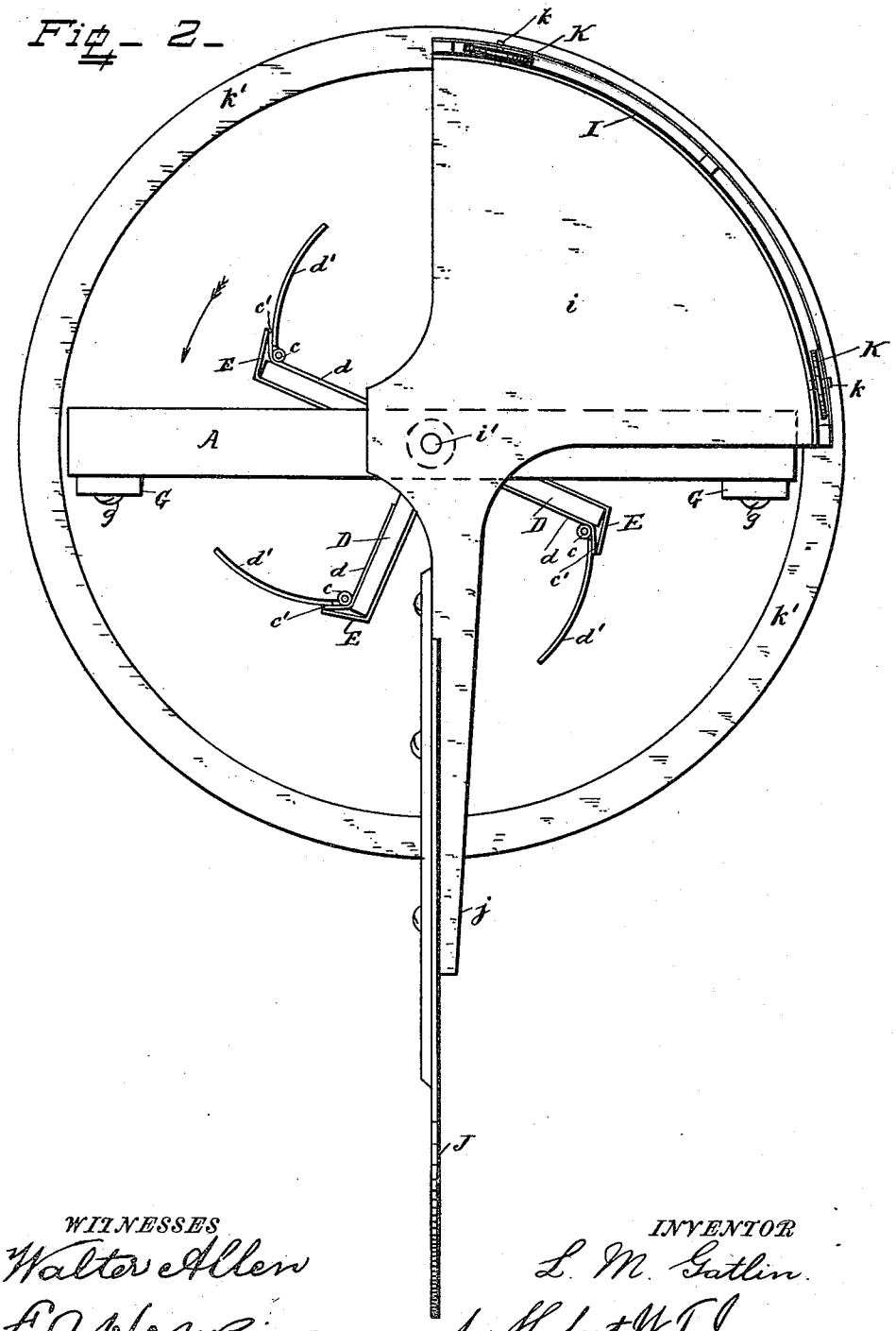
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Fig. 2.



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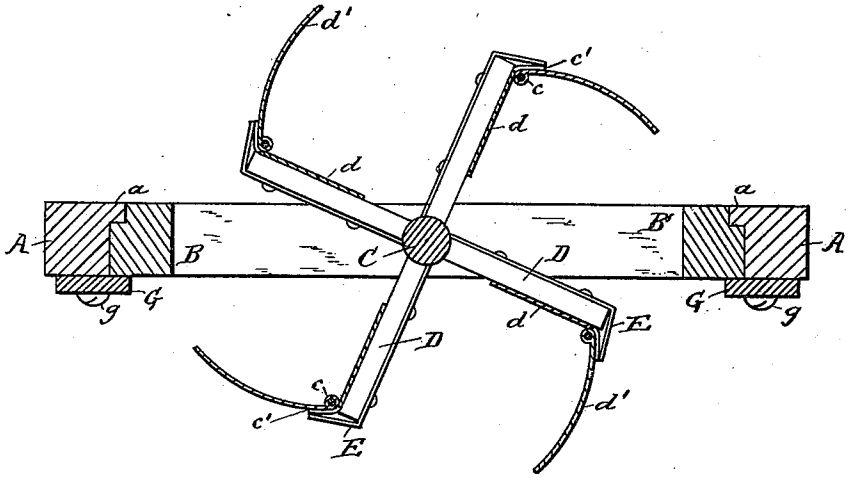
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Fig. 3.



