

S. EWART.
COWL FOR VENTILATING AND OTHER PURPOSES.
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979,390.

Patented Dec. 20, 1910.

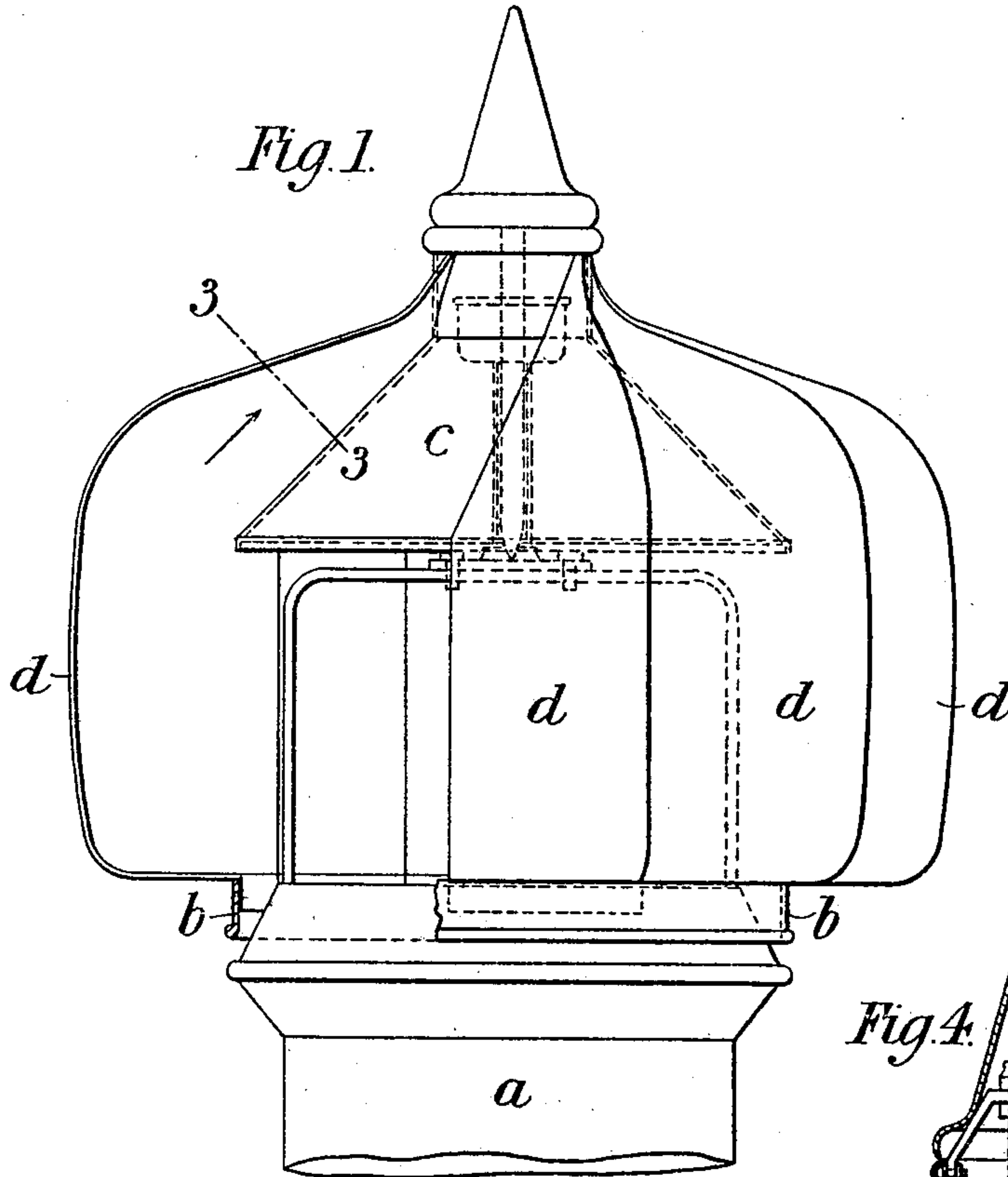


Fig. 3.

