

W. PRUETT.
Rotary Pressure Blowers.

No. 153,202.

Fig. 1

Patented July 21, 1874.

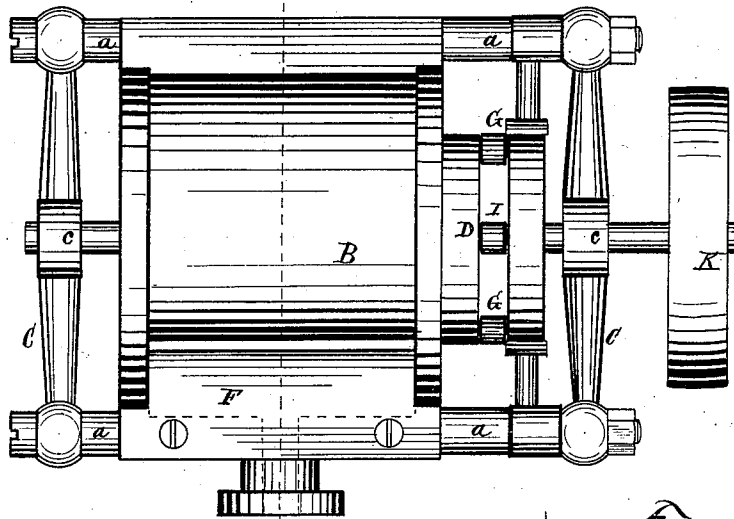


Fig. 2

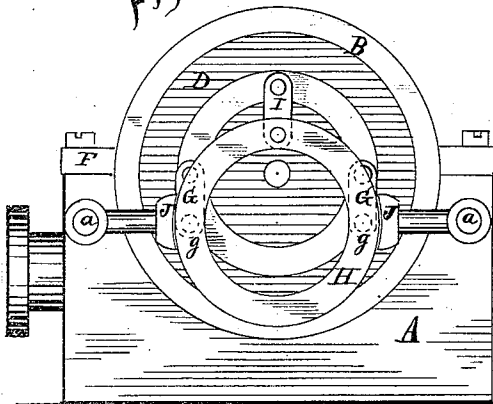


Fig. 3

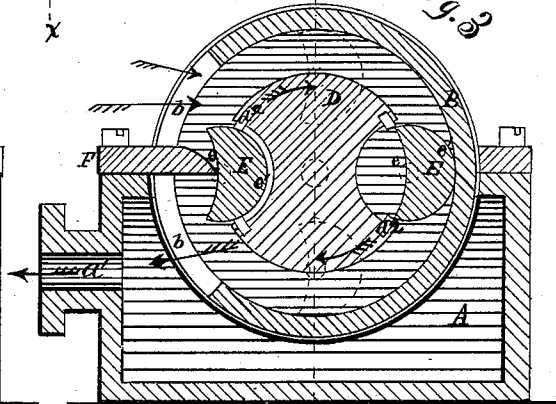
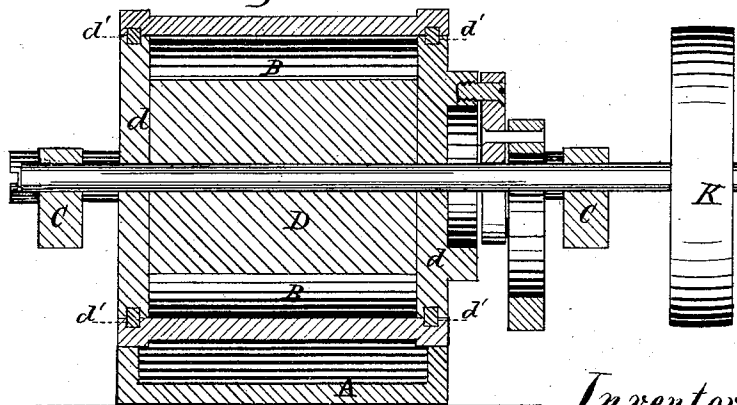


Fig. 4



Attest

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per
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UNITED STATES PATENT OFFICE.

