

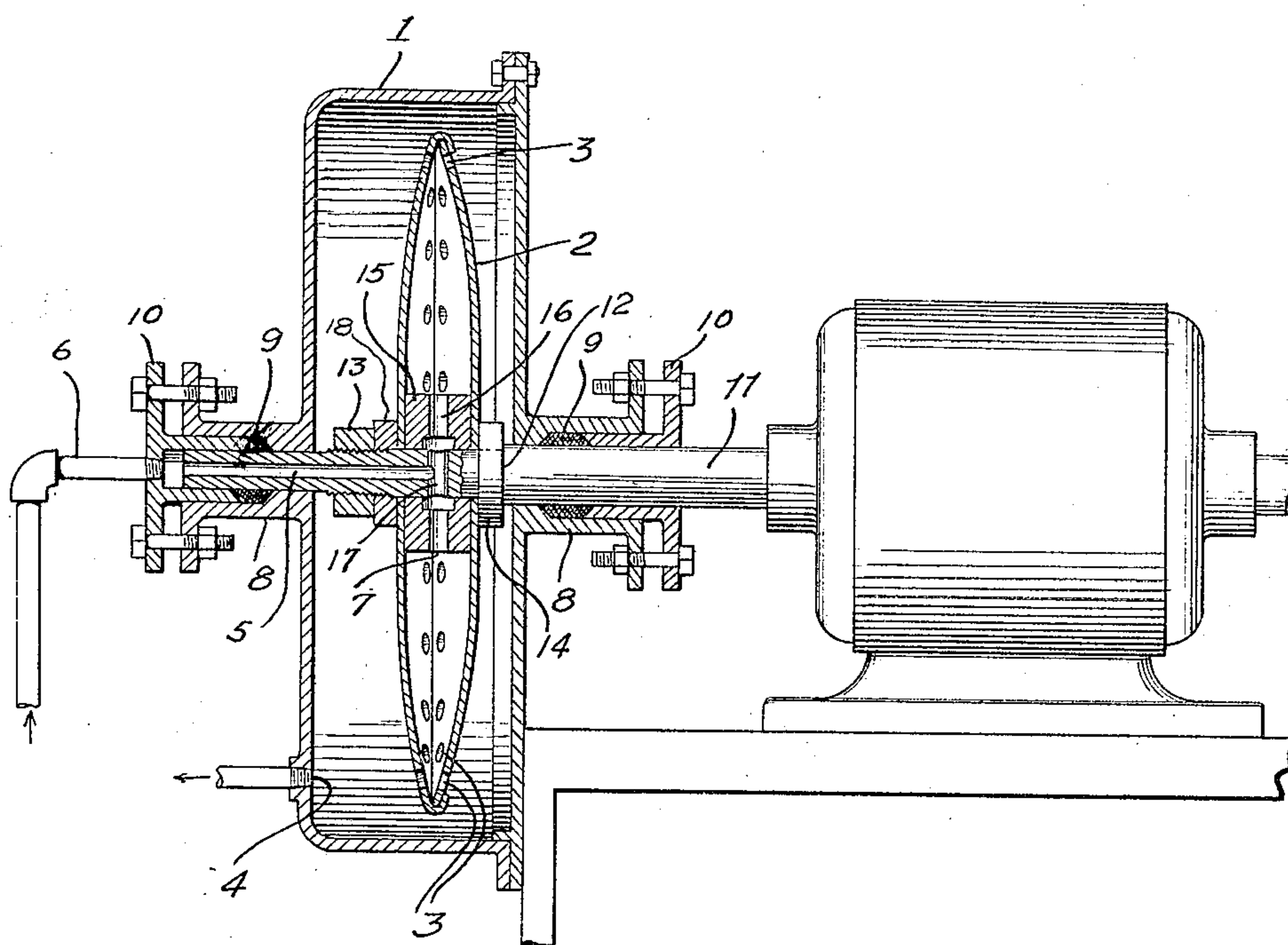
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BLOWER

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## UNITED STATES PATENT OFFICE.

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### BLOWER.

Original application filed May 27, 1924, Serial No. 716,223. Divided and this application filed March 4, 1927. Serial No. 172,602.

The present invention relates to an improvement in blowers, one object being to provide a device of this general character which can be utilized for the compression of fluids such as gases, air and the like, with a minimum of heat and turbulence. This application is a division of my pending application, Serial No. 716,223, filed May 27, 1924.

10 An embodiment of my invention is illustrated in the drawing accompanying the present specification, the single figure of which represents a central transverse section of my improved device.

15 Referring to the drawing, the improved blower comprises a casing 1 and a rotatable member 2 mounted therein on a shaft 11 rotatable by a motor or other suitable means in bearings 8, said rotatable member being shown in the present embodiment as a hollow rotor composed of co-operating dished side members provided with outlet openings 3 arranged adjacent to the periphery thereof. The casing 1 also has an outlet 4 preferably adjacent to the periphery of the rotor 2 or at a point or place in the wall of the casing 1 where a predetermined pressure is effected by operation of the rotor. The gas or other fluid to be compressed is introduced into the rotor through a conduit 5 in shaft 11 having an opening 6 outside of the casing 1 and an opening 7 inside the rotor 2 and communicating with the interior thereof and with the outlets 3. Packing 9 surrounding said shaft is held in place by caps 10.

The rotor 2 is secured on shaft 11 by any suitable means such as a shoulder 12 at one side of the rotor and a nut 13 at the other side and threaded on said shaft, one side of the rotor being spaced from the shoulder 12 by a spacing member 14. The walls or dished side members of the rotor are maintained in spaced relation by a centrally positioned spacer 15 provided with passages 16 communicating with transverse passages 17 in the shaft 11 which in turn communicates with longitudinal conduit 6 therein. A spacer 18 is interposed between an outer portion of the rotor 2 and the nut 13. The dished members forming the walls of the rotor are joined at or near their peripheries in any suitable manner as by crimping, welding or the like.

In operation, if it is desired to compress air for example, it will be admitted through the conduit 5 into the interior of the rotor 2. The latter will rotate at the required speed and, by operation of centrifugal force, the air therein will be discharged through the outlet openings 3 into the casing 1 thereby building up pressure therein. Both the inlet conduit and the outlet opening of the casing will be controlled by valves or other suitable devices, depending on the results desired in connection with the use of the machine.

One use to which a blower of the type hereinabove described has been successfully applied is in connection with a specific gravity determining apparatus in which it was desired to measure directly the specific gravity of a gas. In this device two blowers were mounted to operate at the same speed and in such a way with respect to other instrumentalities that the pressure developed by the gas blower divided by the pressure developed by the air blower would be a measure of the specific gravity of the gas. In such an instrument, it is desirable for obvious reasons to obtain the gas and air pressures with a minimum of turbulence and heat in the blower. It is believed that a blower of the type hereinabove described may advantageously be applied to other uses.

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

A rotor for blowers and the like, comprising a hollow shaft, a pair of opposed wall forming members mounted thereon and provided with peripheral openings and arranged with their peripheral edges inclined toward each other and with portions of the peripheral edge of one wall overlapping and bent down over the peripheral edge of said other wall, and a spacer centrally disposed between said walls and having a conduit positioned to afford communication between the recess in said hollow shaft and the interior of the blower.

In testimony whereof, I have signed my name to this specification this 2nd day of March, 1927.

GARRETT B. LINDERMAN, JR.