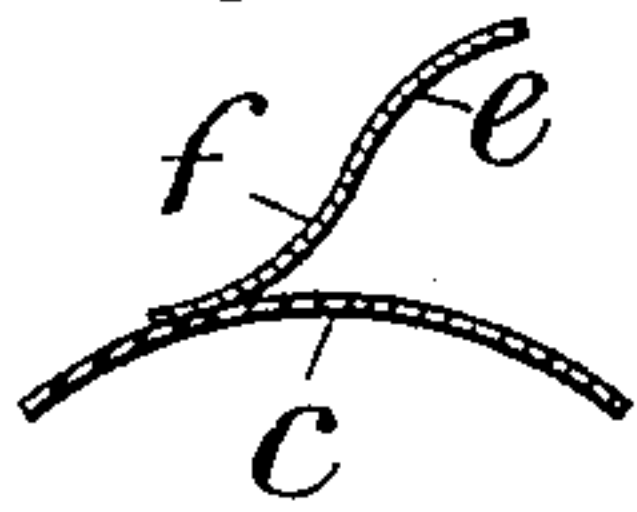


Fig. 2.

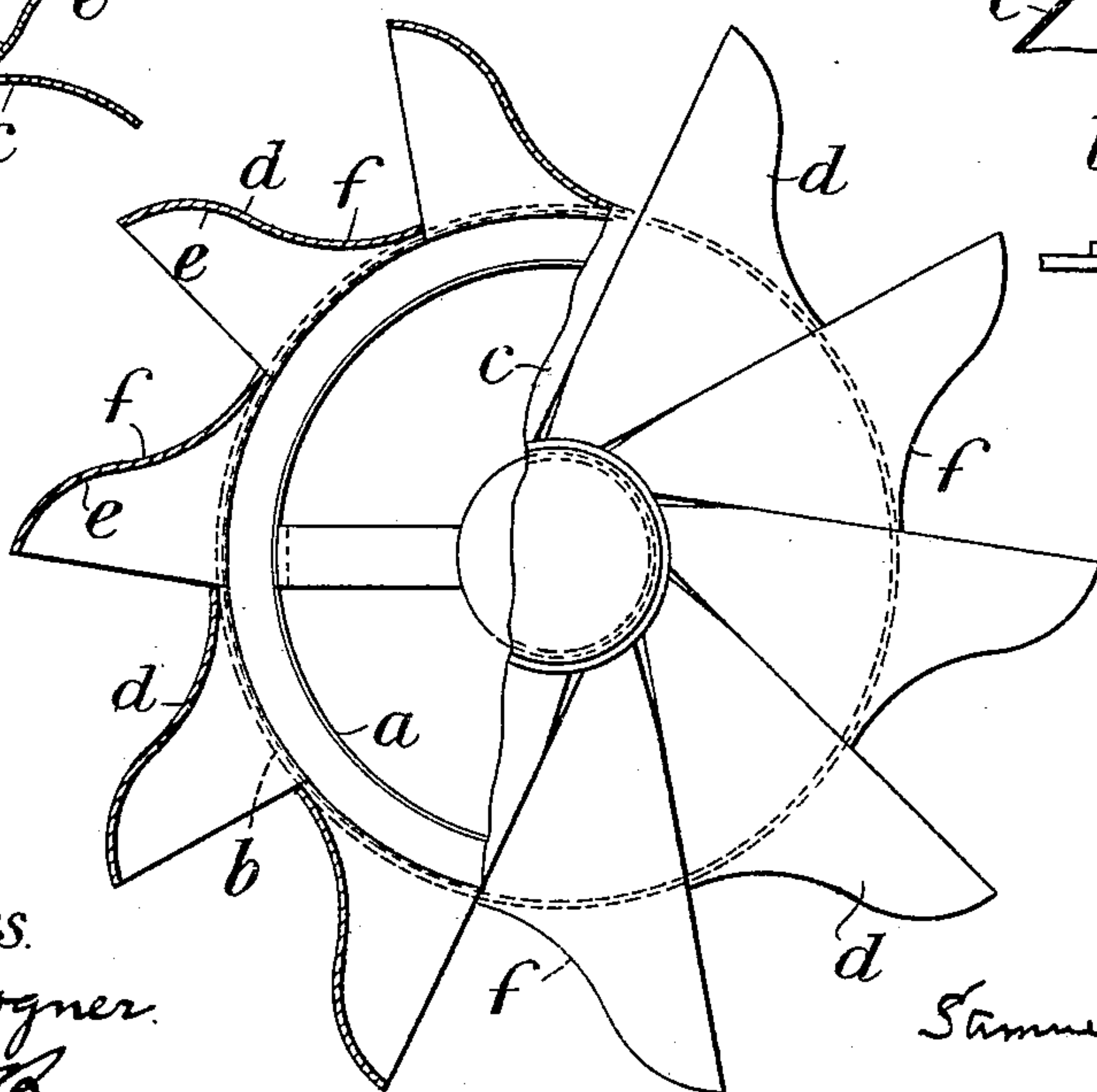
