

No. 877,102.

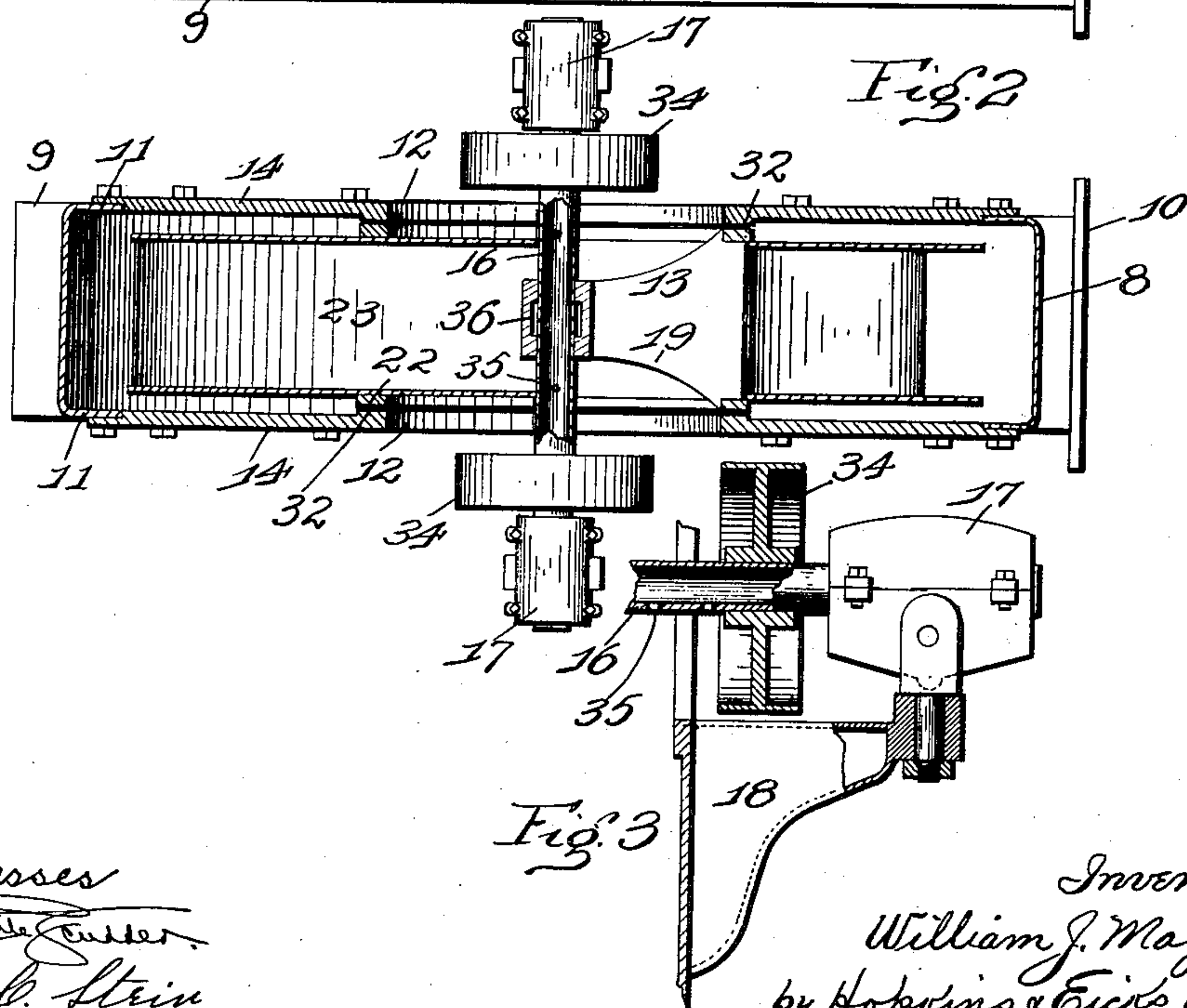
