

B. F. STURTEVANT.

FAN-BLOWERS.

No. 185,462.

Patented Dec. 19, 1876.

Fig. 1.

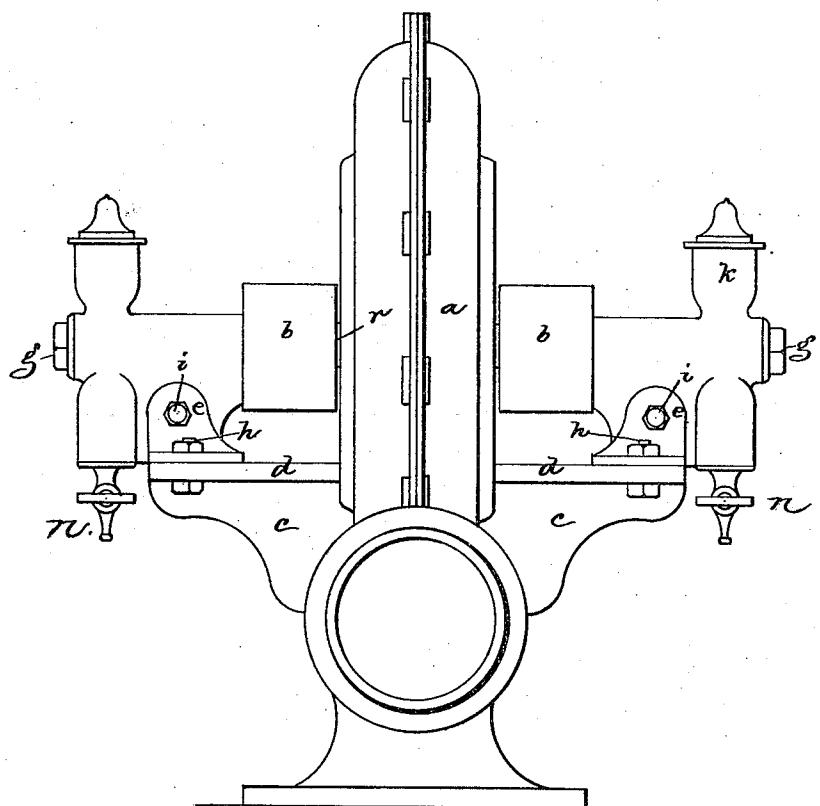


Fig. 2.

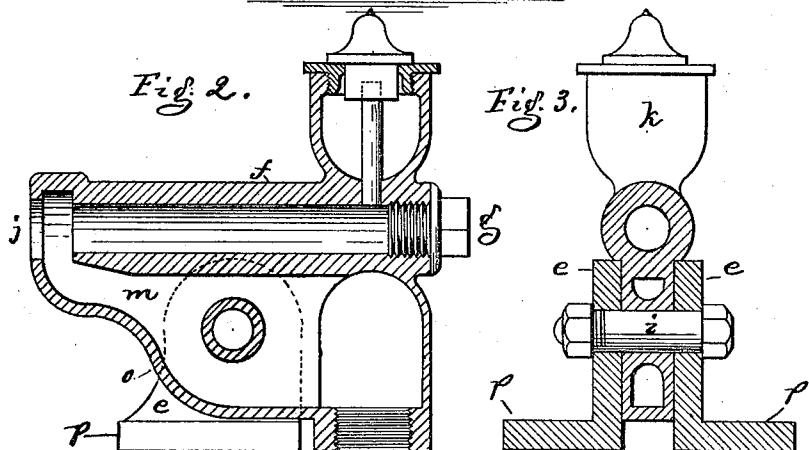
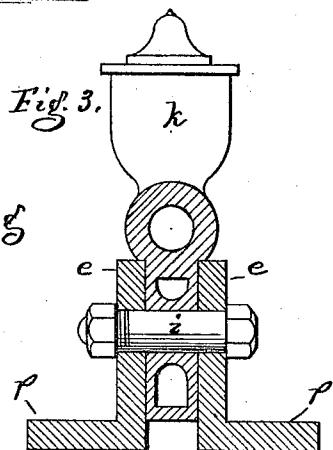


Fig. 3.



Witnesses.

John L. Atkinson.
W. J. Pratt.

Inventor

Benjamin F. Sturtevant
Perkins, & Englehardt

UNITED STATES PATENT OFFICE.

BENJAMIN F. STURTEVANT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FAN-BLOWERS.

Specification forming part of Letters Patent No. 185,462, dated December 19, 1876; application filed October 16, 1876.