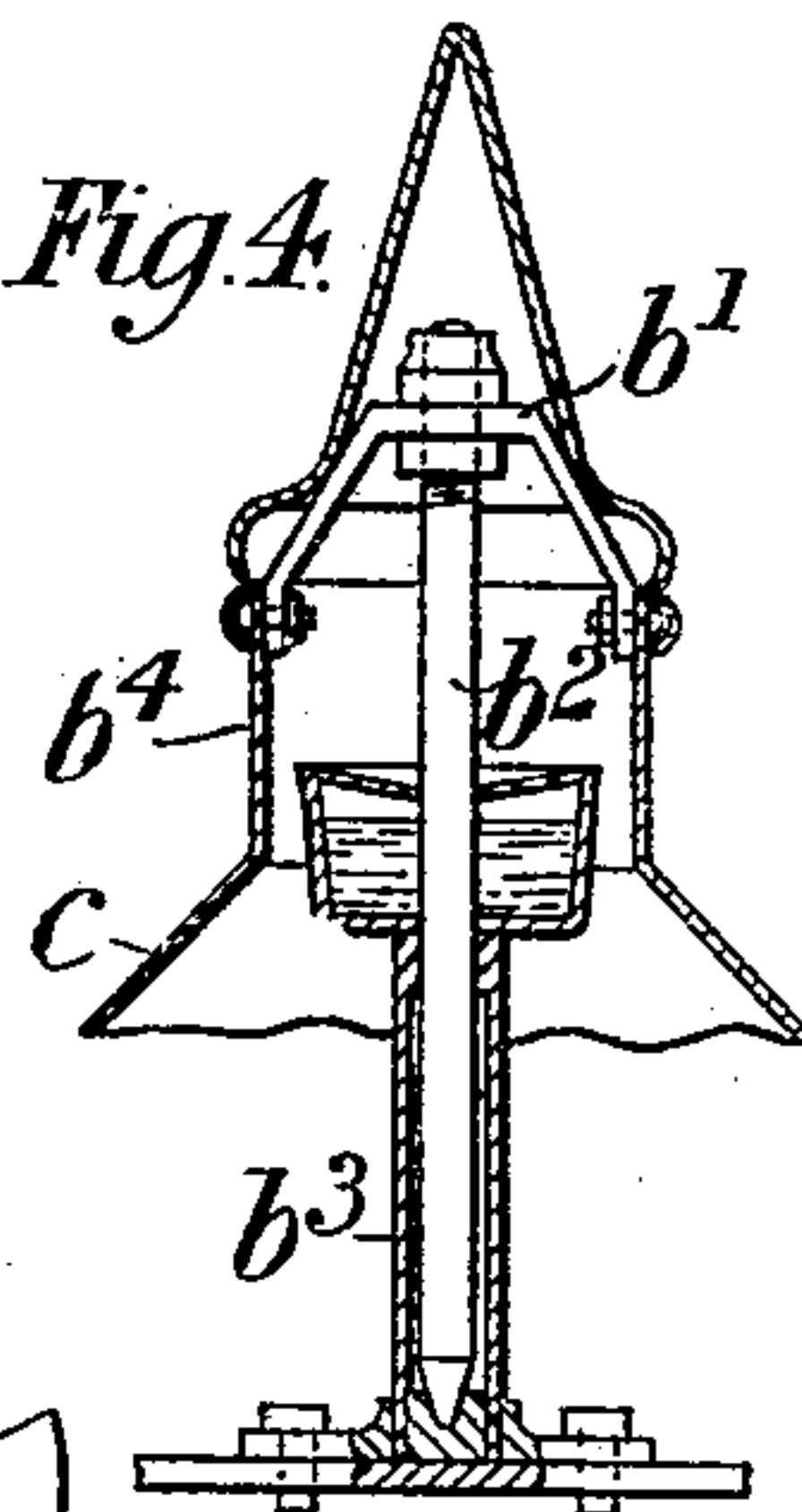


Fig. 4.