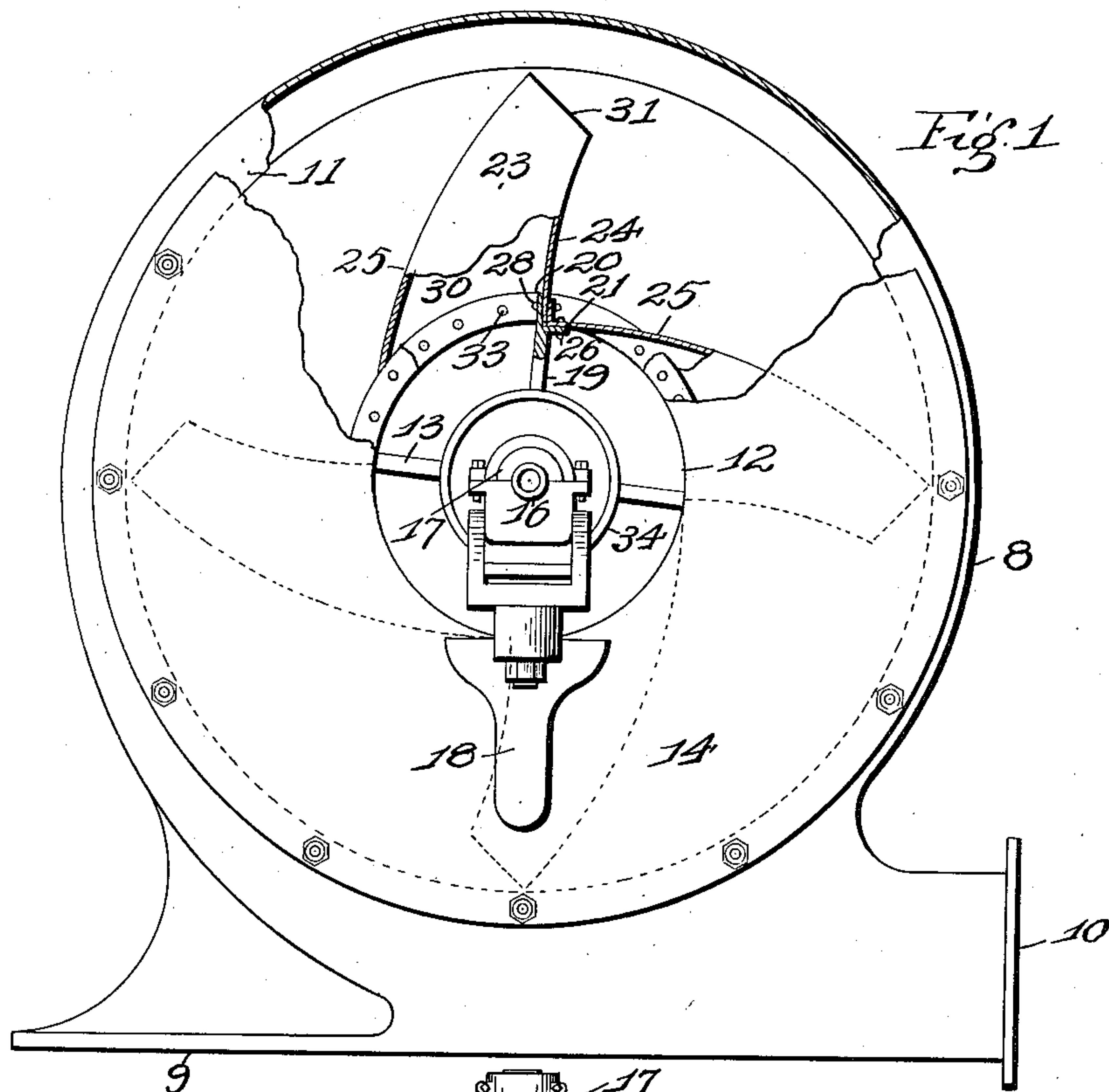
PATENTED JAN. 21, 1908.

