

J. BUNDY.
Wind-Mills.

No. 151,835.

Patented June 9, 1874.

Fig. 2.

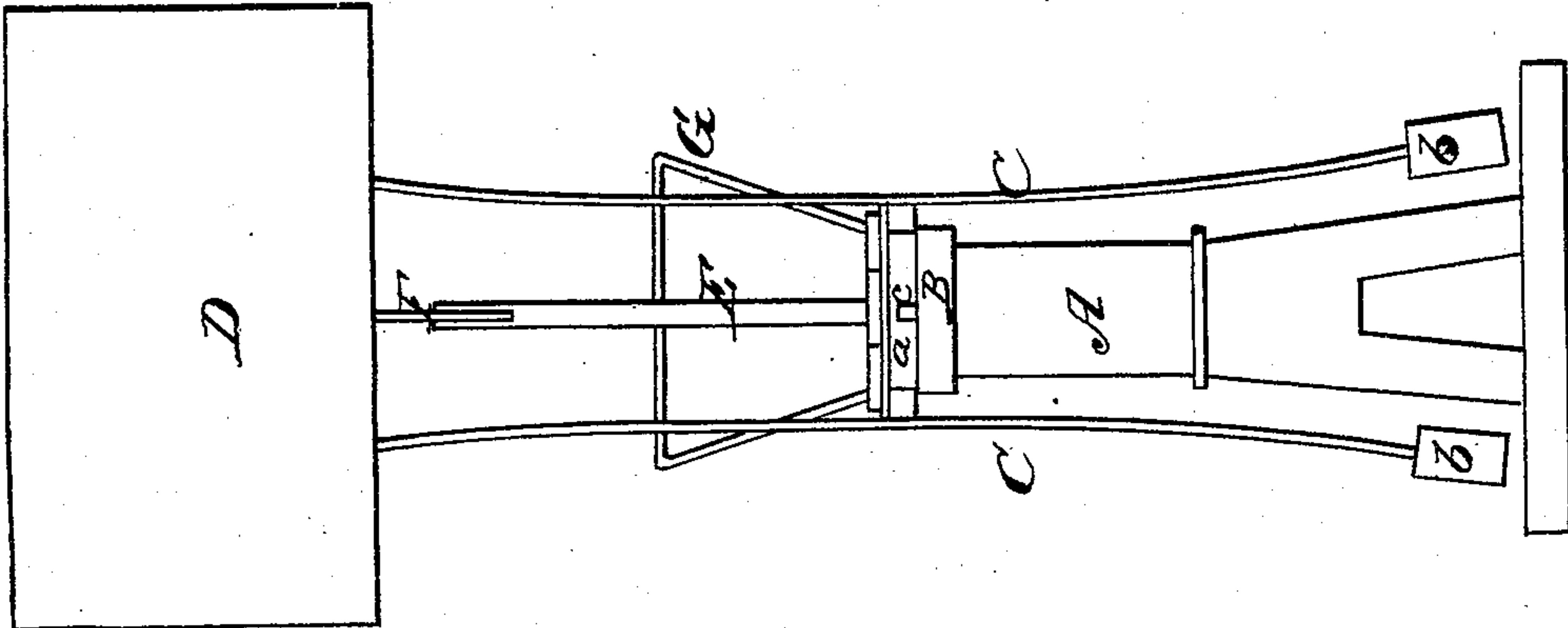
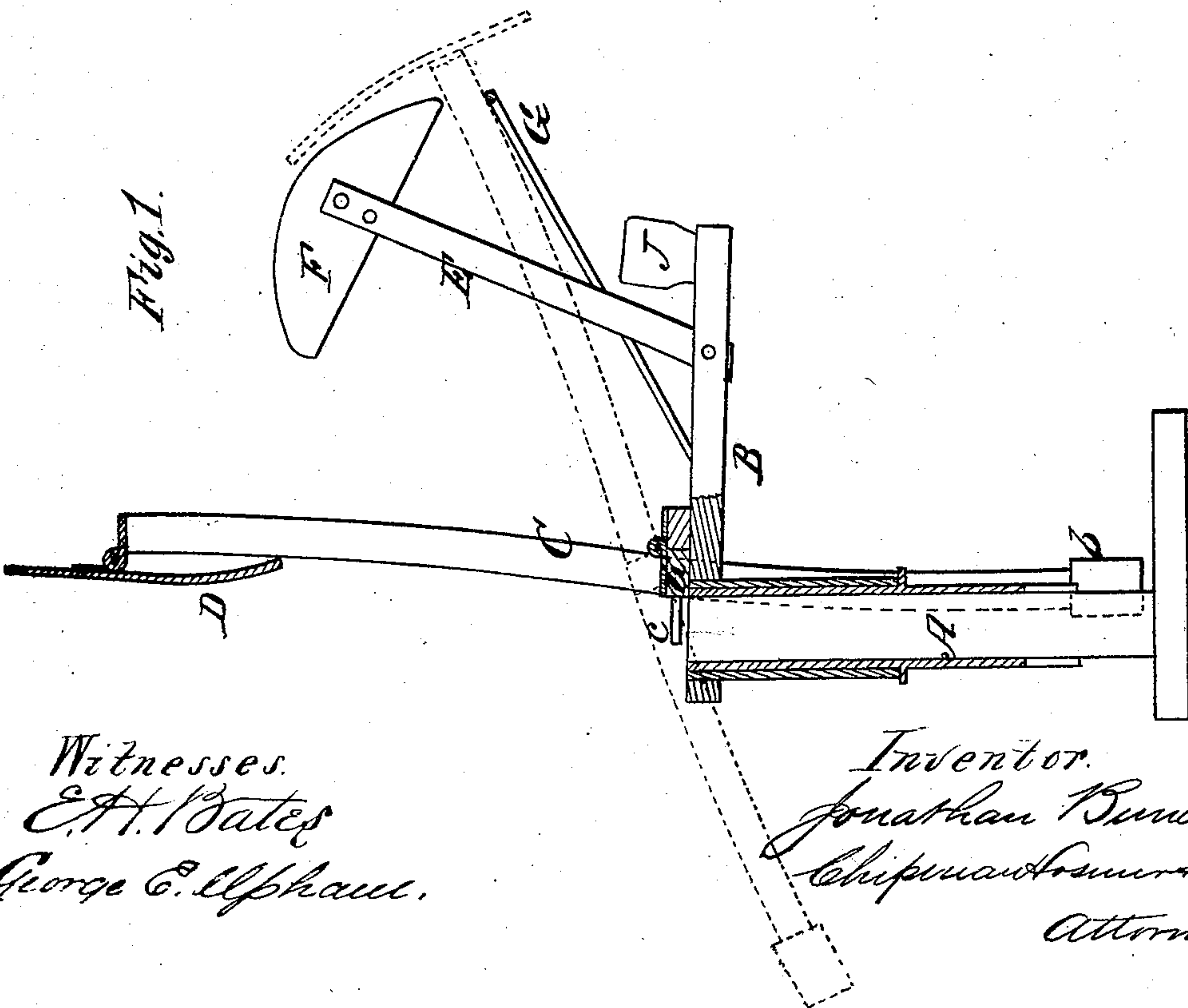