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COWL FOR VENTILATING AND OTHER PURPOSES.

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To all whom it may concern:

Be it known that I, SAMUEL EWART, a subject of the King of Great Britain, residing at 346, 348, and 350 Euston road, London, England, have invented new and useful Improvements in Cowls for Ventilating and other Purposes, of which the following is a specification.

My invention relates to cowls for ventilating purposes and for preventing down draft in chimneys or ventilating pipes or shafts, and to that class of cowl provided with a rotating head having upon it a number of blades or vanes against which the wind acts to cause the rotation, the object of my invention being to render such cowls more efficient in operation than heretofore.

In the cowl constructed according to my invention the blades or vanes are approximately of ogee shape in horizontal section, and extend from a ring which forms the lower end of the head up to the apex of the cone forming the upper part of the head, the said blades being bent or shaped to lie with their inner edges upon the said ring and cone. The outer edges of the said blades are in a vertical or substantially vertical position from the lower to the upper end, and the concavities on the front faces which catch the wind are adjacent to the outer edges, while the concavities on the rear faces of the blades serve to direct any wind which strikes them into the concavities of the front faces of the adjacent blades, so as to assist in rotating the hood without the liability of the wind blowing directly into the said hood between the blades. The concavity of the outer portions of the blades adjacent to the edges is also such that the rear or convex sides of these outer portions slope rapidly back away from the outer edges.

To enable the invention to be fully understood, I will describe it by reference to the accompanying drawing, in which:—

Figure 1 is a sectional elevation of a cowl constructed according to my invention. Fig. 2 is a sectional plan view thereof. Fig. 3 is a section on the line 3—3, Fig. 1, viewed in the direction of the arrow, and Fig. 4 is a vertical section illustrating a detail.

a is a stationary portion of the cowl, b the ring which forms the lower end of the head, and c the cone which forms the upper part of the head thereof. This cone b is connected at its upper part to the bridge-

piece b' secured to the upper end of the pivot spindle b^2 , the said spindle passes through the bearing bush or sleeve b^3 to the upper part of which is attached the oil cup b^4 also traversed by the spindle.

d, d are the blades or vanes, each of the said blades being connected at its lower end to the aforesaid ring b , and at its upper end to the apex of the cone c . Each of the blades d is bent or shaped so as to lie with its inner edge upon the ring or cone, its outer edge being vertical, or substantially vertical as will be clearly seen by reference to the drawing. Furthermore, each blade is so shaped that it presents two concavities, that is to say, a concavity e adjacent to the outer edge on the front face, and a concavity f on the rear face.

As above described, the concavities e are designed to catch the wind for the purpose of rotating the cowl, while the concavities f are designed to deflect any wind which may strike them into the concavities e of the adjacent blades, thereby assisting in rotating the hood and preventing wind blowing directly into the same between the blades d, d . It will also be seen that the concavities e adjacent to the outer edges of the blades slope rapidly back away from the said outer edges when merging into the concavities f .

Cowls made as above described are more efficient in operation than cowls of this type as hitherto made owing to the special construction of the blades, which not only prevent wind blowing directly into the hood but also lessen the resistance to rotation owing to their ogee shape thus enabling the cowls to remain in motion under the action of a gust of wind longer than is possible with cowls as heretofore made.

Claims.

1. A cowl of the class described, comprising blades of approximately ogee shape in horizontal cross section, a cone and a ring, the main portion of said blades extending vertically and set substantially in a tangential position with their lower ends secured to said ring, and their upper portions extending inwardly over and upon the said cone and secured to the upper end thereof, substantially as described.

2. A cowl of the class described, comprising blades of approximately ogee shape in transverse section, a cone and a ring, the main part of said blades extending verti-

cally and set substantially in a tangential position with their lower ends secured to said ring and their upper portions extending inwardly over and upon the said cone and
5 secured to the upper end thereof, the inner edges of said blades having a concavity on the rear face of the same opposing a con-

cavity on the front face of the next adjacent blade, substantially as described.

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