(No Model.)

M. R. RUBLE.

CENTRIFUGAL BLOWER.

No. 487,883. Patented Dec. 13, 1892.

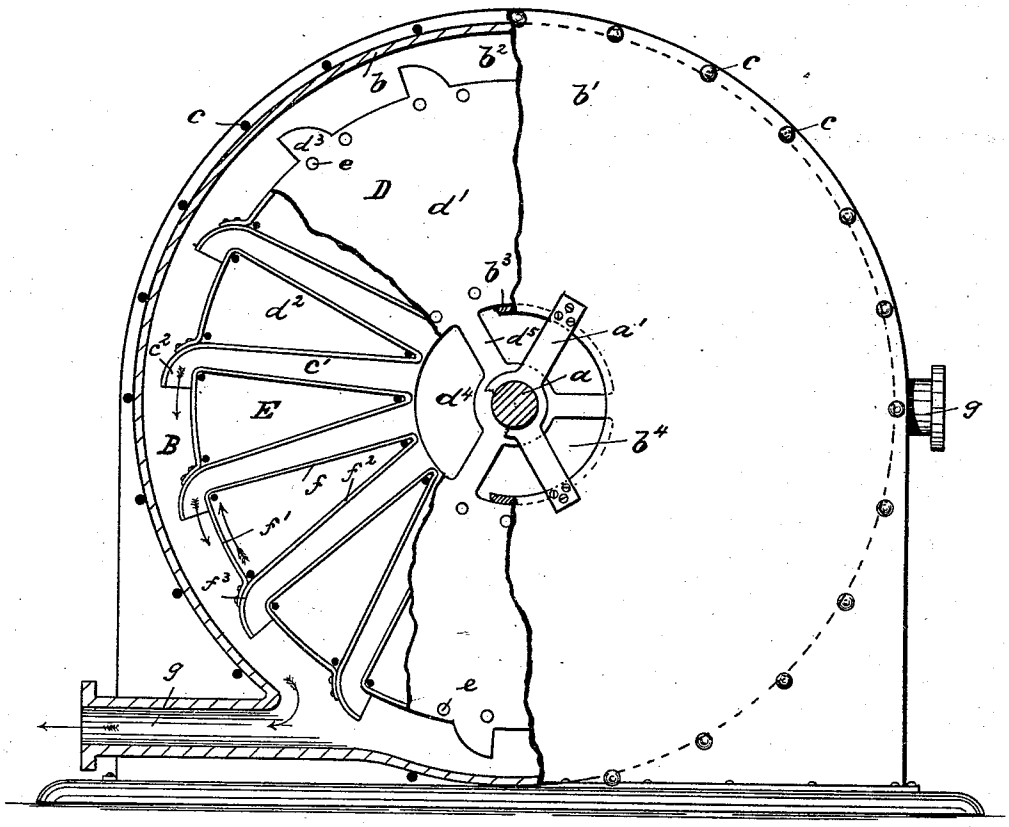

Fig. 1.

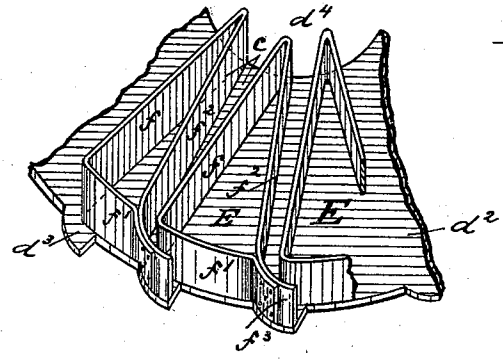

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

MARTIN R. RUBLE, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE RUBLE AMERICAN BLOWER AND INJECTOR COMPANY, OF SAME PLACE.

CENTRIFUGAL BLOWER.

SPECIFICATION forming part of Letters Patent No. 487,883, dated December 13, 1892.

Application filed February 27, 1892. Serial No. 422,982. (No model.)

To all whom it may concern:

Be it known that I, MARTIN R. RUBLE, a citizen of the United States, residing in Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Centrifugal Blowers; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a blower simple and durable in construction and of great efficiency.

The invention, which is an improvement on my application for Letters Patent for "Improvements in centrifugal blowers and injectors," filed January 19, 1892, Serial No. 418,586, consists in the new and improved construction of the air or fluid passages and the combination and arrangement of the various parts, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in the two views, Figure 1 is a front elevation of my improved blower, part of it being broken away; and Fig. 2 is a detail perspective view plainly illustrating the mode of construction of the air or fluid passages.

In the drawings, a represents a shaft adapted to be revolved in bearings a', secured to the outer sides of the stationary chamber B, which latter consists of the side walls b' b^2 and the outer ring b with outlets g. The said side walls are provided with centrally-located inlets or opening b^4 and with inwardly-extending flanges b^3, and are held together by bolts c or in any desired manner.

Within the chamber B and secured to shaft a is arranged a drum D, consisting of side plates d' d^2 and a series of triangular-shaped chambers E between and bearing against said side plates. Said chambers and side plates are securely fastened together by bolts e, which latter bear against the inside corners of said triangular chambers, as clearly shown in Fig. 1. The side plates d' d^2 are also provided with inlets or openings d^4 and spokes or arms d^5, which latter serve as connection between drum D and shaft a. Each of the said triangular chambers E is formed of one continuous strip of metal of uniform width, standing edgewise between the side plates d' d^2, and consists of the two radial (or approximately so) sides f f^2 and the outer or segmental side f'.

The space between two adjoining chambers E serves as the air or fluid passage, through which the air or fluid is communicated into the stationary chamber B.

One of the sides of the triangular chamber E (in the drawings f^2) is extended and curved, as at f^3, and overlaps the segmental portion of the adjoining chamber, whereby elbows or pockets c^2 are formed. Corresponding projections d^3 are secured to or made integral with the side plates d' d^2 and form the side walls for said pockets.

The operation of the within-described blower is the same as the one described in my application, Serial No. 418,586, of January 19, 1892, whereby the air or fluid, when the drum D is revolved, enters through openings b^4 d^4 into the air or fluid passages and is thrown from there by centrifugal force into chamber B. The pockets or elbows c^2 when traveling through the air produce a vacuum and suction at their outlets, whereby the centrifugal force is assisted in conducting the air out of the passages into the said chamber B.

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

1. A blower consisting of a stationary chamber provided with centrally-located openings and a drum adapted to be revolved within said chamber, said drum being divided into a series of triangular-shaped chambers and radial passages, whereby by centrifugal force the air or fluid is conducted through said passages into the stationary chamber, substantially as described and set forth.

2. A blower consisting of a stationary cham-

ber provided with centrally-located openings, a drum adapted to be revolved within said chamber, and a series of metal strips arranged edgewise in said drum and adapted to form triangular-shaped chambers, and radial passages within said drum, substantially as described and set forth.

3. In a blower, the combination, with the stationary chamber provided with centrally-located openings, of a series of triangular chambers consisting of uniform wide metal strips, side plates d' d^2, holding said chambers together and adapted to form with said chambers radially-extending air or fluid passages, curved extensions secured to or made integral with the sides of said triangular chambers, and projections secured to or made integral with the side plates d' d^2, said projections and extensions being adapted to form elbows or pockets at the outer openings of the air or fluid passages, all said parts being arranged and adapted to operate substantially as described, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of February, 1892.

MARTIN R. RUBLE.

Witnesses:
ALFRED GARTNER,
WM. D. BELL.