

G. W. Bright

Fan Blower,

No 61,391,

Patented Jan. 22, 1867

Fig. 1.

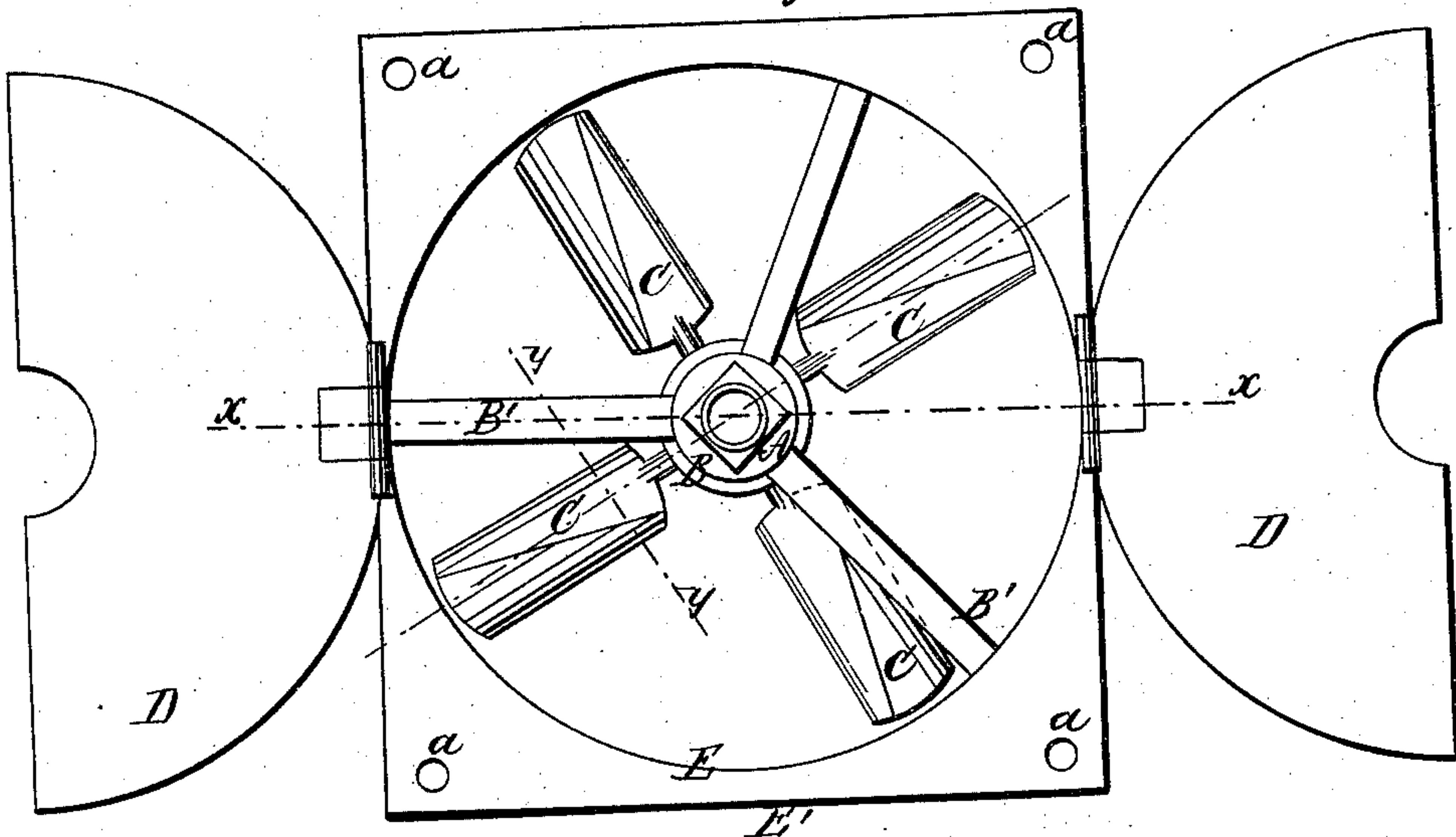


Fig. 2.