WILLIAM PRUETT, OF KOKOMO, INDIANA, ASSIGNOR OF ONE-HALF HIS
RIGHT TO TOBIAS L. VARNS, OF SAME PLACE.

IMPROVEMENT IN ROTARY PRESSURE-BLOWERS.

Specification forming part of Letters Patent No. **153,202**, dated July 21, 1874; application filed
December 22, 1873.

To all whom it may concern :

Be it known that I, WILLIAM PRUETT, of Kokomo, county of Howard and State of Indiana, have invented a new and useful Improvement in Rotary Pressure-Blowers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 is a plan. Fig. 2 is a side elevation. Fig. 3 is a vertical section from front to back, in the line *x*; and Fig. 4 is a horizontal longitudinal section in the line *y*.

Similar letters of reference indicate like parts.

The nature of my invention relates to that class of rotary air-blowers which act on the air or other fluid by direct action and pressure, and does not depend on a high velocity for its efficiency.

It consists of a simple mechanism which allows the two wings to rotate in respect to the revolving cylinder to which they are journaled, but prevent their turning with respect to a fixed point, and yet partake of the motion of the rotating cylinder carrying them, as will be more fully hereinafter described.

The construction of my invention is as follows: A A is the base of the machine, into which the outside fixed hollow cylinder B is bolted. Four pins or studs, *a a a a*, project out from the base to which the cross-bars C C are bolted. These bars form the journal-bearings *c c* for the shaft carrying the revolving cylinder D. This cylinder is further provided with permanent heads *d d*, closing the space between its periphery and the bore of cylinder B, and a close joint is made by the metallic packing-rings *d' d'*, let into said heads *d d*; or other suitable packing may be used instead. Two revolving crescent-shaped wings, E E, are journaled into, and with their axes slightly within, the periphery of cylinder D, at an equal distance apart. One side of these wings is concave, as at *e e*, the other convex, as at *e' e'*. The cavities in cylinder D, giving room for the wings, are cast in larger than said wings, and are not finished. Small recesses are

formed near their edges, as seen at *d²*, which are afterward filled with any suitable metal, which forms a close-fitting joint with the wings. An adjustable gate or cut-off, F, is screwed to the base A, on a line with the centers of cylinders B and D, midway through the opening *b* of the former, and just touching the latter and its heads *d d*. The base A is cored out within, as seen in Fig. 3, and is provided with the opening *a'*, leading out from it, forming the exhaust. The mechanism operating the revolving wings E E is as follows: The journals holding them in position in the heads *d d* project out some distance, to which the connecting-rods G G are permanently fastened. These connecting-rods have their opposite ends journaled to the ring H at *g g*, as seen at Fig. 2, while a third connecting-rod, I, acting only as a steadying-bar, is journaled at both ends, just midway between those marked G G. All these rods are of equal lengths and placed parallel with each other, rotating the ring H as the cylinder D revolves. To prevent the ring vibrating, the two concave shoes J J are brought against its periphery, as seen in Fig. 2.

The operation of my invention becomes obvious from the foregoing. Power being applied to the pulley K, a rotary motion is imparted to the cylinder D in the direction indicated by the arrows. In Fig. 3 one of the wings is shown just opposite the gate F. As the cylinder revolves, the concavity of that wing allows it to pass the gate, as it is held parallel with the same. Having passed the gate the periphery of the cylinder at once takes its place, thus preventing the air below the gate from passing out. As the wing rises in its parallel position it passes the opening *b*, forcing before it all the air contained between the two wings and the two cylinders. When the first wing has performed its part, the second is in position to begin, and so on alternately.

It will be observed that this machine, although mainly intended as a pressure-blower for air, &c., can be adapted to force water and other liquids. By reversing the order

and forcing air or water at its upper opening, the machine will give back a considerable proportion of power.

The advantages I claim for my improvement are, the ease with which these blowers may be built, as the work can all be done by a lathe, mechanical in construction, not easily to get out of order, and is easily understood and operated.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

The device consisting of ring H, connecting-rods G G, operating the wings, guiding-rod I, and steadying-shoes J J, as herein set forth.

WM. PRUETT.

Witnesses:

ARTHUR S. BELL,
MILTON BELL.