A. Westcott,

Fan Blower,

No. 63,343. Patented Mar. 26, 1867.

Fig: 1.

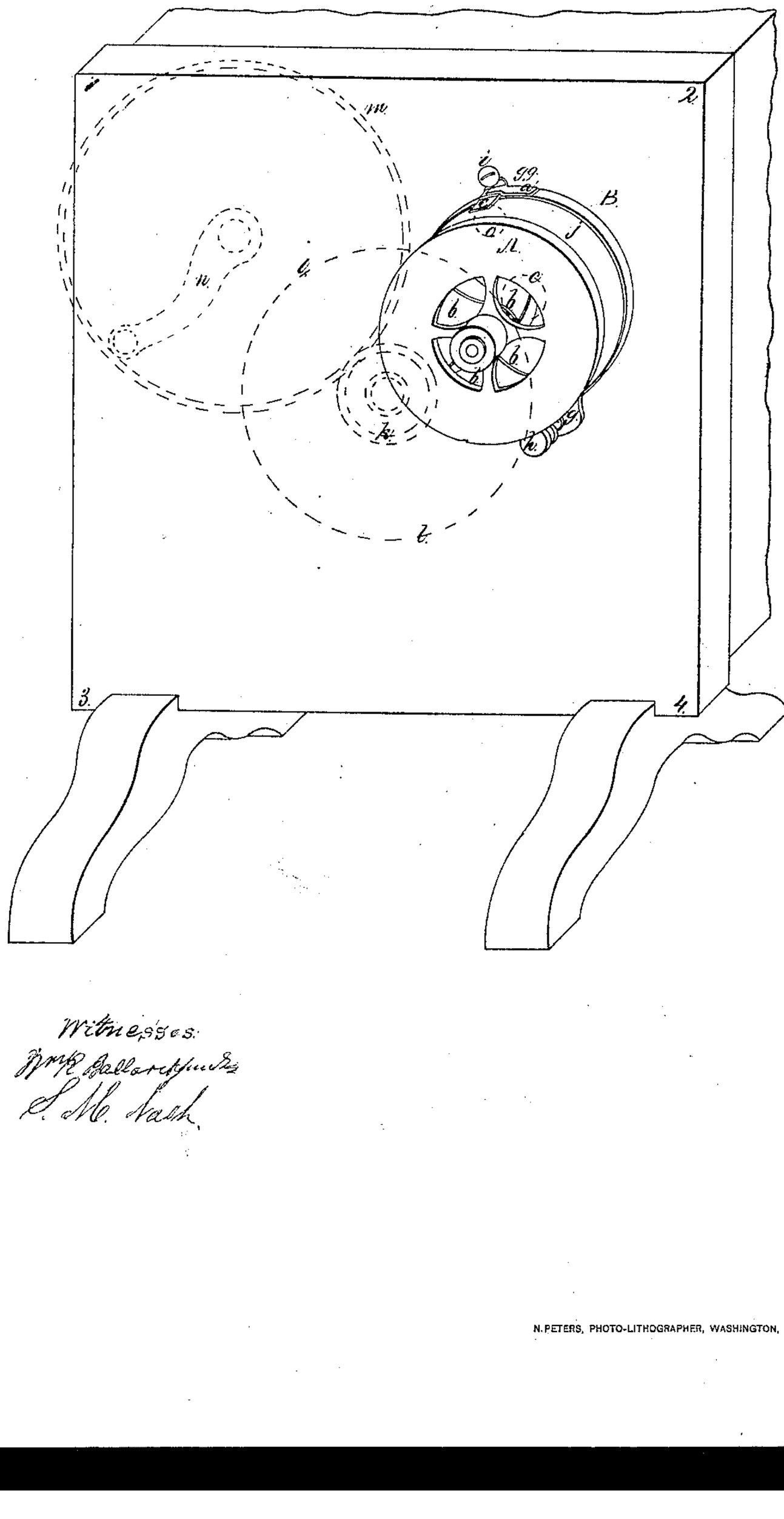
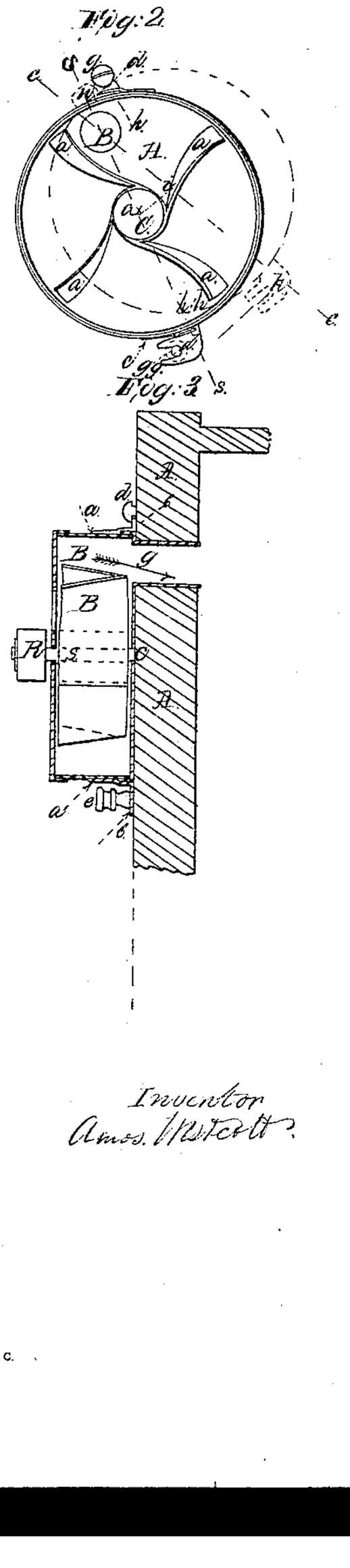