W. J. MAGEE.

## PRESSURE AND SUCTION BLOWER.

APPLICATION FILED JAN. 22, 1907.

2 SHEETS—SHEET 1.



Witnesses  
 Elsie C. Cullen  
 W. C. Stein

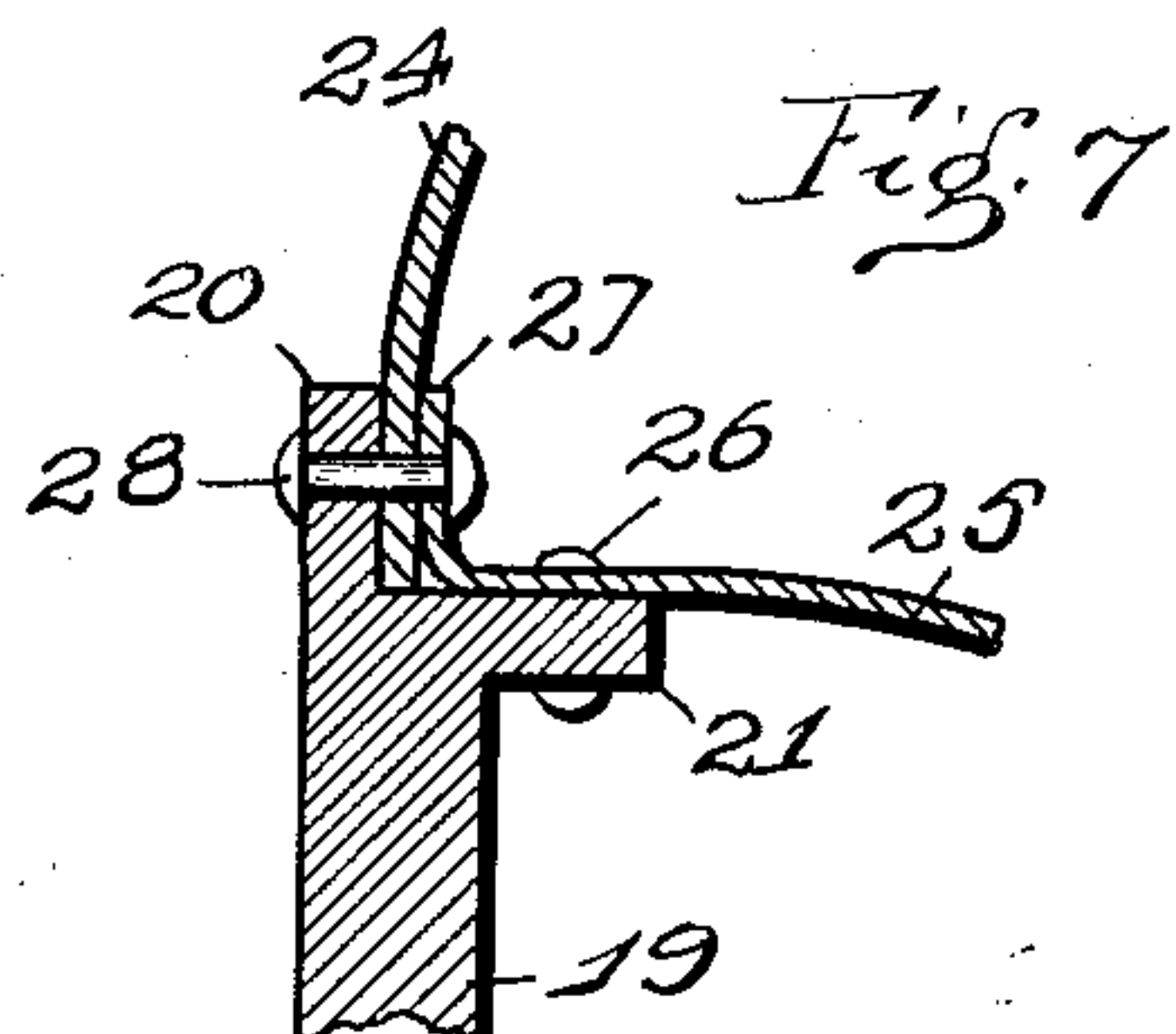
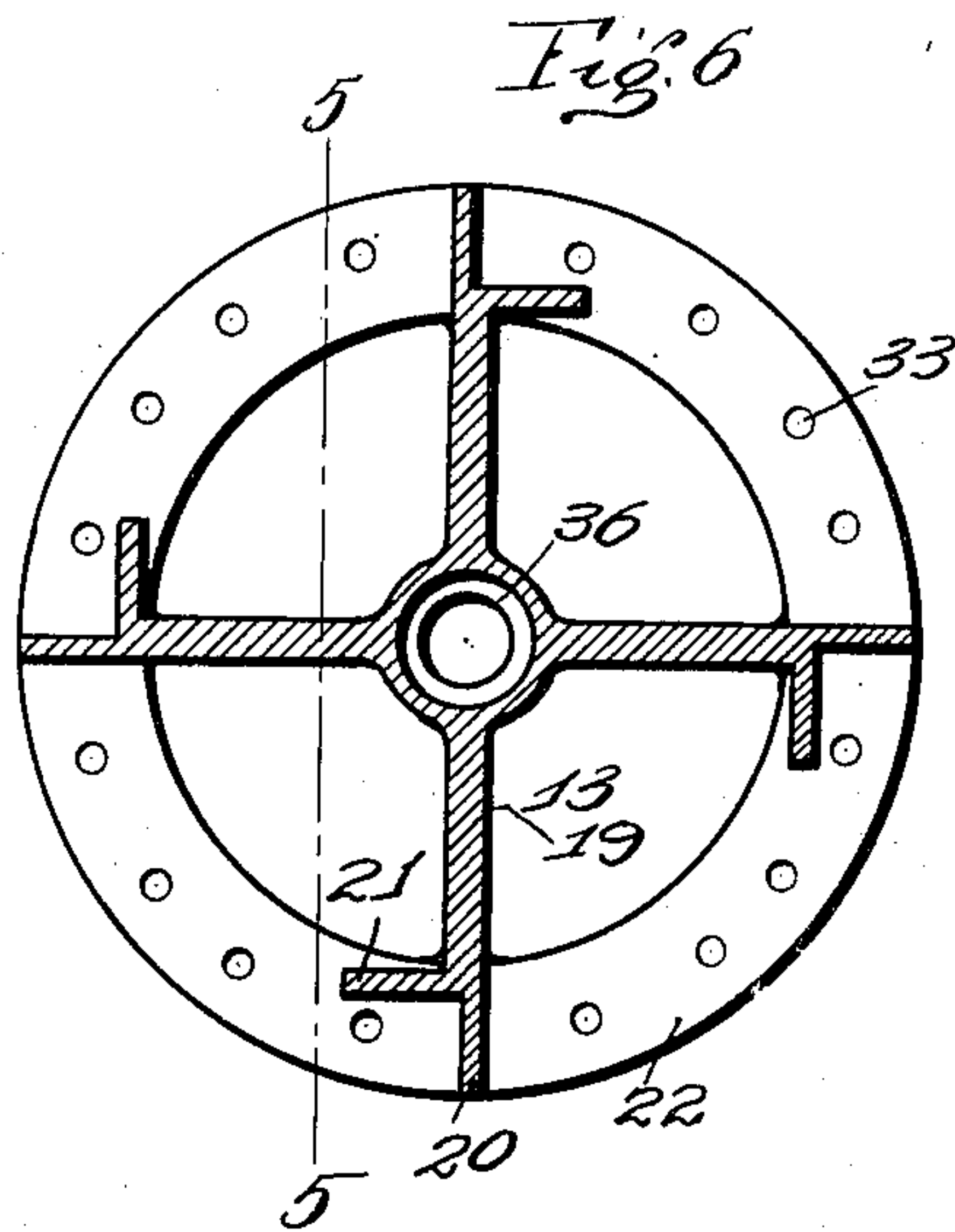
