B. F. STURTEVANT.

Fan-Blower.

No. 162,967. Patented May 4, 1875.

Fig. 1.

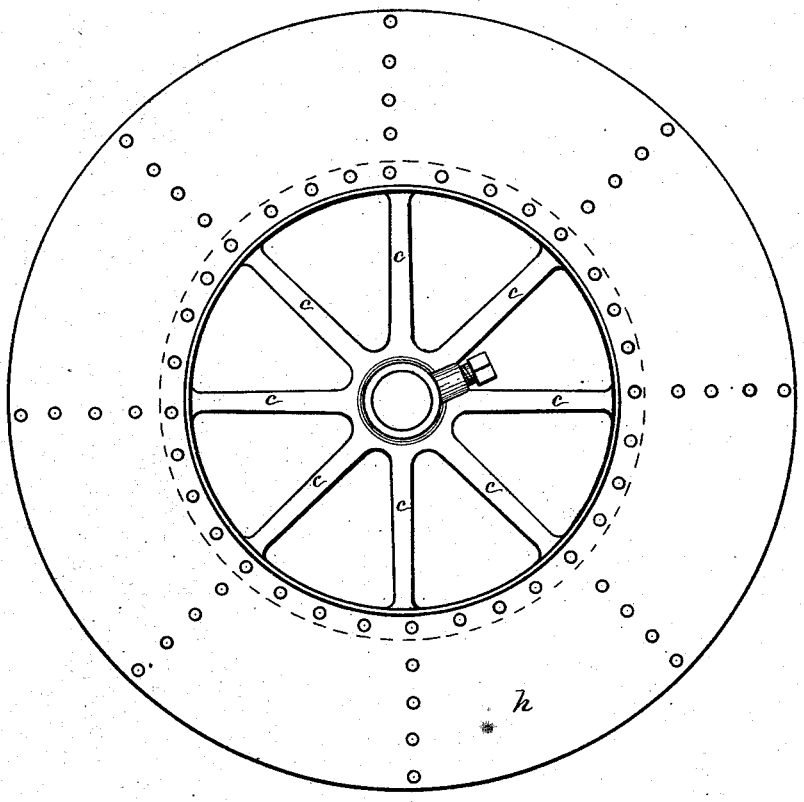
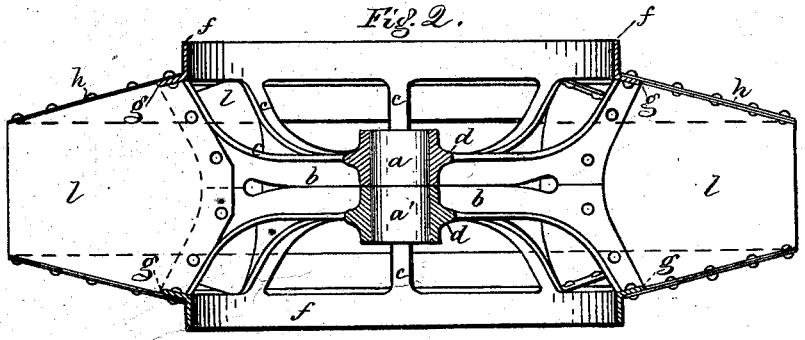


Fig. 2.



Witnesses.

Wm. Pratt.

Alfred A. Mudge

Inventor.

Benjamin F. Sturtevant

PER Crosby & Gregory Atty's.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

BENJAMIN F. STURTEVANT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FAN-BLOWERS.

Specification forming part of Letters Patent No. **162,967**, dated May 4, 1875; application filed March 27, 1875.

CASE A.

To all whom it may concern:

Be it known that I, BENJAMIN F. STURTEVANT, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Fan-Blowers, of which the following is a specification:

This invention relates to improvements in the detail of the construction of such blower fan-wheels as have their radial air-moving plates incased by, or connected to, annular side plates; and consists in a fan-wheel, having annular side plates and fan-plates, all connected, and each bolted, screwed, or riveted to the spider casting or castings, thus obtaining a maximum of strength, said construction being an improvement upon that in which the air-moving plates were fastened only to the side plates.

In the drawing, Figure 1 is a side view of the improved fan or wheel part of a rotary centrifugal blower, Fig. 2 being a sectional view of the same.

The spider is practically made by casting in two halves, the plane of union or of meeting of the halves being at right angles to the axis of rotation. The hub is in two parts, *a a'*, from which, in a radial direction, extend arms made up each of web parts *b*, and flange parts *c*, the flange parts blending with and starting from the flanges *d* on *a* and *a'*, and also blending into the ring formed by the flanges *f* and *g*, the webs *b* supporting the flanges *g* in a bracket-like manner, the flanges *f* and *g* together making a ring, with an angular form of section, uniting the ends of all the arms composed of the webs *b* and flanges *c*. The side plates *h* are riveted to the flanges *g*, and the air-moving plates *l* are riveted to the side plates, and at their inner edges to the webs *b* of the arms, and also at their two inner corners to the flanges *g*, so that the air-moving plates and the parts of the spider of the wheel mutually strengthen and support each other, the air-moving plates also serving to hold together the other parts of the wheel, and being connected directly to the wheel-spider, instead of indirectly, as heretofore, through the side plates only.

The construction described is an improvement over previous constructions in strength and adaptation to all the requirements of actual service, besides being convenient and economical in the manufacture.

I claim—

The fan-wheel of a centrifugal blower, consisting of the fan-plates *l* united to the side plates *h* and to the webs *b*, and flanges *g* of the spider, constructed substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJ. F. STURTEVANT.

Witnesses:

J. B. CROSBY,

S. B. KIDDER.