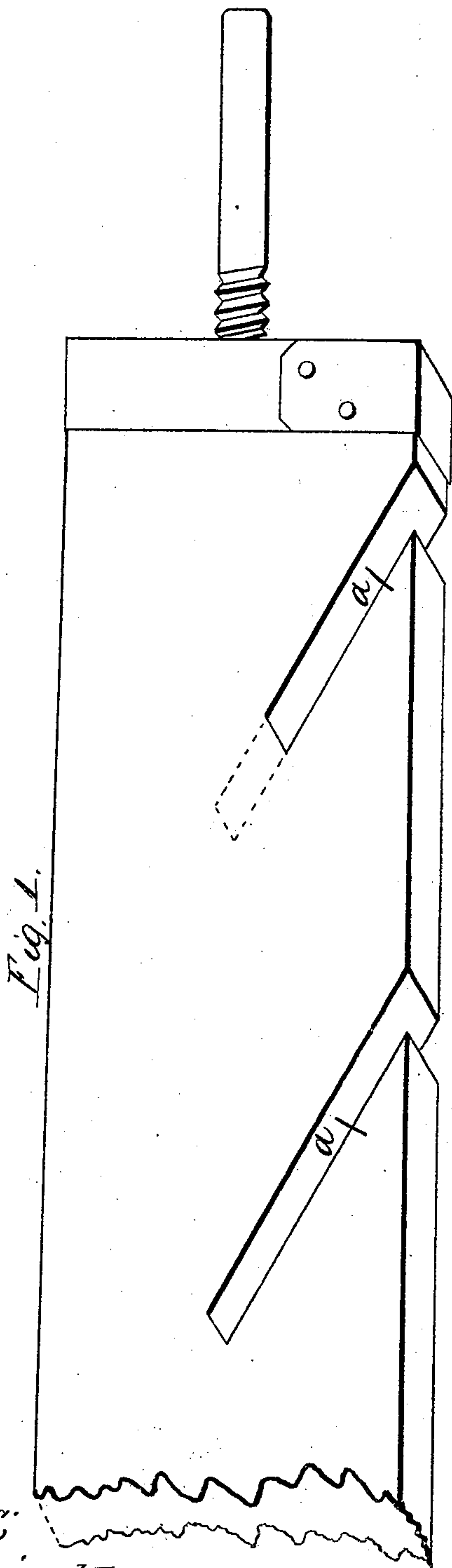


*A. P. Brown,*

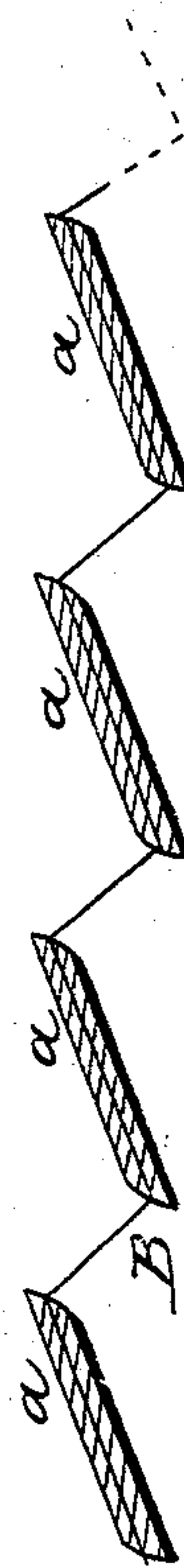
*Wind Wheel.*

*No. 102,364.*

*Patented Apr. 26. 1870.*



*Fig. 2.*



*Witnesses;*  
*Chas. Harrington*  
*J. C. Rice*

*Inventor;*  
*Addison P. Brown*

# United States Patent Office.

ADDISON P. BROWN, OF SYRACUSE, NEW YORK, ASSIGNOR TO CONTINENTAL WINDMILL COMPANY, OF NEW YORK CITY.

*Letters Patent No. 102,364, dated April 26, 1870.*

## IMPROVEMENT IN WINDMILLS.

The Schedule referred to in these Letters Patent and making part of the same

Be it known that I, ADDISON P. BROWN, of Syracuse, county of Onondaga and State of New York, have invented certain new and useful Improvements in Hanging the Slats or Sails in Wind-Mills; and I do hereby declare and ascertain my said invention as follows, reference being had to the accompanying drawing, in which—

Figure I is a view of the axis, with the gudgeon in place, and

Figure II, an end view of the outermost extremity of several of the slats.

My improvement relates to that class of wind-mills in which the "sails" or slats are set angling to the wind in a "section-bar" or axis, which is hung between two radial arms of the wind-wheel upon gudgeons or pivots having their bearings in metal boxes on said radial arms, so as to turn freely therein.

Heretofore there has been a faulty construction in pivoting the sails of wind-mills, so that, however well fitted they may be originally, they soon become loose and shaking.

My improvement for remedying this defect is to form the gudgeon with a coarse-threaded screw, which can, as it wears, be turned out against the end of the bearing, and thus keep the parts from shaking.

In wind-mills where the shafts carrying the slats or sails are pivoted, this small and apparently inconsiderable improvement is of vital importance in the durability of the parts and the avoidance of noise in running.

Since, in mills of this class, the outer extremities,

*a a*, of the slats are often two feet or more beyond the axis in which the central portion of the slat is hung and supported by being secured in the cuts or notches *a a*, Fig. I, it becomes desirable to hang and support these extremities with reference to each other, and also to twist them to an angle differing from what they have at the axis and proportionate to their increased rotative velocity, I furnish the outer extremities *a a*, Fig. II, with a round or flat wire or narrow strip of sheet metal, B, pressed into a groove cut in the end of the wood or metal slat, and parallel, or nearly so, to the face of the same, and continued from each slat to its neighbor, by which both these results are attained at small expense.

Having thus fully described my improvement,

What I claim, and desire to secure by Letters Patent, is—

1. In combination with the radial arms of a wind-wheel of the class herein described, the said axis or section bars, with screw gudgeons, substantially as described.

2. The within-described method of staying the slats of wind-mills by means of the slots and wire or metal strips by means of a metal rim or band inserted in slots in the ends of the said slats, substantially as shown and described.

ADDISON P. BROWN.

Witnesses:

J. F. HUTTNER,  
E. P. STARR.