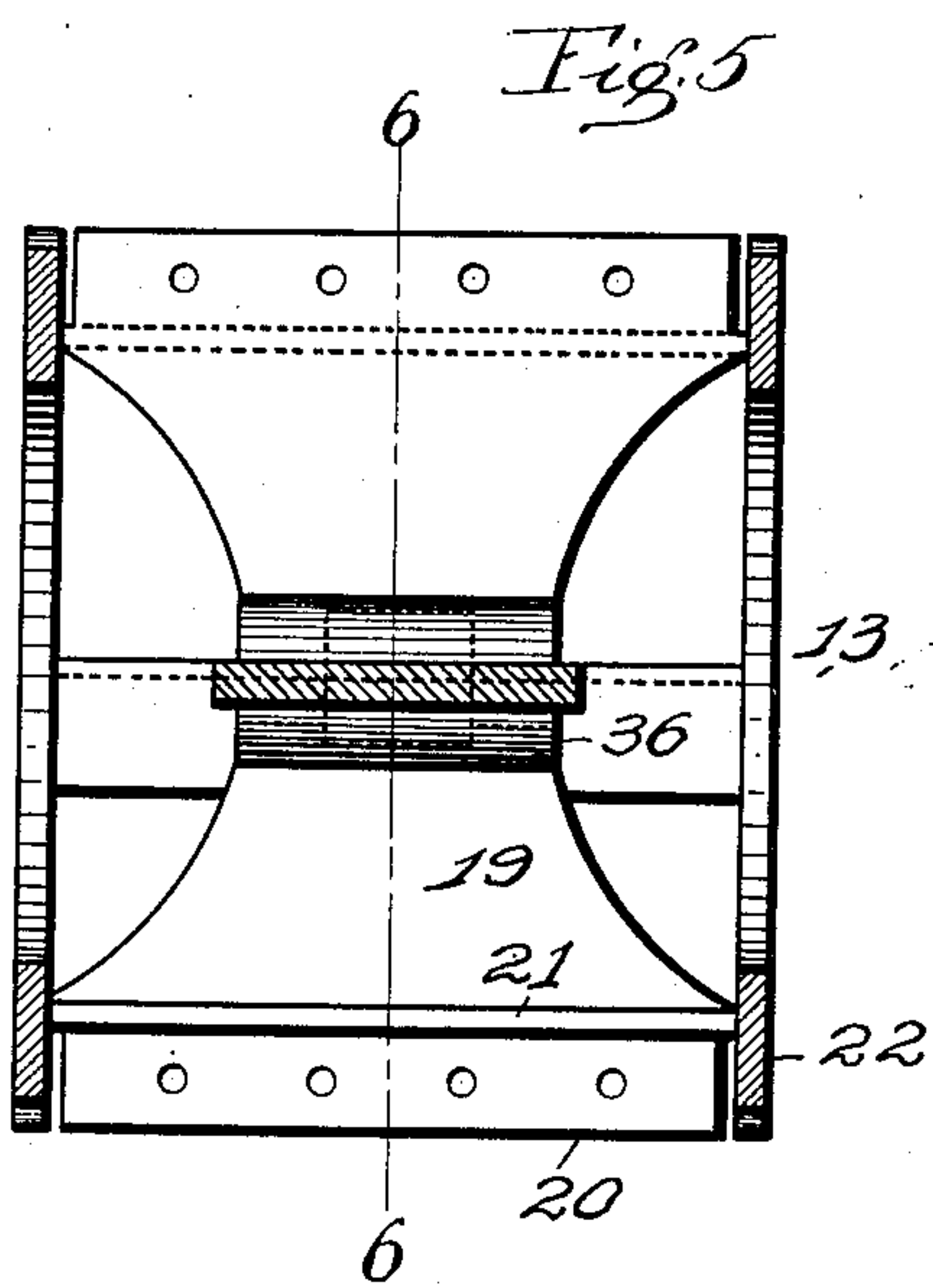
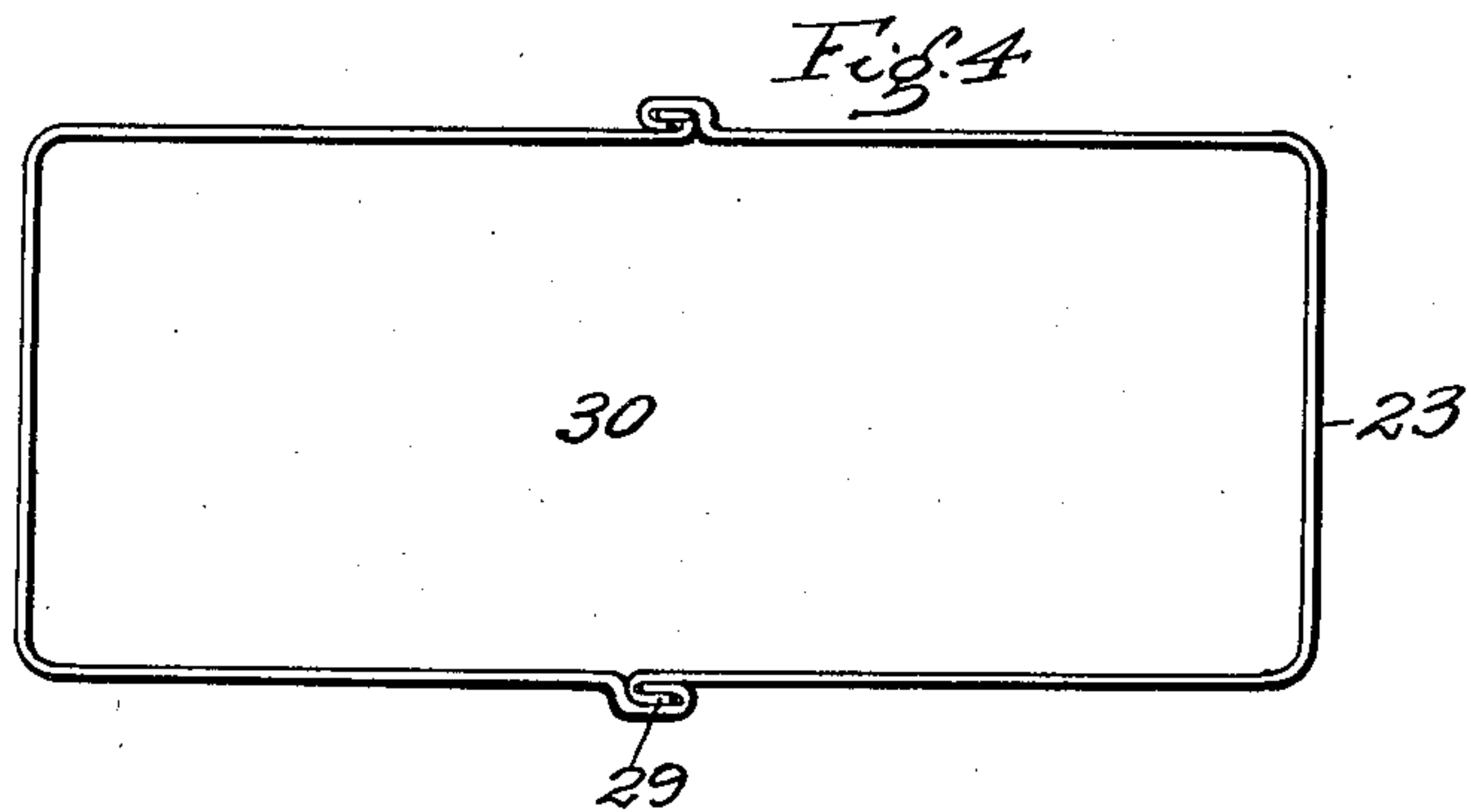
Inventor  
William J. Magee  
by Hopkins & Eick's attys

