

(No Model.)

2 Sheets—Sheet 1.

T. W. GREEN.
ROTARY BLOWER.

No. 533,292.

Patented Jan. 29, 1895.

Fig. 1

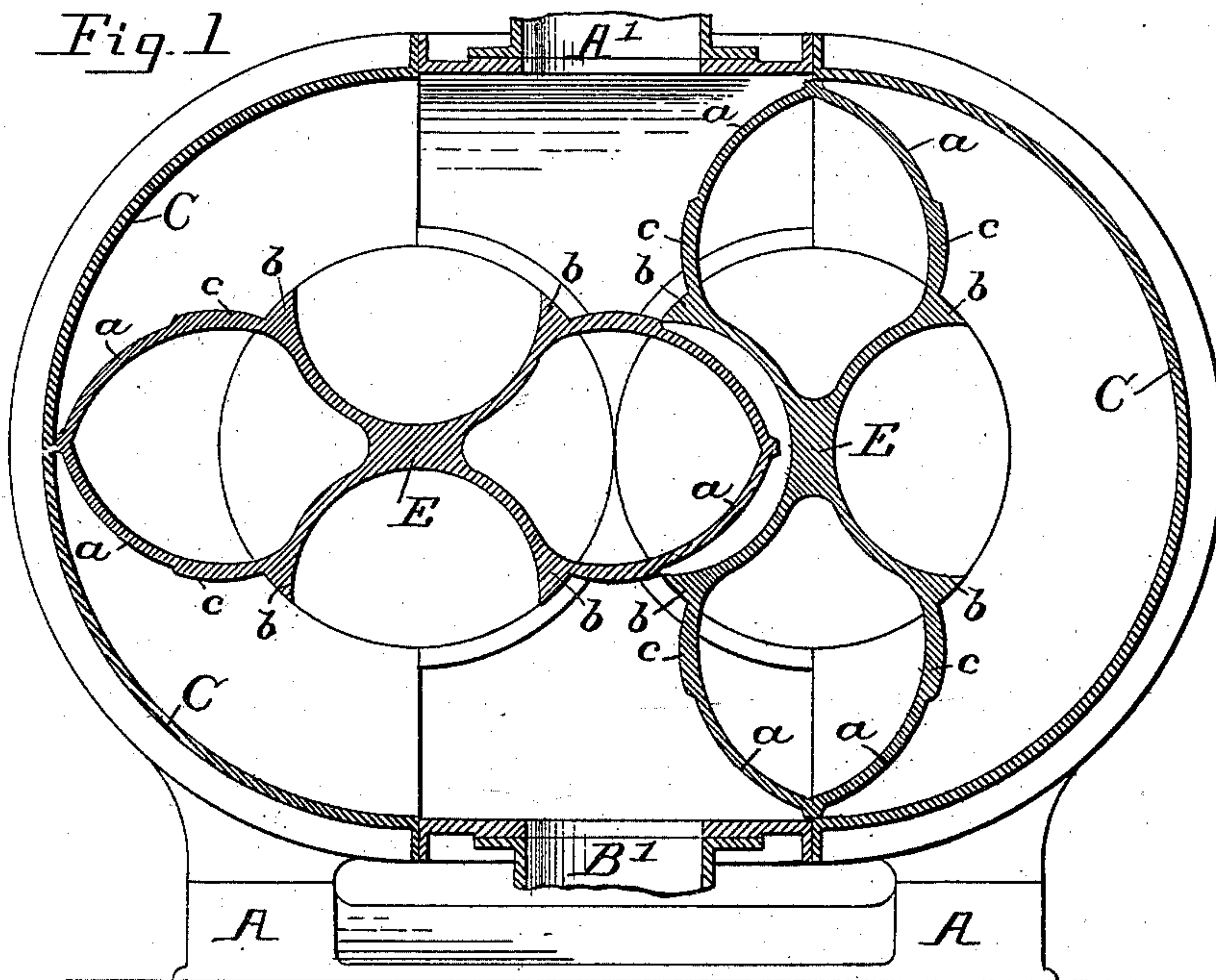
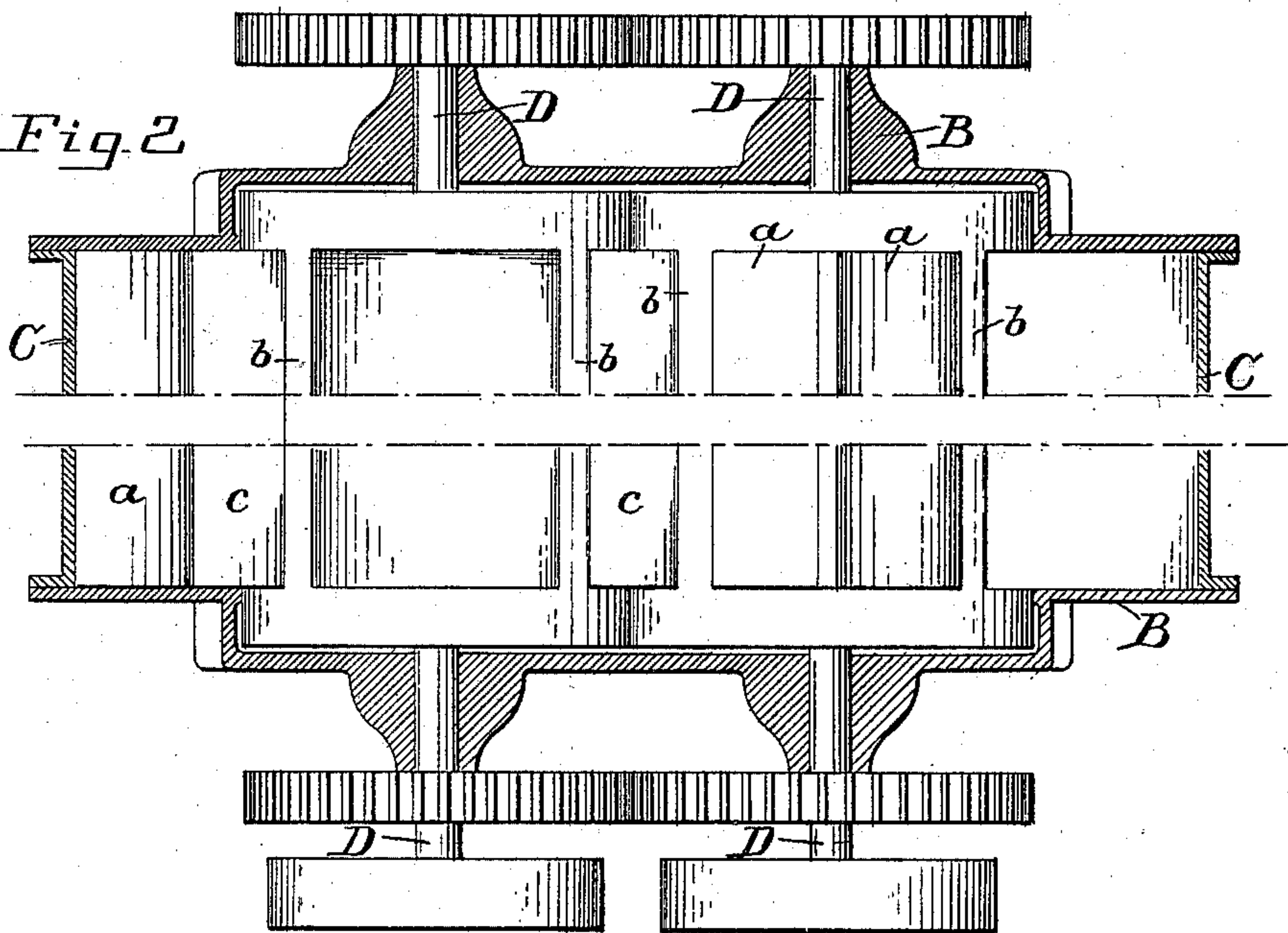