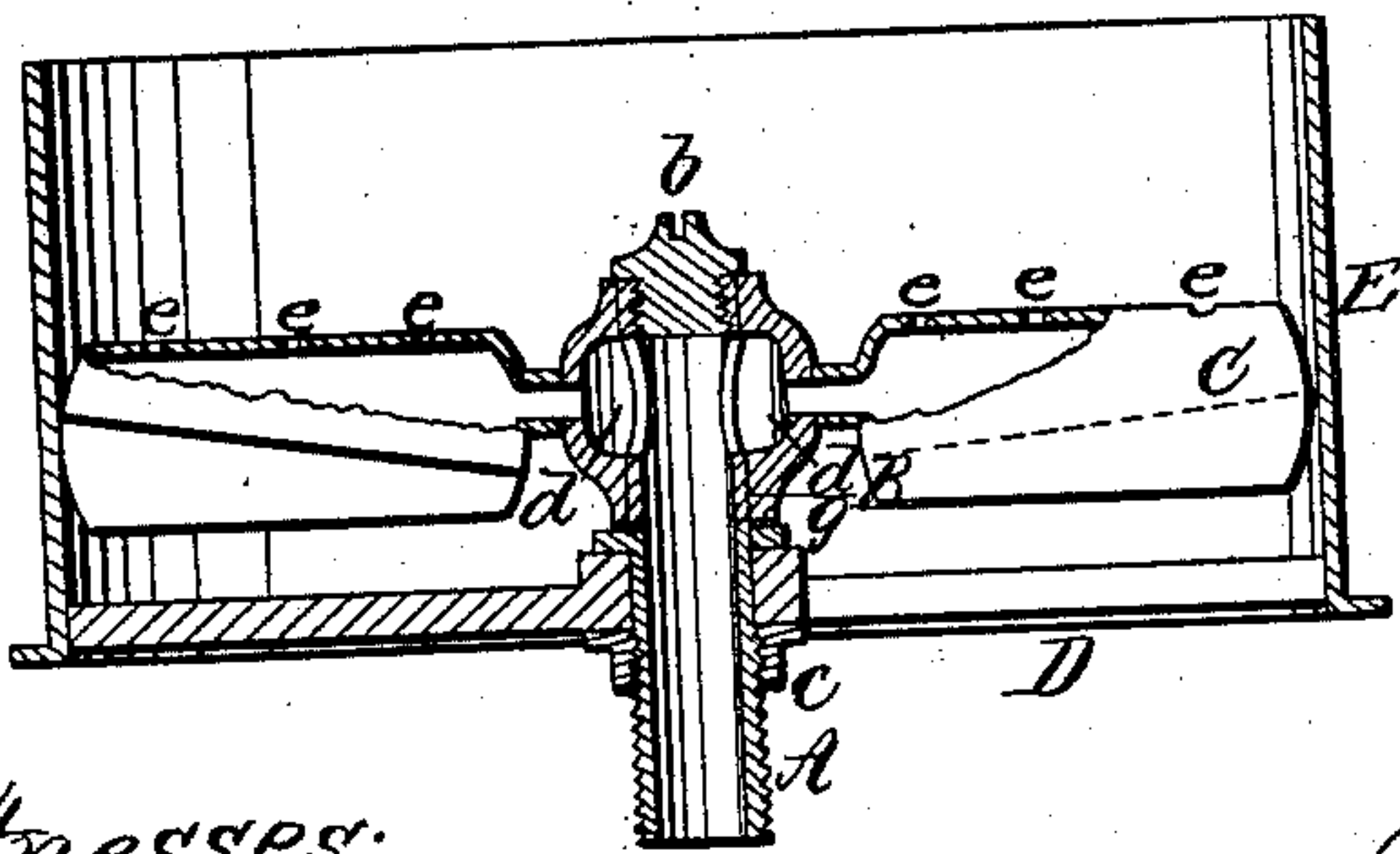
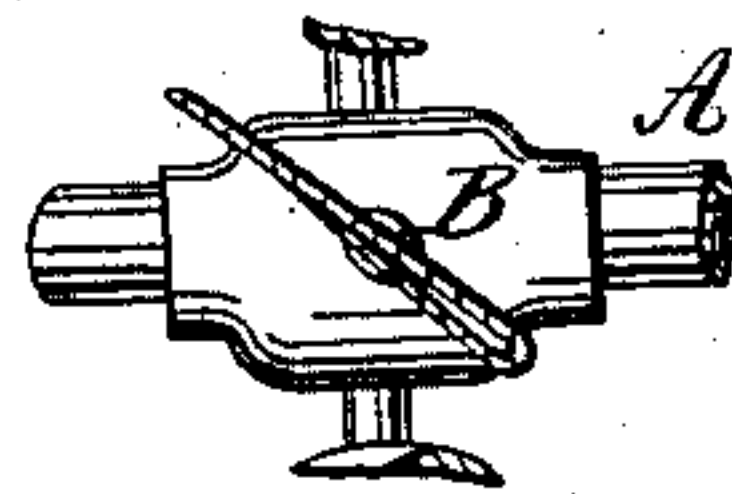