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2 SHEETS—SHEET 2.



Witnesses  
*W. C. Stein*

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by *Hopkins & Eick* attys.



# UNITED STATES PATENT OFFICE.

WILLIAM J. MAGEE, OF ST. LOUIS, MISSOURI.

## PRESSURE AND SUCTION BLOWER.

No. 877,102.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed January 22, 1907. Serial No. 353,486.

*To all whom it may concern:*

Be it known that I, WILLIAM J. MAGEE, a citizen of the United States, and a resident of St. Louis, Missouri, have invented certain  
5 new and useful Improvements in Pressure and Suction Blowers, of which the following is a specification.

This invention relates to improvements in pressure and suction blowers, and consists  
10 of 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  
15 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  
20 and delivering it under pressure through said passages into the casing from whence it is distributed.

A further object of my invention is to provide a blower having a revolving member  
25 consisting of a hub-section to which is attached sheet metal sections or box blades which form the passages through which the air is delivered into the casing of the blower, and by such construction, the revolving  
30 member is made light and more effective than if the same were cast of solid material.

In the drawings—Figure 1 is a side view of my complete invention with a part broken away and in section, showing the construction and relative position of the various  
35 parts. Fig. 2 is a horizontal, central, sectional view of the same. Fig. 3 is an enlarged detail view with parts in section, showing the bearing and relative position  
40 and construction of the shaft to which the revolving member is secured. Fig. 4 is an end view of one of the arms of the revolving member, showing its construction. Fig. 5 is a sectional view of the hub member taken on  
45 the line 5—5 of Fig. 6. Fig. 6 is a central, sectional view of the same taken on the line 6—6 of Fig. 5. Fig. 7 is an enlarged detail, sectional view of a portion of the hub showing its flanges and the manner in which the arms  
50 are attached to the same.