Fig. 1.



Witnesses.
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UNITED STATES PATENT OFFICE.

JONATHAN BUNDY, OF CENTERDALE, IOWA.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **151,835**, dated June 9, 1874; application filed May 9, 1874.

To all whom it may concern:

Be it known that I, JONATHAN BUNDY, of Centerdale, in the county of Cedar and State of Iowa, have invented a new and valuable Improvement in Wind-Powers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a sectional view of my device, and Fig. 2 is a front view.

This invention has relation to wind-powers which are especially designed for pumping water. It consists in a vibrating blade, which is applied to loaded vibrating arms, in combination with a cam-shaped vane, which will tilt the said blade and cause it to make its return strokes edgewise to the wind, as will be hereinafter explained. It also consists in combining with a wind-blade, which is applied on vibrating arms, and a wind-vane, which will keep said blade in a direction with the wind, a swivel-stock, which will allow the blade, its arms, and the vane to turn with the direction of the wind, as will be hereinafter explained.

In the annexed drawings, A designates a tubular standard, on the upper end of which swivels horizontally an arm, B. C C designate two arms, which are connected together by a cross-bar, *a*, and which carry on their lower ends weights *b b*. The cross-bar *a* is hinged to another cross-bar, which is secured to the arm B, and to the hinged cross-bar *a* an arm, *c*, is applied for actuating a pump-rod, (not shown in the drawings,) which rod plays through the standard A. The upper ends of the arms C C have pivoted to them a blade, D, which is arranged so that the lower part of it preponderates, thereby keeping the blade in line with the said arms. Near the rear end of the horizontally-swiveling arm B a

bar, E, is secured to it, which bar rises nearly vertically, and carries on its upper end a vane, F, presenting an upper edge, which is the segment of a circle. This upper convex edge of the vane F serves as a cam or trip for the lower portion of the blade D, for the purpose of turning this blade at or nearly at right angles to its arms C C at every backward stroke which this blade makes, thereby causing the blade to make its return strokes edgewise to the wind. For the purpose of giving a quick backward stroke to the blade D, I use a spring-loop, G, which is so arranged that by its recoil it will operate to give a quick forward stroke to the blade after this blade has been adjusted edgewise to the wind by the cam-shaped vane F, as above described. In addition to the vane F an auxiliary vane, J, may be applied to the arm B, for the purpose of keeping the broadside of the blade D squarely to the wind.

It will be seen from the above description that I can automatically communicate reciprocating motion to a pump-rod by means of a pivoted blade and loaded arms, which latter are applied to a horizontally-turning vane-arm, which will always bring said blade around to the wind in a position to be acted on thereby.

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

1. A vibrating pivoted wind-blade, D, in combination with a cam-vane, F, substantially as described.

2. A vibrating pivoted wind-blade, D, on loaded vibrating arms C C, in combination with a spring, G, and a horizontally-turning arm, B, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JONATHAN BUNDY.

Witnesses:

J. H. PAINTER,
J. W. GIVANS.