(No Model.)

H. H. BARCLAY.

BLOWER.

No. 430,796. Patented June 24, 1890.

Fig. 1.

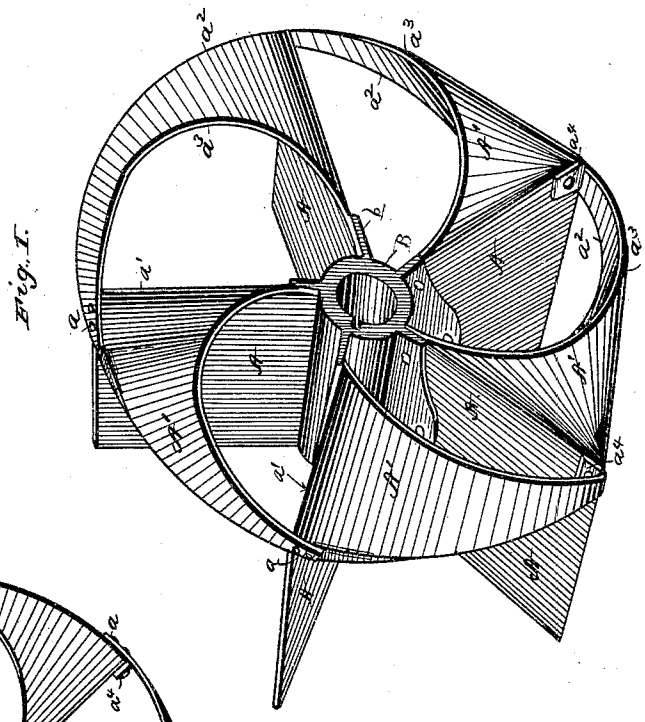


Fig. 2.

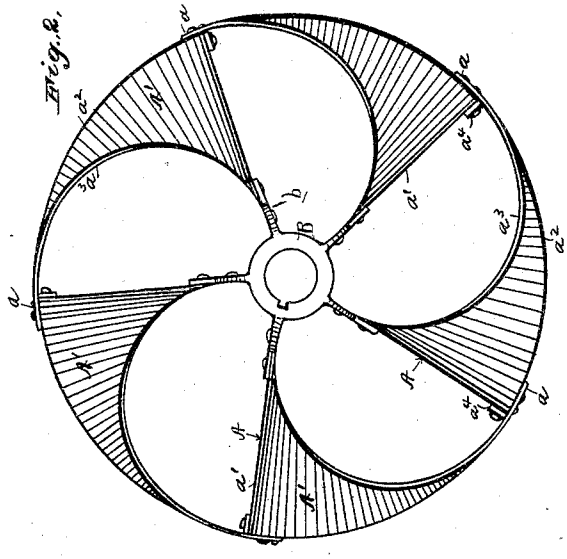


Fig. 3.

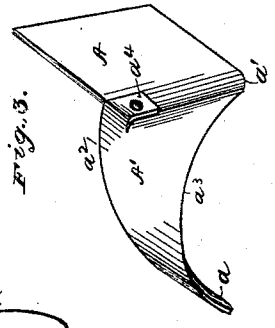
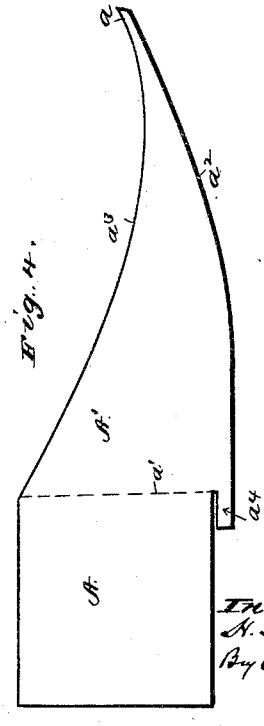


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

HARRY H. BARCLAY, OF BUFFALO, NEW YORK.

BLOWER.

SPECIFICATION forming part of Letters Patent No. 430,796, dated June 24, 1890.

Application filed January 30, 1890. Serial No. 338,578. (No model.)

To all whom it may concern:

Be it known that I, HARRY H. BARCLAY, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Blowers, of which the following, with the accompanying drawings, is a specification.

My invention relates to positive pressure and exhaust blowers. Its object is to provide for such blowers a fan-wheel which is strong, simple, and cheap, and which is more effective in operation than other fans now in use, and wherein the vanes are so formed that each is supported from another by an integral extension of such another, the integral extension at the same time being adapted to aid the production of a vacuum and increase the capacity of the wheel.

My invention consists in the construction and combination of parts, as shown and described herein, and defined in the claims.

Figure 1 is a perspective view of my improved wheel. Fig. 2 is a front elevation thereof. Fig. 3 is a perspective view of a detached vane and its wing. Fig. 4 shows the form of blank from which the vanes are made.

In the figures of the drawings, B is a central hub having suitable extensions *b*, and A A are vanes having curved tapering extensions A′ formed integrally therewith. In the construction of said wheel I make blanks of substantially the form shown in Fig. 3, the rectangular portion A corresponding to the vanes in fans now in common use, and the curved tapering extensions thereof A′ forming a support to the next vane of the series, and also operating to increase the capacity of the wheel or fan. The rectangular part of the blank A is secured to the hub by means of the extensions *b*. The curved tapering extension is then bent on a line, as indicated by dotted lines *a′*, (shown in Fig. 4,) and is brought around and attached to the next vane of the series, as seen at *a a*. The extension should be so turned that the outer edges *a″* of the several vanes of the completed fan will be substantially circular. The manner of bending and attaching the extensions A′ to the next vane will throw outwardly the edge *a‴*, and from their extreme outer portion said extensions will slant inwardly to the hub, thus making the same incline outwardly to the line of axis of the wheel. As all the extensions A′ thus incline inwardly toward the center of the fan, the air is drawn to the center when the fan is in operation, where it impinges against the vanes A and is driven out through the outlet-opening of the cylinder.

A tongue *a⁗* is formed on the blank, as seen in Fig. 4, which tongue bends over the vane after the curved tapering extension is bent on the line *a′*, as stated, and is then riveted, as seen in Fig. 3. This gives additional strength at a point where it is most needed to prevent the vanes breaking when the wheel is running at a very high velocity.

It is understood, of course, that said wheel is to be provided with a suitable cylinder having inlet and outlet openings.

This construction of fan gives it greater capacity and strength than other forms now in use, is simple in its construction, and admits the use of light cheap sheet metal in its construction.

What I claim as my invention is—

1. In a blower, a fan-wheel having a series of vanes secured to a central hub, said vanes having integral therewith curved extensions decreasing in width from the hub outward, said extensions being turned and their outer ends attached to the next vane of the series in such manner as that they will be substantially circular on the periphery of the wheel and will incline inwardly from their extreme outer portion to the hub, substantially as shown and described.

2. As a new article of manufacture, a blank for the vane of a blower, said blank consisting of a substantially rectangular portion A, having integral therewith a curved extension A′, decreasing in width from said rectangular portion outward, and a tongue *a⁗*, projecting inwardly from the widest portion of said extension and adapted to be bent over the rectangular portion of the vane and form a brace for the same when the extension is bent at an angle thereto, substantially as shown and described.

In testimony whereof I affix my signature, in presence of two witnesses, this 10th day of January, 1890.

HARRY H. BARCLAY.

Witnesses:
CLARENCE M. BUSHNELL,
CLARENCE MCGREGOR.