L. R. WALLS.

Wind-Wheel.

No. 222,334. Patented Dec. 2, 1879.

FIG. 2.

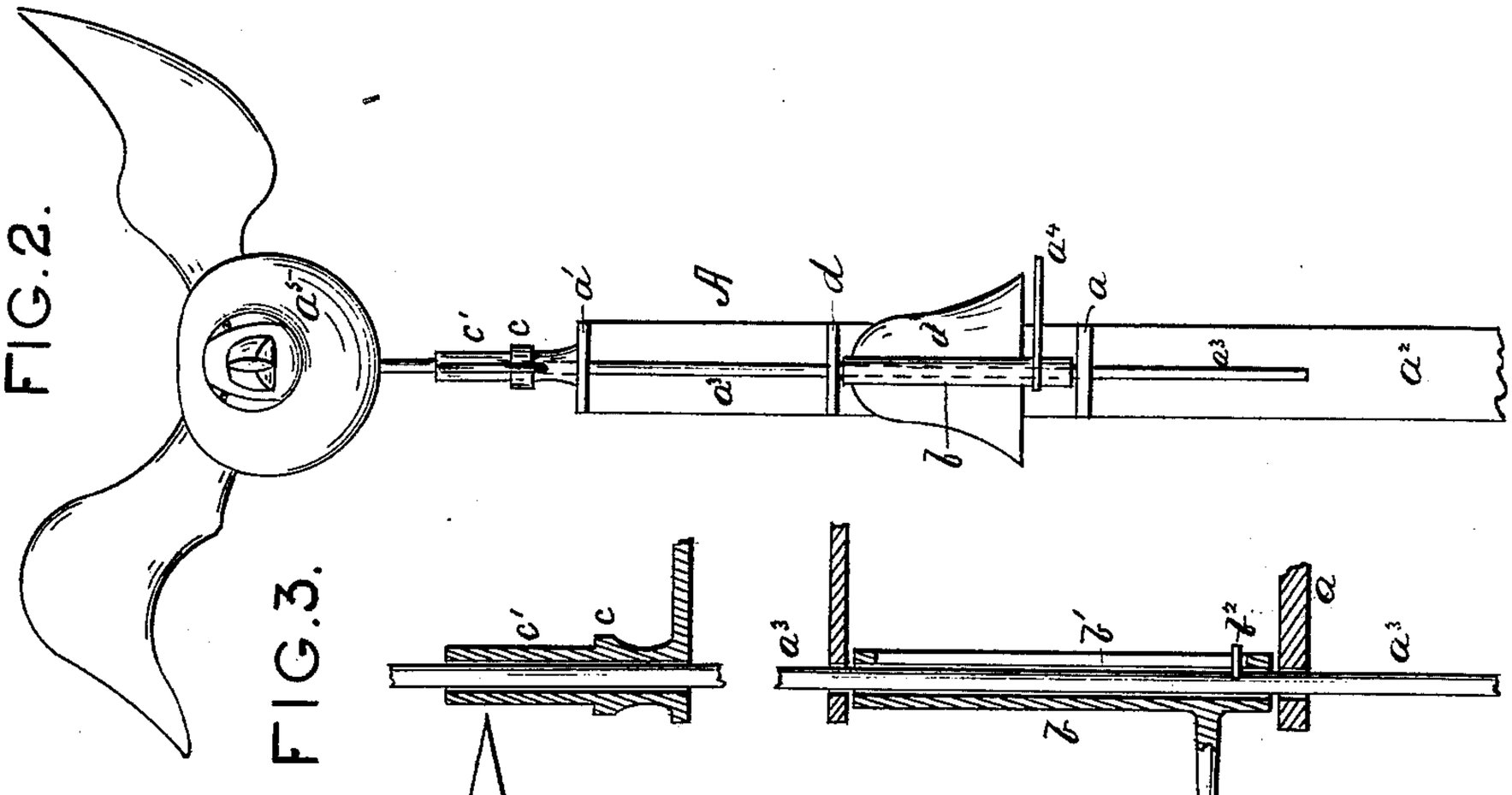

FIG. 3.

