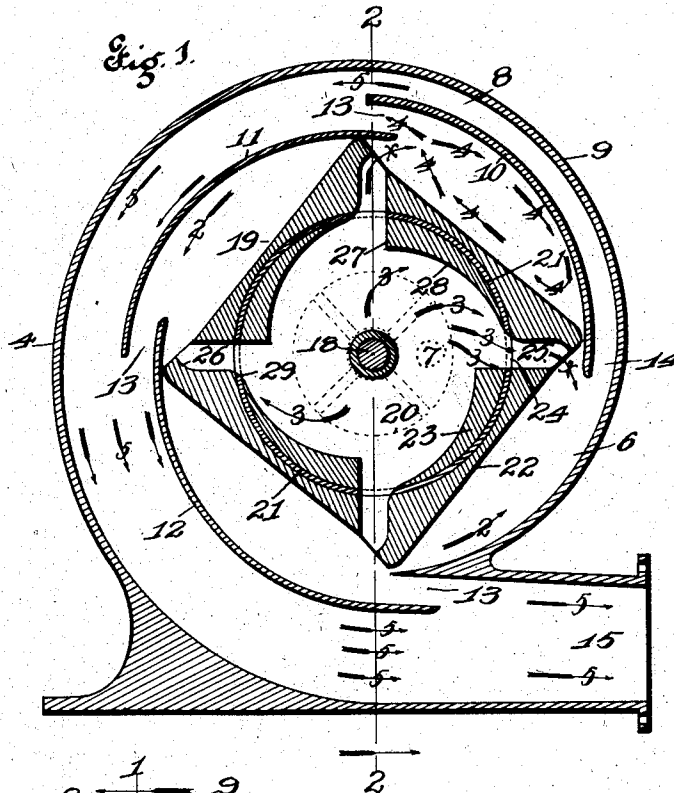
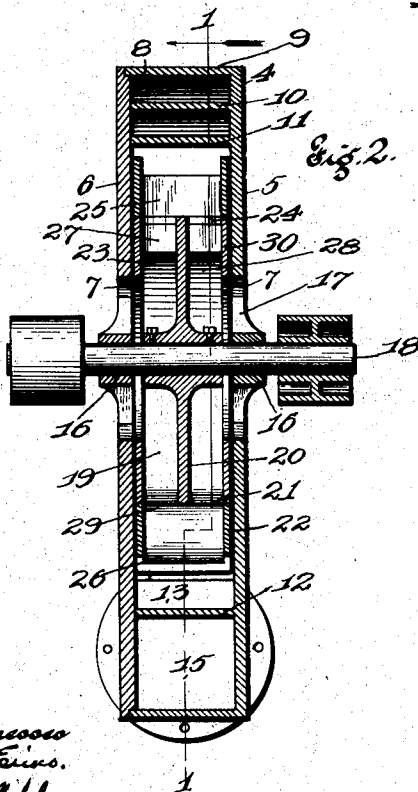
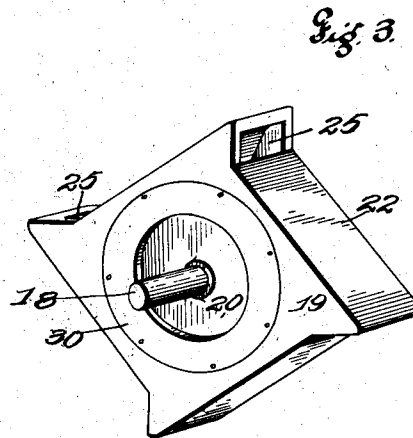


No. 839,312.

PATENTED DEC. 25, 1906.

C. NEUMANN.
PRESSURE BLOWER.

APPLICATION FILED JAN. 28, 1905.



Witnesses
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UNITED STATES PATENT OFFICE.

CHRISTIAN NEUMANN, OF ST. LOUIS, MISSOURI.

PRESSURE-BLOWER.

No. 839,312.

Specification of Letters Patent.

Patented Dec. 25, 1906.

Application filed January 28, 1905. Serial No. 243,053.

To all whom it may concern:

Be it known that I, CHRISTIAN NEUMANN, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Pressure-Blowers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in pressure-blowers; and it consists in the novel arrangement, construction, and combination of parts, as will be fully hereinafter described and claimed.

