

(No Model.)

2 Sheets—Sheet 1.

T. W. GREEN.  
ROTARY BLOWER.

No. 533,291.

Patented Jan. 29, 1895.

FIG. 1

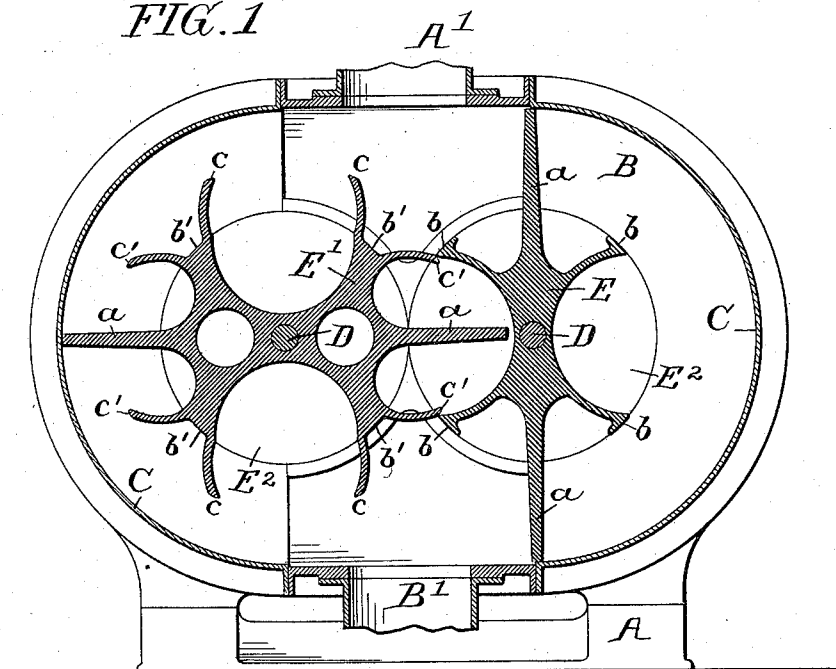
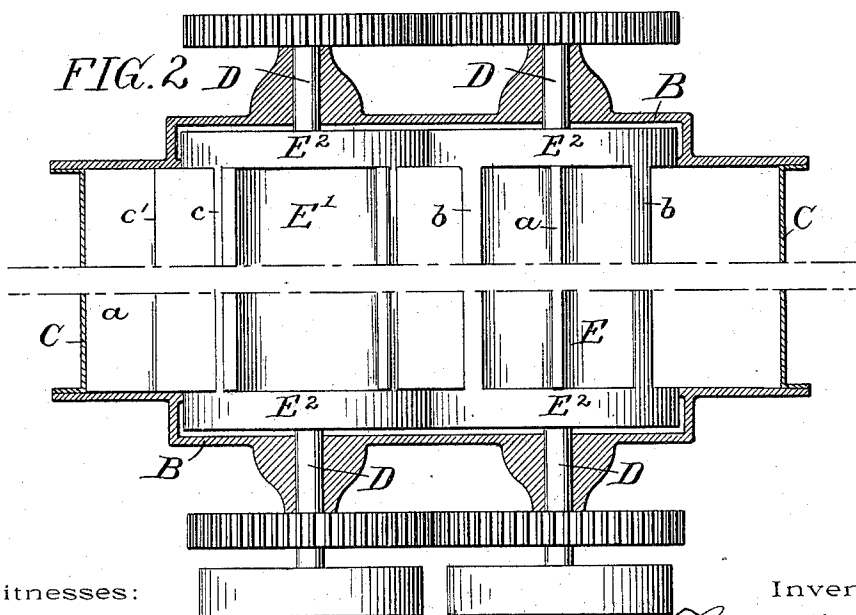


FIG. 2



Witnesses:

Fred J. Lumber  
J. O. Straub

Inventor.

Thomas W. Green  
by Thomas D. Mowley  
Attorney.

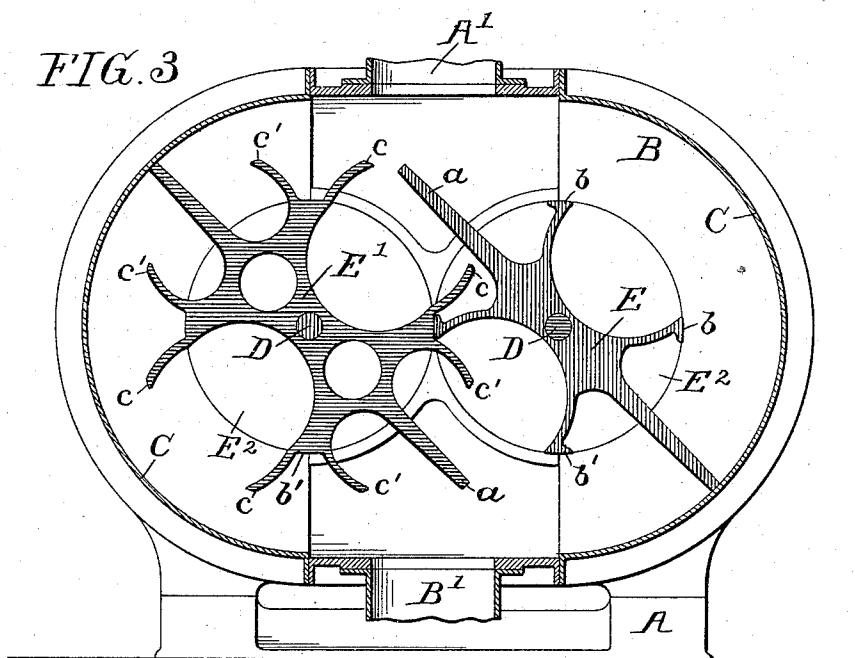
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2 Sheets—Sheet 2.