FIG. 1.

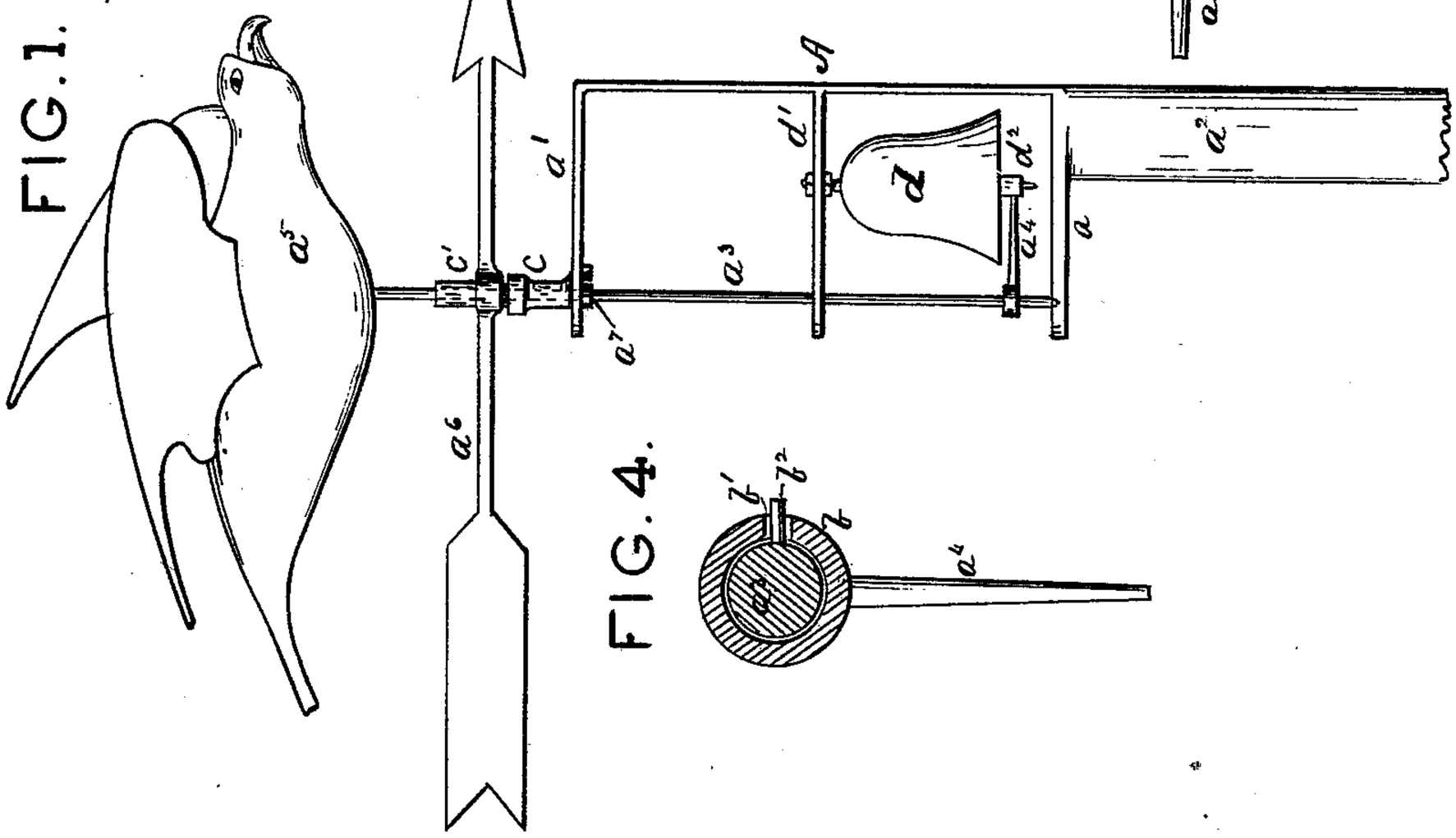

FIG. 4.

