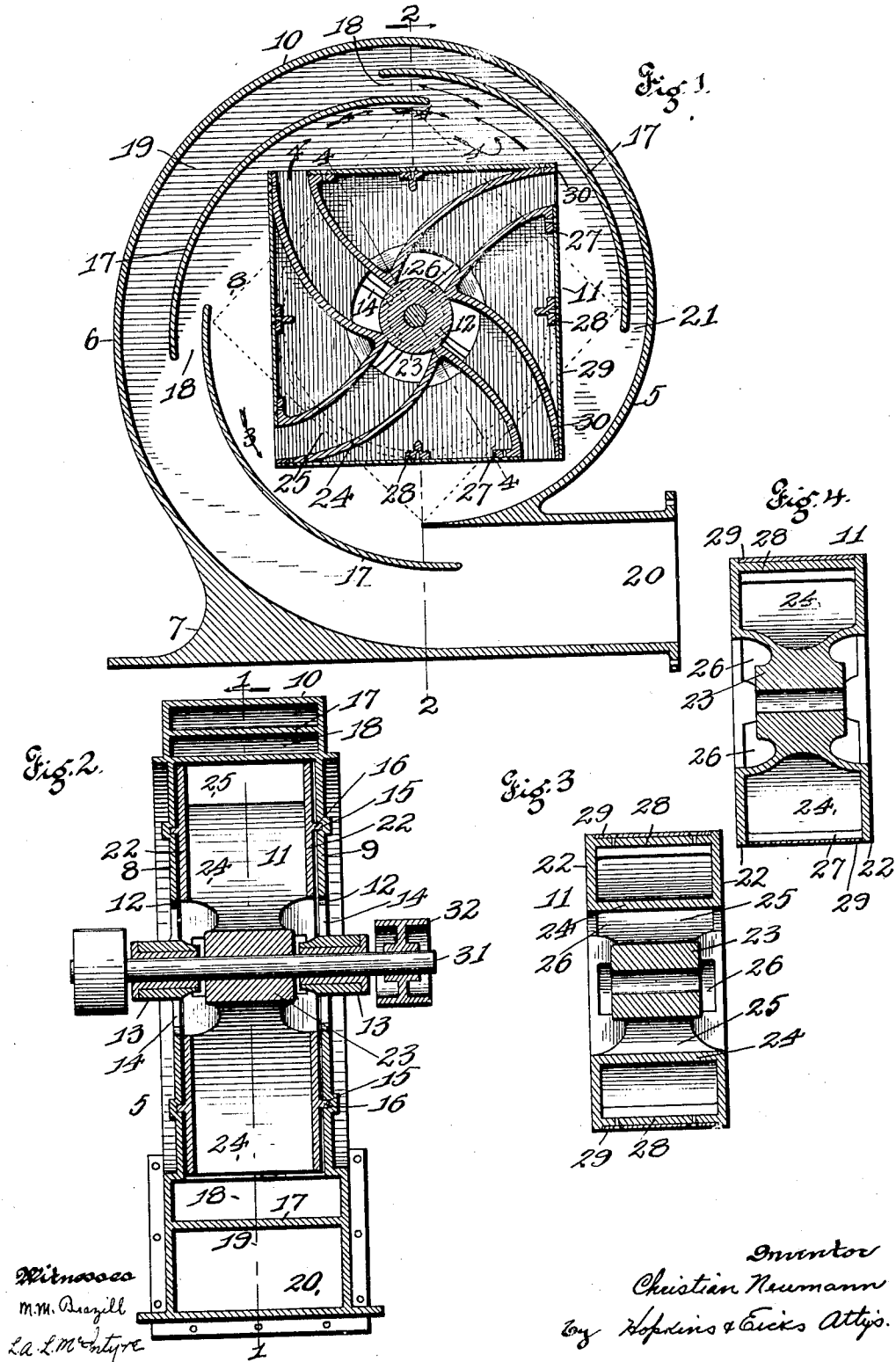


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C. NEUMANN.
PRESSURE BLOWER.
APPLICATION FILED JULY 31, 1903.



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UNITED STATES PATENT OFFICE.

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PRESSURE-BLOWER.

No. 882,478.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed July 31, 1905. Serial No. 271,911.

To all whom it may concern:

Be it known that I, CHRISTIAN NEUMANN, a citizen of the United States, and resident of St. Louis, State of Missouri, have invented certain new and useful Improvements in Pressure-Blowers, of which the following is a specification.

My invention relates to improvements in pressure blowers, and consists of the novel features hereinafter described and claimed.

This application is a companion application to applicant's previous patent No. 804,028, issued November 7, 1905.

This invention is an improvement over applications filed by me on blowers November 22, 1904, Serial No. 236,051, allowed April 21, 1905, and filed January 28, 1905, Serial No. 243,053.