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ROTARY BLOWER.

No. 533,291.

Patented Jan. 29, 1895.



Witnesses:

*Frank J. Lambert*  
*J. O. Straub*

Inventor.

*Thomas W. Green*  
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# UNITED STATES PATENT OFFICE.

THOMAS W. GREEN, OF PHILADELPHIA, PENNSYLVANIA.

## ROTARY BLOWER.

SPECIFICATION forming part of Letters Patent No. 533,291, dated January 29, 1895.

Application filed June 1, 1894. Serial No. 513,136. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. GREEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Blowers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to rotary blowers or exhausters for forcing or exhausting air, water and other fluids and the improvement consists in the particular construction and arrangements of the parts of the revolvers that are located between the blades or wings and form the locks or cut offs to prevent the escape and backward flow of the fluid acted upon.

In the patent granted to me on February 20, 1894, and numbered 515,212, the general construction and operation of this class of blowers or exhausters were particularly described.

My present invention differs from the blower described in my former application only in the construction and arrangement of those parts of the revolvers that form the cut off mechanism.

In the accompanying drawings Figure 1, is a vertical cross section through a blower having my improvements therein. Fig. 2, is a plan view of the machine shown in Fig. 1, with the upper half of the outside casing removed therefrom. Fig. 3, is a vertical cross section of the blower shown in Fig. 1, with the blades and cut offs in a different position.

A, is a bed plate of the machine.

B, is the end castings forming the support for the driving shafts; C, the external casing surrounding the revolvers.

A', is the intake for the air or water; B', the outlet or discharge port; D, D, the driving shafts; E and E', the two revolvers secured upon their respective shafts D, D.

E<sup>2</sup> and E<sup>2</sup>, are solid heads on each of the revolvers and are, preferably, made integral therewith.

a, a, are wings or blades on the revolvers E and E'. These blades may be made in a separate piece and bolted to the revolvers or they may be cast integral therewith as shown in the drawings.

b, b, b, b, are four short segmental extensions formed on the revolver E, equidistant from each other.

b', b', b', b', are similar short segmental extensions formed on the revolver E'. The outer surfaces of these segmental extensions b and b', are segments of circles, the center of which is the center of the respective driving shafts, the diameter of said circles being equal to the distance between the centers of the driving shafts D, D.

c, c, c, c, are four larger segmental extensions formed on the revolver E'. The outer surfaces of these segmental extensions c, are segments of a circle the radius of which is the distance in a straight line from approximately the middle part of one of the blades a, to the nearest point of one of the short extensions b', the measurement being taken from a point at the base of the blade a, where the circle forming the extension b', would touch the said blade. The center of these circles would be on the circumference of the circle forming the extensions b', midway between the two blades a, a.

c', c', c', c', are four other segmental extensions formed on the revolver E'. These segmental extensions are the same size as the extensions c, c, but are formed upon circles having their centers on the circumference of the circle forming the short extensions b', at or near the base of the blades a, a, and on a line drawn through the middle of said blades.

When the extensions b and b', and c and c', are formed to circles of correct diameters the forward end of the short extensions b, b, on the revolver E, will engage with the outer surface of one of the long extensions c or c', following it around until the two short extensions b and b', meet. When these two short extensions begin to separate as the revolvers turn around, the rear end of the short extension b, will engage with the outer surface of the long extension c or c', immediately following, on the revolver E', thus maintaining a complete cut off until the other similar parts of the two revolvers co-operate for the same

purpose and by this means prevent the backward flow of the fluid.

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

1. In a rotary blower or exhauster the revolver E, having the flat blades or wings *a*, and between the said wings or blades the short segmental extensions *b*, in combination  
10 with the revolver E', having the flat blades or wings *a*, and between the said wings or blades the short segmental extensions *b*', and the long segmental extensions *c* and *c*', the ends  
15 of the short segmental sections *b*, on the revolver E, being adapted to engage with the outer surfaces of the long extensions *c* and *c*', on the revolver E', both of the said revolvers being mounted in a suitable frame and working together substantially as and for the purpose described.

2. In a rotary blower or exhauster having an outer casing provided with suitable intake

and discharge openings, the combination of the revolver E, having a head E<sup>2</sup> integral therewith, and provided with blades or wings *a*, and between the said blades or wings the short segmental extensions *b*, with the revolver E', having a head E<sup>2</sup> integral therewith, and provided with the blades or wings *a*, and between the said blades or wings the short segmental extensions *b*', and the long segmental extensions *c* and *c*' located at the ends of the extensions *b*', the extensions *c*' converging toward the blades or wings *a*, and the extensions *c* extending in an opposite direction, the extensions of one revolver being adapted to engage with the extensions of the other to form a lock or cut-off, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS W. GREEN.

Witnesses:

SAML. H. KIRKPATRICK,  
THOMAS D. MOWLDS.