Witnesses.

Samuel R. Turner

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UNITED STATES PATENT OFFICE.

LEMUEL R. WALLS, OF GEORGETOWN, DELAWARE.

IMPROVEMENT IN WIND-WHEELS.

Specification forming part of Letters Patent No. **222,334**, dated December 2, 1879; application filed October 15, 1879.

To all whom it may concern:

Be it known that I, LEMUEL R. WALLS, of Georgetown, in the county of Sussex and State of Delaware, have invented certain new and useful Improvements in Wind-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish an improved vane, which may be made large enough to be fixed to houses or other suitable places to indicate the direction of the wind, or it may be made small enough for a toy for children.

It consists in a substantial frame, which may be attached to the top of a staff or handle in a vertical shaft, which supports a flutter or bird having its wings so formed that it will revolve when the wind blows, and in a bell and arm for ringing it, all arranged to operate as hereinafter explained.

In the drawings, Figure 1 is a side elevation of a vane constructed according to my invention; and Figs. 2, 3, and 4 show a modified construction of some of the operating parts.

A is a skeleton-frame, constructed so that it may be attached to the top of a staff or handle, a^2, and so that it will support the various operating parts of my invention.

a^3 is the vertical shaft, journaled in the ends of the arms $a\,a'$ of the frame A. On the top of this shaft I place the flutter a^5, which is constructed in the well-known form, so that it will revolve in a current of wind. The shaft a^3 is held so that it will not drop out of its bearings in the frame A. Near the lower end of the said shaft a^3, I arrange an arm or sweep, a^4, so that it will revolve with the revolutions of the shaft and ring a bell, hereinafter described.

c is a sleeve placed on the shaft a^3, and resting on the top of the arm a', and is provided with a suitable bearing, c', for the arrow a^6, so that the latter can revolve independently of the shaft a^3.

d is a bell, hung in the frame A to an arm, d', so that its clapper d^2 will be struck by the revolving arm or sweep a^4, fixed on the shaft a^3.

In Fig. 1 I have shown the shaft a^3 supported so that it does not have a vertical movement in its bearings.

In Figs. 2, 3, and 4 I have shown a construction by which the shaft a^3 will have a vertical movement in its bearings, so that the flutter or bird a^5 will rise in the air when rapidly revolved by the wind. To effect this I place a sleeve, b, on the shaft a^3, between the arms of the frame A, which support the shaft. The sleeve is provided with a vertical slot, b', through which projects a pin, b^2, fixed on the said shaft. This pin can move the whole length of the slot b', and it limits the vertical movement of the shaft. The lower end of the shaft, in this construction, is extended through the arm a, as shown in Figs. 2 and 3.

The operation of the device is very simple, and will be clearly understood from the hereinbefore description and reference to the drawings. The wind blows, and the bird or flutter revolves and turns the shaft a^3 and arm a^4, which strikes the clapper d^2 and rings the bell d.

The arm d', to which the bell is hung, is shown as having the shaft a^3 put through a bearing in its outer end. This is not a necessary construction, as will be clearly understood.

The arm d' may be so arranged and hinged to the vertical side bar of the frame A that by means of a cord extending to the ground the bell, when desired, can be turned to one side, where it will not be struck by the arm a^4.

When constructed with the arm hinged as indicated, the device may be utilized for a farm-bell, to be rung at any desired time by the wind when the latter is favorable.

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

The combination, with the frame A and the shaft a^3, journaled in the frame A, and provided with a flutter, a^5, fixed to its upper end, of the arm a^4, fixed rigidly to the shaft a^3, and the bell d, all arranged to operate substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LEMUEL R. WALLS.

Witnesses:

GEORGE W. BENNUM,

JOHN L. THOMPSON.