The object of my invention is to construct a blower having a revolving rectangular member mounted within a casing for producing an air current of great volume and velocity by the rapidly revolving of the rectangular member.

In the drawings—Figure 1 is a vertical sectional view of my complete invention, taken on the line 1—1 of Fig. 2, and viewing the same 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 the same in the direction indicated by the arrow. Fig. 3 is a vertical cross-sectional view of the revolving-member, taken on the line 2—2 of Fig. 1. Fig. 4 is a cross-sectional view of the revolving-member taken on the line 4—4 of Fig. 1.

In the construction of the device as shown, I provide an outer casing 5, consisting of a body 6, located upon a suitable base 7. The casing 5 consists of the walls 8 and 9, and the outer rim 10, which forms the periphery of a housing in which is located a revolving-member 11. The walls 8 and 9 are provided with an inlet-opening 12, through which the air may pass into the casing, and in the center of each of said openings are located bearings 13 held in central position by arms 14. The walls 8 and 9 are each provided with a groove 15, forming a guide or passage-way in which are properly seated the projecting rings 16 formed on the sides of the revolving-member 11. Within the casing 5 are formed partitions 17 (see Figs. 1 and 2), so located as to form passage-ways 18 by the over-lap-

ping ends. These partitions, as will be observed, form a receiving-chamber 19 of increasing diameter from the starting-point to the outlet or discharge-pipe 20. The casing 5 is arranged tapering in form that is to say the portion of said casing acting as the first air-passage, and indicated by the numeral 21 being of less width and size than the discharge-pipe 20, the purpose of which is to permit the proper expansion of the air. The revolving-member 11 consists of a casing comprising two walls 22, a hub 23, and a plurality of partitions 24, said partitions extending outwardly from the hub to each corner, and forming passage-ways 25 through which the air is passed by the rapid revolving of said member. Air is admitted to each of the passages 25 through the ports 26 formed in each side of the revolving-member between the hub and walls. One end of four of the partitions 24 is provided with a projection 27, and mid-way between said projection and the opposite corner of the revolving-member is located a bridge 28, which is formed integral with the walls, and acts as a brace, and also to support a strip of sheet-metal 29, held in position upon the projection 27, bridge 28 and end 30 of the partitions by screws. The purpose of so constructing the revolving-member is to be able to cast the walls, partitions and hub in one casting, and thus dispense with an over-amount of metal. The revolving-member 11 is located within the casing between the partitions 17, and mounted upon a shaft 31, supported in the bearings 13 previously described. The device is operated by means of the pulleys 32 located upon the shaft and driven by any suitable mechanism.

The operation of my invention is as follows: The revolving-member is rotated in the direction indicated by the arrow 3 in Fig. 1, collecting the air from the atmosphere, through the ports 26, passing it through the passages 25 and discharging it into the chamber of the casing occupied by the revolving-member. The air delivered from the passages 25 assumes the direction indicated by the arrows 4, and as each corner of the revolving-member strikes said current, it reverses same and discharges it through the passages 18 and delivers it into the chamber 19.

Having thus described my invention, what I claim as new and desire to have se-

cured to me by the grant of Letters Patent, is:

1. A pressure blower comprising a rectangular revolving-member, a housing, a hub
5 forming part of the revolving member, partitions formed integral with the hub, and extending to the ends of the revolving member four air-passages formed in the revolving-member by said partitions and leading from
10 the center to each corner, and each provided with inlets for the admission of air, the outer surface of the revolving-member forming corners of perfect right angles, substantially as as specified.
2. A device of the class described comprising a housing provided with air inlets and an air outlet, a revolving-member rectangular in form revolubly mounted within said housing, a shaft supporting said revolving-member, a hub formed in the revolving-member by which it is secured to the shaft
20 and at which point openings are formed in the walls of the revolving-member, partitions formed integral with the hub, and extending to the ends of the revolving-member and air-passages formed by said partitions connecting the air inlets and discharging the air into
25 the housing during the revolution through

discharge openings formed in the outer surface of the revolving-member, substantially as specified.

3. A device of the class described comprising a rectangular revolving member, a housing, the rectangular revolving member composed of a hub, a plurality of partitions
35 extending radially from the hub and formed rectangular with the plurality of partitions forming passages through which the air is delivered under pressure, the sides of said revolving member provided with openings
40 for the admission of air into the passages around the hub, the outer ends of the revolving member provided with openings through which the air is discharged from the passages, rings formed on the sides of the revolving
45 member and grooves formed in the sides of the casing in which the rings project for the purpose of steadying the revolving member while in revolution, substantially as specified.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

CHRISTIAN NEUMANN.

Witnesses:

M. M. BRAZILL,
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