Fig. 3.



Witnesses;

F. a Jackson
Wm. Frewin

Inventor;

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United States Patent Office.

GEORGE W. BRIGHT, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 61,391, dated January 22, 1867.

IMPROVEMENT IN STEAM BLOWERS.

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, GEORGE W. BRIGHT, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Fan Blower; and I do hereby declare that the following is a full, clear, and exact description thereof.

The object of this invention is to obtain a blast by the reaction of steam or other elastic body discharged from the wings of the blower, thereby causing them to revolve with great rapidity; and the invention consists in providing a hollow shaft with a hollow hub on it, and hollow wings attached to the hub; the shaft, the hub, and the wings in their hollow portion being in communication with each other, and also in discharging the steam directly from the wings.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

Figure 1 represents a side elevation of the fan.

Figure 2 represents a longitudinal section of the shaft through the line *x x* of fig. 1, showing the hollow hub, and also giving a side view of the wing with its apertures for the discharge of steam.

Figure 3 is an outside view of the shaft and hub with a cross-section of the wing through the line *y y* of fig. 1. Similar letters of reference indicate like parts in the drawing.

A represents the shaft; B the hub; C the wings; E the casing surrounding the wings; E' a square plate to which the casing is attached; and D the shutters hinged to E', and represented as open in fig. 1 and closed in fig. 2. The casing is a section of a cylinder of the diameter of the circle described by the wings, leaving sufficient play for the wings. Across the diameter, at one end of this case, arms B' are attached, having a central hub through which the shaft passes, and by which the shaft and wings are supported. The outside of these arms is flush with the plate E' and with the end of the case, and the shutters D, when closed, come in contact with them. The plate D is square at its outer edge, the corners projecting from the case, with holes, *a*, to allow of its being bolted or fastened in any desired position. The shaft A is a tube running through the hub, with a screw-thread cut on the inside at one end, into which is fitted a screw, *b*, which bears against the end of the shaft. At the other end of the shaft a thread is cut on the outside, to which a nut, *c*, is fitted, which bears against the eye or centre of the arms B. There is a flange or collar, *g*, on the shaft, which bears against the other side of the eye of the arms B'. The nut *c* keeps the shaft fast in the eye. There are holes through the shaft for the admission of steam into the hollow hub. The hub B has a chamber, *d*, inside, which is always in communication with the holes in the shaft. The wings C have short hollow arms, which are screwed through the outside of the hub into the chamber *d*. The wings are formed with two plates, with a hollow space between, connected with the hollow in the short arms. There are apertures, *e*, in the edge of the wings, through which the steam is discharged into the atmosphere, and here the reaction takes place which drives the fan. The wings are set at any desired angle, and when put in motion by the reaction of the steam, as mentioned above, a rapid current of air is discharged through the casing, which may be conveyed to any desired point. The wings revolve around the shaft, the flange or collar *g* and the shoulder of the screw *b* keeping the hub in place.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The arrangement of the shaft A, the hub B, the wings C, the screw *b*, and the nut *c*, with the jets *e*, substantially as herein described for the purposes set forth.

GEORGE W. BRIGHT.

Witnesses:

THOS. K. STERRITE,
GEO. R. KIRK.