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 Improvements in Fan-Blowers, of which the following is a specification:

This invention relates to improvements in rotary fan-blowers; and consists in supporting the shaft of the fan in journal-boxes provided with knuckle-joints between the bearing portions of the journal-box and the supporting-stands, that are, when adjusted, bolted down upon the rests made to receive them, such construction of the journal-box providing means within the box itself whereby the bearing portion may be readily placed in perfect line with the shaft, and when in such position may be positively fixed or fastened with the stand, the bearing and stand so fastened together, after adjustment, thereafter acting as though the bearing and stand were cast in one solid piece.

In ordinary boxes used to support short shafts, and wherein the portions to be bolted down are cast as part of the box, there is no provision whatever in the box itself to bring the bearing portion in line with the shaft to be held by it, and such journal-boxes have to be specially fitted and adjusted in proper line.

This knuckle-joint in the journal-box is of great advantage when setting up new blowers, and is specially advantageous when putting together blowers that have been repaired, or in which new boxes are added, or old boxes newly lined.

This invention also has reference to the formation with the casing, and as part of it, of bearing-abutments cast with and extending from the casing, affording strong, rigid supports for the stands of the journal-boxes to be attached to them, to sustain the shaft of the blast-wheel. The upper part of these abutments is made flat, and broad enough to receive the stand of the box, and permit such stands to be adjusted both horizontally and laterally, to insure the proper placing of the blower-shaft in the casing. The stands are bolted down upon these abutments, and the bolt-receiving openings in the stands, being larger than the bolts, permit the stands to be

moved for purposes of adjustment upon the abutments.

Figure 1 represents, in front view, a blower embodying my improvements; Fig. 2, a section through the journal-box, and Fig. 3 a cross-section through the knuckle joint.

The casing *a* is made in halves or sections, and from the lower sections project laterally bearing-abutments *c*, provided with broad faces *d*. The bearing-abutments are cast as integral portions of the casing surrounding the blast-wheel, which may be of any usual construction. The driving-pulleys *b* are secured upon the shaft *r* of the blast-wheel, the ends of the shaft extending outward beyond the pulleys, and being supported in the bearing portions *f* of the journal-box, lined or not with any suitable lining metal. The ends of the shaft abut against end plugs *g*.

A portion, *o*, of the bearing portion extends below that portion of the bearing directly in contact with the shaft, and fits between upright portions of the stand *e*, composed, in this instance, of two separate pieces, having flanges *p* to rest upon, and be bolted down to the abutment by bolts *h*.

The portion *o* of the bearing is held between the upright portions *e* of the stand, a bolt, *i*, extending through all, as shown in Fig. 3, making a knuckle-joint, which permits the bearing part *f* to be moved upon the bolt as a center, when the shaft is being properly localized, after which the bolt is tightened through its nut, which causes the bearing portion to be held positively and fixedly with relation to the stand. The enlarged bolt-holes in the flanges *p* of the stands, adapted to be bolted down upon the abutments *c d*, permit all other necessary adjustments of the journal-box in lateral and horizontal directions.

The lubricating material is placed in the oil-cup *k*, a suitable wick or conductor leading it therefrom through the tubes to the shaft and bearing portion. The lubricating material applied to the shaft follows the shaft, and escapes therefrom into the chamber *m*, formed in the part *o* of the bearing portion *f*, and the oil or lubricating material may be drawn out of such chamber through a cock or closed outlet, *n*, to be reused.

A patent heretofore granted to me shows spider-arms adapted to support tubular bearing-hubs, connected with the casing by means of T-shaped grooves and projections; but such arms, besides being less strong than the abutments, were not constructed to permit the ready placing and adjustment of bearings thereon, as in this my present invention, wherein each journal-box is supported by and adjustable upon a single rigid abutment, leaving the driving-pulley unobstructed for the belt to run thereto.

By connecting the bearing portions and stands through a joint, as described, all fitting of the journal-boxes to the abutments by filing or cutting is obviated.

The bearing is not herein broadly claimed, as it, with its oil-chambers, will be made the subject-matter of another application.

I claim—

1. The blower-casing and shaft *r*, in combination with bearing - sustaining abutments cast on the casing, and adapted to support bearings for the ends of the shaft outside the pulleys, substantially as described.

2. In a fan-blower, the blower-shaft *r*, in combination with the journal-boxes composed of bearing portions and stands provided with joints to permit the bearing portions to be placed in line with the shaft, and to be then fixed positively to the stands, the latter adapted to be adjusted upon and bolted to the abutments, substantially as described.

3. The abutments *c d*, cast with the blower-casing, in combination with the stands for the bearing portions of the journal-boxes, and bolts to permit the horizontal and lateral adjustment thereof, and bolts to secure or fix the stands and bearing portions positively together, 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:

G. W. GREGORY,
S. B. KIDDER.