Fig. 2



WITNESSES:

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INVENTOR

Thomas W. Green

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Thomas S. Moulden

ATTORNEY.

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2 Sheets—Sheet 2.

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Fig. 3

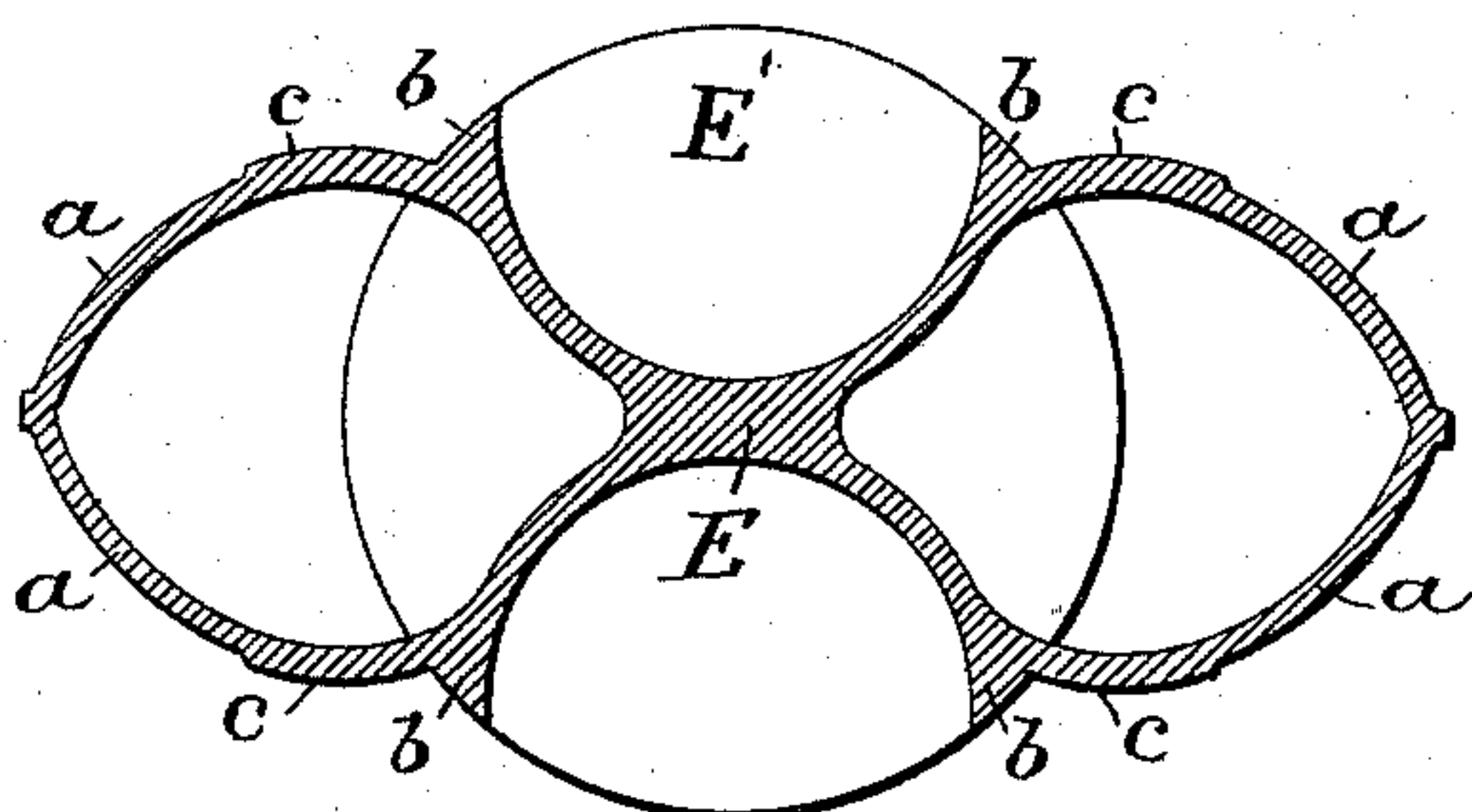
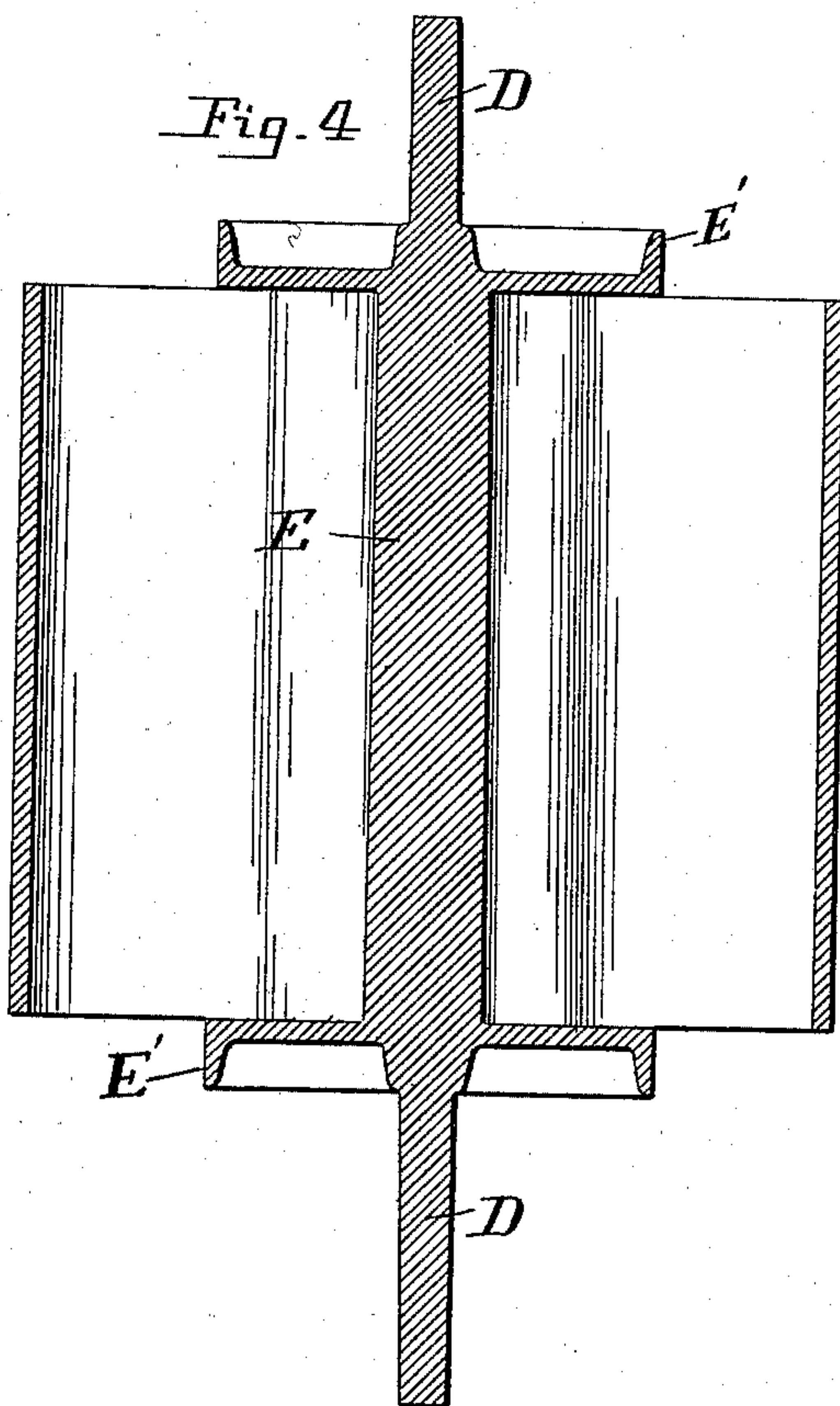