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UNITED STATES PATENT OFFICE.

LILBURN M. GATLIN, OF WASHBURN, TEXAS.

WIND-WHEEL.

SPECIFICATION forming part of Letters Patent No. 434,108, dated August 12, 1890.

Application filed February 4, 1890. Serial No. 339,169. (No model.)

To all whom it may concern:

Be it known that I, LILBURN M. GATLIN, a citizen of the United States, residing at Washburn, in the county of Armstrong and State of Texas, have invented certain new and useful Improvements in Wind-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wind-wheels; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the wind-wheel. Fig. 2 is a plan view of the same from above. Fig. 3 is a cross-sectional plan view from above, taken on line *x x* in Fig. 1.

A is a stationary frame, and B is a vertically-sliding frame.

C is the wind-wheel spindle, pivoted in the top and bottom bars of frame B.

D are the cross-arms of the wind-wheel, and *d d'* are the vertical wind-vanes. These vanes are made of two separate parts *d* and *d'*, arranged at a right angle to each other and provided with hinges *c* at their joints. The parts *d* are flat and are firmly secured to the arms C, and the parts *d'* are curved and are pivoted to the outer edges of the parts *d* by the said hinges *c*. Flanges *c'* are provided on the edges of parts *d*, which prevent the wind from escaping between the two halves of the vanes.

E are brackets, which are secured to the back of the arms, and which support the flanges *c'*, and prevent the hinged parts *d'* from being turned too far around by the wind.

A beveled-toothed wheel *e* is secured upon the spindle C, and is adapted to gear into a similar toothed wheel *e'*, secured upon the shaft F, journaled in bearings *f*, which are secured to the lower part of the stationary frame A.

Fixed guides *a* are formed upon the uprights of frame A, for the sliding frame to work against upon one side, and G are guides upon the opposite side of the sliding frame. The guides G are pivoted on the pins *g*, and can be turned around, as indicated by the dotted lines, and used to lock the wind-wheel and prevent it from revolving in either direction when it is not required in action.

H is the supporting-screw, which engages with the lower bar of the stationary frame, and bears against the lower bar of the sliding frame. When the wind-wheel is not required, the wheels *e* and *e'* are placed out of gear by turning screw H and raising the sliding frame until the cogs of wheel *e* are clear of the cogs of wheel *e'*.

I is the curved wind-break, secured at its upper edge to the plate *i*, which is pivoted on the pin *i'*, projecting from the top of the stationary frame A, in line with the center spindle of the wind-wheel.

J is the guide-vane, which is secured to the tail *j*, which projects rearwardly from the plate *i*. K are rollers journaled upon pins *k* at the base of the wind-brake and adapted to run upon the circular track *k'*, so that the wind-break may be turned easily by the action of the wind upon the guide-vane.

The wind-break prevents the wind from acting upon the backs of the wind-vanes, and can be used to stop the wind-wheel by pulling it around by hand and securing it directly between the wheel and the wind. The wind-vanes catch the wind and hold it until after they pass the center of the wheel at the rear. As they continue to revolve the hinged parts *d'* are automatically folded back upon the face of the parts *d*, so that the resistance is much lessened. The hinged parts reopen automatically as soon as they again catch the wind at the front and exposed side of the wind-wheel.

What I claim is—

1. In a wind-wheel, the combination, with the central spindle, of the arms secured to the spindle, the inner half-vanes secured to said arms, the outer half-vanes hinged at substantially a right angle to the said inner half-vanes and adapted to fold inwardly upon their faces, and the flanges for preventing the escape of wind between the half-vanes, substantially as and for the purpose set forth.

2. In a wind-wheel, the combination, with the central spindle, of the arms secured to the spindle, the inner half-vanes secured to said arms, the outer half-vanes hinged at about a

right angle to the said inner half-vanes, the flanges for preventing the escape of wind between the half-vanes, and the brackets for supporting said flanges and preventing the hinged parts from turning too far around, substantially as and for the purpose set forth.

3. The combination, with the vertically-sliding frame and the wind-wheel, of the stationary frame provided with fixed guides upon one side of the sliding frame and the movable guides pivoted to the stationary frame on the other side of the sliding frame and adapted to lock the said wind-wheel, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LILBURN M. GATLIN.

Witnesses:

J. MACD. CAMPBELL,

W. H. MITCHELL.