Aug. 15, 1939 A. I. PONOMAREFF 2,169,233

BLOWER APPARATUS

Original Filed Nov. 27, 1937

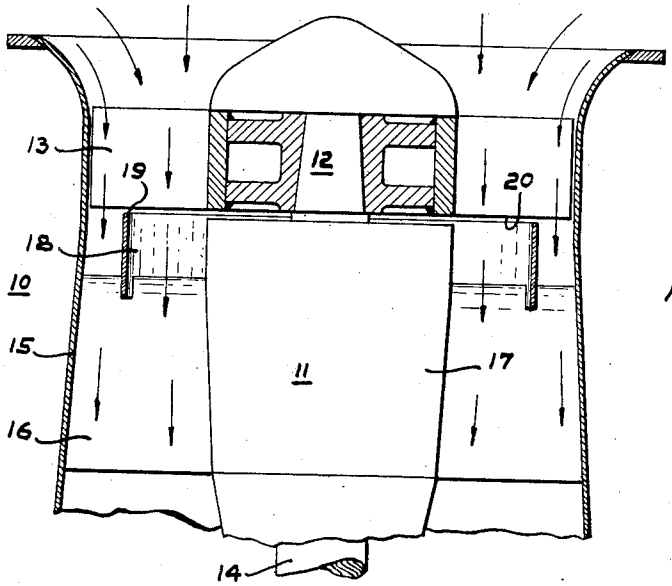


FIG. 1.

FIG. 2.

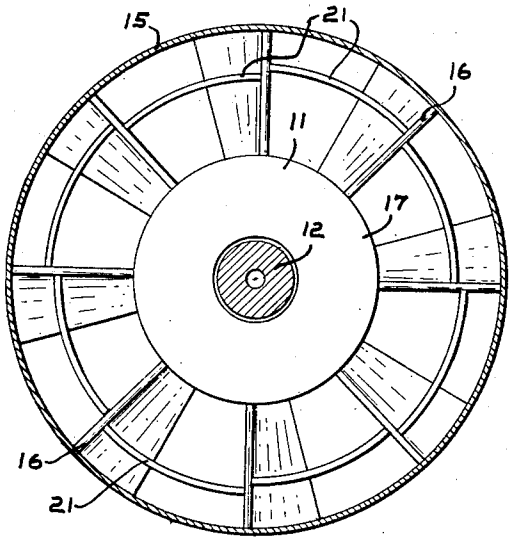


FIG. 3.

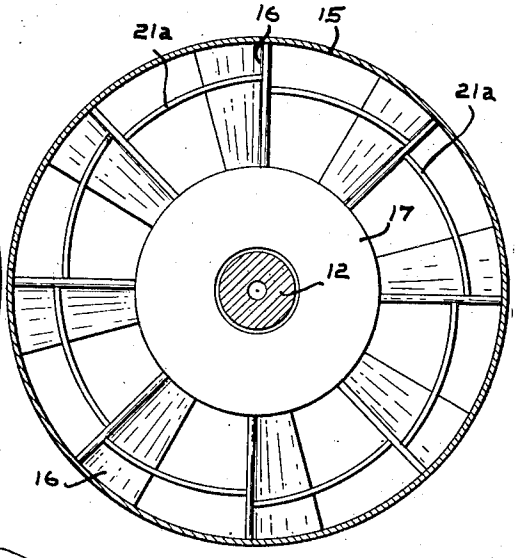
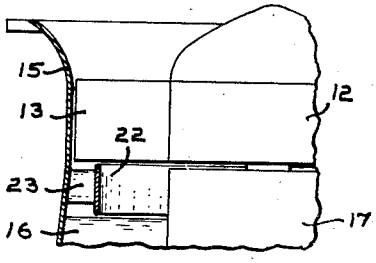


FIG. 4.



INVENTOR

ALEXANDER I. PONOMAREFF.

BY

A. B. Reavis

ATTORNEY

Patented Aug. 15, 1939

2,169,233

UNITED STATES PATENT OFFICE

2,169,233

BLOWER APPARATUS

Alexander I. Ponomareff, Drexel Hill, Pa., assignor to Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., a corporation of Pennsylvania

Application November 27, 1937, Serial No. 176,900
Renewed June 1, 1939

2 Claims. (Cl. 230—120)

My invention relates to propeller blowers and it has for an object to provide baffle means at the discharge side of the propeller for resisting recirculation in order to reduce pressure fluctuations or pulsations.

In the application of Warren B. Flanders, Serial No. 163,727, filed September 14, 1937, there is disclosed and claimed baffles for resisting recirculation in propeller blowers in order to reduce pressure fluctuations or pulsations. In said application, baffles are shown arranged adjacent to the inlet edges of propeller blades or incorporated in the propeller. I find that baffle means arranged contiguously to the leaving edges of a propeller is also effective for the same purpose.

These and other objects are effected by my invention as will be apparent from the following description and claims taken in connection with the accompanying drawing forming a part of this application, in which:

Fig. 1 is a vertical sectional view of a propeller blower incorporating the preferred form of my improved baffle means;

Figs. 2 and 3 are views showing further forms of the baffle means; and,

Fig. 4 is a detail view showing a modified form of baffle support.

In the drawing, there is shown a propeller blower, at 10, including stator structure, at 11, and rotor structure, at 12, the rotor structure including a propeller 13 and its drive shaft 14 and the stator structure including a casing 15 connected by guide vanes 16 to the shaft tube 17, the guide vanes being at the discharge side of the propeller.

In accordance with my invention, circumferentially-extending baffle means 18 has its inlet edge 19 arranged as close as practicable to the discharge edges 20 of the propeller blades and its extends axially, or in the direction of fluid flow, to such an extent as to afford adequate resistance to recirculation.

The baffle means 18 is carried by the stator structure, at 11, preferably by the guide vanes 16, the inlet edge 19 of the baffle extending forwardly of the inlet edges of the guide vanes 16.

While the circumferentially-extending baffle means is preferably circular, as shown at 18 in Fig. 1, it may be comprised by a plurality of sections 21, as shown in Fig. 2 or sections 21*a* as shown in Fig. 3, which collectively serve the same purpose.

While, in Figs. 1, 2 and 3, the baffle means is carried by the guide vane part of the stator structure, it will be obvious that it may be carried by any other suitable part thereof, for example, in Fig. 4, such baffle means 22 is supported by arms 23 from the interior of the casing 15.

While I have shown my invention in several forms, it will be obvious to those skilled in the art that it is not so limited but is susceptible of various other changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art or as are specifically set forth in the appended claims.

What I claim is:

1. In a propeller blower, a rotor structure including a propeller, a stator structure including a casing encompassing the propeller, guide vanes at the discharge side of the latter, and circumferentially-extending baffle means carried by the stator structure, said baffle means extending in the direction of fluid flow and having its inlet edge disposed contiguously to the leaving edges of the propeller blades so as to resist recirculation of medium translated by the propeller.

2. In a propeller blower, a casing, a propeller in the casing, guide vanes at the discharge side of the propeller, and circumferentially-extending baffle means carried by the guide vanes, said baffle means extending in the direction of fluid flow and having its inlet edge arranged forwardly of the inlet edges of the guide vanes so as to be disposed contiguously to the leaving edges of the propeller blades so as to resist recirculation of medium translated by the propeller.

ALEXANDER I. PONOMAREFF.