Fig: 2.



Witnesses:
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AMOS WESTCOTT, OF SYRACUSE, NEW YORK.

Letters Patent No. 63,343, *dated March* 26, 1867; *antedated March* 15, 1867.

IMPROVEMENT IN FAN-WHEEL BLOWER.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, AMOS WESTCOTT, of the city of Syracuse, of the county of Onondaga, in the State of New York, have invented a new and useful Improvement in Fan-Wheel Blowers; and I do hereby declare the following to be a true and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, in Figure 1, the full lines represent this blower, with its different parts attached, in perspective, while the dotted lines represent a front view of the several parts indicated. A, fig. 1, represents the front surface of the case or box enclosing the fan-wheel B, the bottoms or what would correspond to the cover of the box, which is here represented as inverted, or with its cover resting upon the plain surface 1, 2, 3, 4. C C C C are orifices cut through the front for the ingress of air; *e* and *g*, studs made fast to the body of the case, passing by the cover B, and turned at right angles with the side of the box. In fig. 1, *i* and *h*, are screws, under the heads of which that portion of the studs *g* and *g g* passes which projects from the circle of the box. Attached to the cover at *a*, fig. 1, there is a spur, which passes above the horizontal portion or foot *g g* of the stud *e*, and outside that portion which is perpendicular. A similar spur is attached to its cover on the opposite side of the box, passing over the stud *g*, and which is shown at the point *h* and *h h*, Figure 2. In fig. 1 the circular dotted line *c* represents the friction-roller attached to the shaft of the fan-wheel, against which the enlarged rim *l l* of the pinion-wheel *k* presses. In fig. 2, A, represents this blower (as laid upon the plain surface 1, 2, 3, 4) with the front of the box removed. *a a a a* the fans turned or twisted upon their shaft so as to propel the air directly towards the point of egress or orifice B. *d d* are the horizontal portions of the stud over which the heads of the screws *g* and *g g* act, to secure the box to the structure against which the blower is to be fastened. In fig. 2, B represents the open end of a tube made fast to and passing through the cover, and which serves the double purpose of giving egress to the air, and for a centre upon which the case is turned to attach or detach the blower to or from the machine with which it may be used. Figure 3 represents a transverse section of the blower as attached to a box, the end of which box is shown at A A. In this figure, B B represent the fans, the arrow *g* the direction of the air as it is forced out by the action of the fans B B. In fig. 3, C C represent the feet of the studs upon which the heads of the screws *e d* press to hold the blower firmly in place. This blower, which is designed to be used principally where only a small-sized one is required, and where it is desirable to remove it and replace it easily, may be constructed of sheet iron, tin, zinc, or other metals in the sheet form, and the box is made in every respect like any ordinary tin box, having a cover shutting over it, the diameter of which being three or four times its depth or thickness. After cutting holes, C C C C, fig. 1, for the ingress of air near its centre in the body of the box, and establishing opposite centres, the one in the cover, as at *c*, fig. 3, and the other in the bottom of the box *f*, fig. 3, for the shaft of the fan-wheel, a tube is inserted into the cover, the end coming even with its inside surface and near to its edge, and attached to it air-tight. In order to fasten securely the box and cover together, the studs *e* and *g*, fig. 1, or *d d*, fig. 2, are made fast to the sides of the main box. These studs, as they run towards the edge upon which the cover rests, are turned outwards, so as to pass by the edge of the cover, so as to admit of its being put on and taken off without interfering with them. After they have been extended perpendicularly to the angle made by the cover and the side of the box, they are turned outward at right angles, so that the spur *a*, fig. 1, which is fastened to the cover of the box, passes over this projection, and holds the cover to the box securely. When thus placed together and fastened as above described, they will appear as in fig. 2, at *h* and *h h*. These studs are also employed in holding the box and cover to any machine upon which the blower is used. In fig. 3 this is clearly shown. When the blower is placed upon a plain surface, so that the centre of the box is at *i*, fig. 2, the studs *n* and *k* are each free from any fastenings, but as it is moved about the centre or tube B, from *k* to *d*, the bifurcated foot *d* passes under and astride the thumb-screw *g g* and the foot *n*, under the screw-head *g*, so that by turning the thumb-screw *e*, fig. 3, we are enabled to fasten the box securely in its place. The same operation that thus enables us to fasten the box to any other structure, also holds more firmly the box and cover together. As the friction-roller R, fig. 3, moves with great velocity, and is hence liable to be worn away, it is desirable to have some easy mode of adjusting the blower so that the pressure will remain equal, whatever may

be the size of this roller. This is done simply by turning back the thumb-screw *e*, fig. 3, and carrying this wheel toward the friction rim of the driving-wheel *l l*, fig. 1, and securing it by said screw at the desired position. In constructing my blower I make the orifice for the egress of air on the side of the box, as indicated at B, fig. 2. By placing it at this point it serves as a centre, about which the box containing the fan-wheel may be turned to relieve it from the screws *g* and *g g*, fig. 2, and also from the other parts, which would prevent it from coming off until it was so turned outward. Placing the tube in this position has not only this advantage, but also serves as an additional support to hold the blower in place. When the hole is thus made on the side of the box, it greatly facilitates the egress of the air to have the fans so turned or twisted as to have them face it as nearly as possible. Hence each fan in my blower, instead of standing with its face at right angles with the shaft about which it revolves, is so turned as to carry the air directly towards the outlet for the air B, fig. 2.

Being aware that fan-wheel blowers have been long used, I do not claim the box or case, nor the fans as ordinarily constructed; but what I do claim, and desire to secure by Letters Patent, is—

I claim a fan-wheel blower propelled by friction-wheels as shown, and enclosed within the parts A *j* B, constructed and made adjustable substantially in the manner described.

AMOS WESTCOTT.

Witnesses:

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