In the construction of my invention I provide the casing 8 provided with a suitable base 9 by which the same is supported to any  
55 suitable base-plate, and the one end is terminated into an outlet 10. The sides 11 of the casing are provided with openings 12 which

correspond in size with the inner periphery of the hub-section 13 of the revolving member. The sides 11 of said casing are provided with large openings in which are inserted and held  
60 by bolts or the like, flange-sections 14. The object of arranging the flanged sections 14 in this manner, which practically forms the sides of the casing, is to permit the insertion and removal of the entire revolving section  
65 when so desired.

In the casing I provide a revolving member which consists of a hub-section 13 mounted upon a tubular shaft 16, which is supported in integral bearings 17 supported to  
70 the sides of the casing by the brackets 18. The hub-section 13 has spokes 19 which terminate into right-angular flanges 20 and 21 and are reinforced by the rings 22. This hub-section is preferably cast and all of its  
75 parts formed integral, and to the flanges 20 and 21 are suitably held by means of rivets or the like, the sheet metal arms or box blades 23; the side 24 of the arms being held to the flange 20 and the side 25 of the arms  
80 being held to the flange 21 by the rivet 26, the end of said side being turned up as indicated by the numeral 27 and supported together with the side 24 to the flange 20 by means of the rivets 28.  
85

The arms 23 are preferably constructed of two sections of sheet metal connected together by the lap-joint 29 as shown in Fig. 4, thus dispensing with the use of rivets which  
90 have a tendency to shear while the revolving member is in rapid revolution. It is my intention to dispense with the use of as many rivets as possible, especially in the construction of the arms. The arrangement of the arms to form the passages 30 have their base  
95 portion, or, in other words, the end to which they are secured to the hub, of larger diameter than the outlet 31, and the sides 24 and 25 are curved sufficiently to provide a suitable suction and free delivery of the air  
100 through the passage into the blower casing. In order to prevent a leakage within the blower casing, I make a complete contact between the rings 22 of the hub and the projection 32 formed at the openings 12 and 15  
105 (See Fig. 2). In addition to supporting the arms to the flanges 20 and 21, I rivet the base of the arms to the rings 22 as indicated by the numeral 33.

The revolving member is placed in operation  
110 by the pulley wheels 34 mounted upon the tubular shaft 16, and the said shaft is



provided with a plurality of perforations 35 through which air is admitted to circulation while the revolving member is in operation to cool the bearing. The hub-section is secured to the tubular shaft at the point indicated by the numeral 36.

When constructing a suction blower whereby the material is sucked through the central opening in which is located the shaft and discharged through the discharge opening 10, I dispense with the bearing on the side to which the tubing is connected and form the opposite wall of the casing solid with a hole of the proper diameter for the free movement 15 of the driving shaft. Otherwise the construction of the pressure blower and suction blower is the same.

Having fully described my invention, what I claim is:

20 1. A device of the class described, comprising a blower casing, a shaft, a hub mounted upon said shaft within the blower casing, spokes radiating from the hub, flanges formed on the ends of said spokes, hollow 25 sheet metal arms composed of two sections

and retained together by lap-joints, said arms secured to the flanges of the spokes, and a pair of rings located on each side of the spokes to which the arms are also attached, substantially as specified.

30 2. A device of the class described, comprising a revolving member composed of a hub member, a plurality of flanged spokes forming a part of the hub member, a pair of rings formed on the sides of the hub member 35 forming a part thereof, a plurality of hollow sheet metal arms each composed of two sections and retained together by lap-joints, the base of each of said arms attached to the flanged ends of the spokes and the rings in 40 combination with a blower casing in which the revolving member is revolvably mounted, substantially as specified.

In testimony whereof, I have signed my name to this specification, in presence of two 45 subscribing witnesses.

WILLIAM J. MAGEE.

Witnesses:

ALFRED A. EICKS,  
WALTER C. STEIN.