Fig. 4



Witnesses:

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Inventor.

Thomas W. Green
by Thomas S. Mowbray
Attorney.

UNITED STATES PATENT OFFICE.

THOMAS W. GREEN, OF PHILADELPHIA, PENNSYLVANIA.

ROTARY BLOWER.

SPECIFICATION forming part of Letters Patent No. 533,292, dated January 29, 1895.

Application filed August 23, 1894. Serial No. 521,078. (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.

In the patent granted to me on February 20, 1894, and numbered 515,212, the general construction and arrangement of this class of blowers was particularly described. In the blower shown in that patent, each revolver is composed of a spider like frame that has secured thereto, two flat blades or wings located exactly opposite to each other, between which wings or blades locks or cut offs are arranged to prevent the backward flow of the fluid acted upon. While this construction of the two revolvers is cheap and effectual and in the main the best obtainable for the purpose, I have found that when the blower is in operation a slight thumping is produced in consequence of the compressed air, contained in the gaps or pockets lying between the locking devices, being discharged against the air entering at the intake. This compression takes place when the flat blade of one revolver enters into the pocket or cut away portion in the opposite revolver. As the air or fluid contained in this pocket portion of the revolver, is prevented from escaping by the locking or cut off devices, it is forced around ahead of the flat blade or wing, being discharged against the air or fluid coming at the intake, thus producing a slight thumping noise.