This invention consists of a revolving member within a casing for creating a rapid current of air to be distributed through tubing to any point.

The object of this invention is to provide a revolving member with passages terminating outwardly from the axis, collecting air and delivering it under pressure through said passages into a chamber formed in the casing of the blower, from whence it is distributed.

Figure 1 is a vertical longitudinal sectional view taken on the line 1 1 of Fig. 2 viewing in the direction indicated by the arrow. Fig. 2 is a vertical cross-sectional view taken on the line 2 2 of Fig. 1 viewing in the direction indicated by the arrow. Fig. 3 is a detail perspective view of the revolving member detached from the casing.

In the construction of the device as shown I provide an outer casing 4, comprising two vertical walls 5 and 6, each having central openings 7, through which the air is admitted into the interior. An air-receiving chamber 8 is formed in the casing 4 by the outer periphery 9 and the divisions 10, 11, and 12. Passages 13 are formed between the overlapping ends of the divisions, through which the air under pressure is discharged into the air-receiving chamber 8 from the revolving member.

The air-receiving chamber 8 is constructed in the form of a helix, beginning with a narrow opening, as indicated by the numeral 14, and gradually increasing in size, terminating in an outlet 15, to which a pipe may be attached.

The walls 5 and 6 are each provided with a bearing 16, held in the center of the openings 7 by arms 17. In these bearings is supported a driving-shaft 18, upon which is rigidly mounted the revolving member 19, consisting of a disk 20, rim 21, an outer casting 22, and inner castings 23. The said disk and

rim are formed integral, and to said rim is fastened in any suitable manner the castings 22 and 23. The rim 21 has a plurality of openings or slots 24. Also passages 25 are formed in the outer casting 22 in alinement with the slots 24, forming an outlet through which the air is passed from the center of the revolving member to the chamber 8.

The outer corners of the passages 25 are curved, as indicated by the numeral 26. This is for the purpose of deflecting the air as it passes from the passages 25 in the direction as indicated by the arrow *x*.

The ends 27 of the inner castings 23 are arranged in alinement with the slots 24 of the rim and passages 25 of the outer casting, its inner face 28 gradually tapering to a feather-edge and communicating with the rounded corner 29 of the passage. This is for the purpose of permitting the air within the revolving member to pass freely and unobstructed to the passage 25, where at this point the air will come in contact with the rectangular surface of the passages, then outwardly through the said passages and into the spaces between the revolving member and divisions. The air in these spaces is forced out into the air-receiving chamber 8 by the corners of the revolving member by way of the passages 13.

On each side of the rim 21 and extending downwardly a short distance beyond the lowest edge of the inner castings 23 is a ring 30, which has a tendency to retain the air from passing sidewise and lodging between the revolving member and walls of the casing.

It will be observed that the spaces between the divisions and periphery of the casing forming the receiving-chamber increase in size from a quarter to a half, from a half to three-quarters, from three-quarters to a whole, the expression "quarter" indicating its starting-point, and "whole" indicating its outlet or discharge end.

The operation of my invention is as follows: The revolving member is operated in the direction indicated by the arrow 2, the air being admitted through the central openings 7 in the walls 5 and 6. The air coming into the rapidly-revolving member is agitated, said air having a tendency to move toward the periphery and coming in contact with the surfaces 28, giving it a movement as indicated by the arrows 3. The current of air then comes in contact with the ends 27 and is then deflected outwardly through the pas-

sages 25. The outlets of the passages 25 are smaller than the remaining portion, and by this construction a pressure is created. The air at this point being under pressure a current is formed traveling a course as indicated by the arrows 4 and then discharged through the passages 13 into the receiving-chamber 8, where in this instance the air will take the course as indicated by the arrows 5 and then out through the outlet 15.

Having fully described my invention, what I claim is—

A blower of the class described comprising an outer casing, divisions located in said casing, dividing said casing into two chambers,

the ends of said divisions overlapping, forming passages for the air, a revolving member axially mounted in the inner chamber of the casing, the revolving member comprising a disk, a rim integral with said disk, castings secured to the inner and outer sides of said rim and provided with openings through which the air may pass, substantially as specified.

In testimony whereof I hereunto set my hand this 19th day of January, 1905.

CHRISTIAN NEUMANN.

Witnesses:

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