The object of my present invention is to avoid this compression as much as possible and thereby materially lessen, if not completely avoid the thump and noise. I accomplish this result by reversing the positions of the long segmental sections *c, c*, shown in my former patent, and connecting together the

outer ends of said segmental extensions, so that the intervening space is completely closed up. These closed up portions of the revolvers on my improved blower, take the place of and perform the functions of the flat blades or wings of my other blower, and when the two revolvers are in the position shown in Fig. 1, very little fluid is contained and compressed in the gaps or pockets between the wings of the revolvers.

In the accompanying drawings Figure 1, is a vertical cross section through my improved blower. Fig. 2, is a plan view of the machine shown in Fig. 1, with the upper half of the outside casing removed. Fig. 3, is a vertical section through one of the revolvers. Fig. 4, is a horizontal section through one of the revolvers.

A, is a bedplate; B, the end castings that form the supports for the revolver shafts.

C, is the external casing surrounding the revolvers.

A', is the outlet or discharge; B', the intake for the air or water; D, D, the driving shafts; E, E, the two revolvers which are alike in construction and lie parallel to each other.

E', E', are solid heads on the revolver. These heads together with the shafts D, D, are cast integral with the other parts of the revolvers. By thus casting all the parts of the revolvers in one piece, the central or middle parts lying between the wings may be made quite thin one way, thus allowing the outer ends of the wings of one revolver to extend farther into the gaps or pockets of the opposite revolvers as they pass each other.

b, b, b, b, are four short segmental extensions formed on the revolvers E, E, equidistant from each other, the outer surfaces of which segmental extensions are segments of a circle the center of which is the center of the respective driving shafts, the diameters of said circles being the distance between the centers of the driving shafts.

c, c, c, c, are four larger segmental extensions formed on each of the revolvers E, E. The centers of each pair of these long segmental extensions *c, c*, are the same, said center being located on the circumference of the circle forming the short extensions *b*.

a, a, are the intervening webs joining the long extensions *c, c*, in pairs. These inter-

vening webs *a, a*, are not necessarily segments of circles. They may be straight lines, if desired, but it is best to give them a circular formation, making them as large as will pass through the gaps or pockets of the opposite revolver.

When the segmental extensions *b, b*, and *c, c*, are formed to circles of correct diameters the forward end of one of the short extensions *b*, on one revolver will engage with the outer surface of one of the long extensions *c*, on the opposite revolver and follow along, preserving the lock until the corresponding parts next following come into play. The wings of the revolvers being formed by the webs *a, a*, joining the extensions *c, c*, the gaps or pockets between said wings are almost completely filled up in the manner shown in Fig. 1. Consequently as the revolvers turn around, the air contained in said pockets is displaced or forced out before the locking parts *b, c*, begin to operate and there is comparatively nothing to be compressed and afterward expanded, causing a thump.

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 combination of the two revolvers *E, E*, each revolver having formed thereon the short segmental extensions *b*, and the long segmental extensions *c*, said long segmental extensions *c*, on each revolver, converging in the direc-

tion of the parts forming the wings and adapted to engage with the ends of the short extensions *b*, on the opposite revolver to form locks or cut offs, substantially as shown.

2. In a rotary blower or exhauster the combination of the two revolvers *E, E*, each of said revolvers being provided with a series of short segmental extensions *b*, and a series of long segmental extensions *c*, the long segmental extensions *c*, on each revolver being joined together in pairs by the webs *a*, and adapted to co-operate with the short extensions *b*, on the opposite revolver to form locks or cut offs, substantially as shown and for the purpose described.

3. In a rotary blower or exhauster the combination of the two revolvers *E, E*, each of said revolvers having cast integral therewith the solid end heads *E', E'*, and provided with the short segmental extensions *b*, and the long segmental extensions *c*, said long segmental extensions *c*, converging in the direction of the parts forming the wings and adapted to engage with ends of the short segmental extensions *b*, and co-operate therewith to form a cut off, substantially as and for the purpose described.

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

THOMAS W. GREEN.

Witnesses:

THOS. D. MOWLDS,

CHAS. J. MILLER.