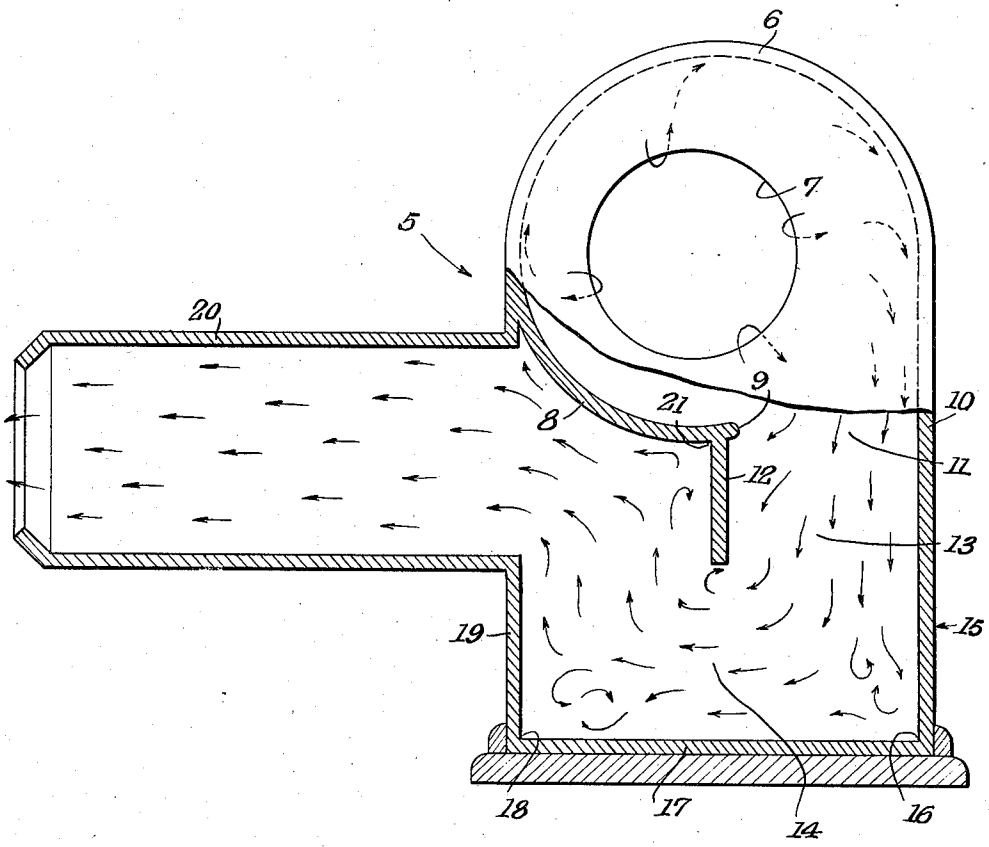
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BLOWER CONSTRUCTION

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BLOWER CONSTRUCTION

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1 Claim. (Cl. 230—132)

My present invention relates to blowers, and aims to devise a device of the general character indicated, which is simple in construction, easy and economical to fabricate and assemble, and admirably adapted to perform the intended functions hereinafter more specifically referred to.

While not limited thereto, the blowers of the present invention find particular use in connection with domestic oil burners, wherein it is desired to obtain a constant flow of air to the nozzle, where carburation with the fuel takes place, but where it is desired that said constant flow be at a relatively slow velocity.

In the accompanying specification I shall describe, and in the annexed drawing show, an illustrative embodiment of the blowers of the present invention. It is, however, to be clearly understood that I do not wish to be limited to the exact details shown and described herein for purposes of illustration only, inasmuch as minor changes therein may be made, without the exercise of invention within the scope of the claims hereto appended.

In the accompanying drawing, the single figure is a partial side elevational, partial longitudinal sectional view of a blower, made in accordance with the present invention.

Before describing my invention in detail, I deem it advisable briefly to refer to the methods presently being used, the disadvantages thereof, and the manner in which the present invention overcomes the said disadvantages.

The constant flow of air at a relatively slow velocity has been obtained up to the present time by one of two methods: Either a special motor is used in connection with the blower, which motor has a low R. P. M., or, if a standard motor is used, then relatively complicated baffle systems must be employed in order to reduce the velocity of the air delivered by the blower. The first of these methods is obviously uneconomical, and prevents standardization. The second of these methods has been found to be not only complicated, but expensive, inefficient, and entirely inadequate for the intended purpose.

By means of the present invention I provide a blower which may be standardized, and which, in addition to being inexpensive and simple, delivers a constant flow of air at the proper velocity.

Referring now more in detail to the aforesaid illustrative embodiment of the present invention, and with particular reference to the drawing illustrating same, the numeral 5 generally designates a combined blower and nozzle, and includes an impeller housing 6, which is substantially cylindrical in shape, and which is provided with an air inlet 7, through which air may be drawn into the blades of the impeller. The housing 6 is adapted to confine any desired type of impeller (not shown), which is driven by a standard electric motor (not shown).

I provide the housing 6 with an arcuate extension 8, the inner edge 9 thereof, together with the extending wall 10, forming a continuation of the cylindrical casing of the blower, and presenting an opening 11 through which the impeller expels the air. Adjacent the end 9 of the extension 8, I provide across the housing, a baffle 12, which, together with the extended wall 10, presents a restricted passage 13, which leads to a chamber 14 in the lower end of the casing 15. It is to be noted that the angle 16, between the base 17 and the side wall 10 of the casing 15 is a right angle. And it is further to be noted that the angle 18, between the base 17 and the other side wall 19 of the casing 15 is also a right angle. Finally, the angle between the outer surface of the baffle 12, and the outer surface of the arcuate extension 8, at 21, is likewise a substantial right angle. It is to be noted that the walls 10, 17 and 19 constitute extensions of the housing 6. Extending outwardly from the housing 6 and casing 15 is a nozzle 20 at the outer extremity of which carburation takes place, and the fuel is burned in the fire box of the burner.

After the air passes from the blower through the opening 11 and passage 13, it takes the courses indicated by the arrows. As the air reaches the base 17, it rebounds, and in rebounding meets additional air coming downwardly through said opening and passage. This causes turbulences at the angle 16, between the side wall and base of the casing. The velocity, therefore, of the air is somewhat retarded. Because of the shape of the casing, the air is now directed laterally toward the wall 19. As it reaches this wall, it rebounds, and causes turbulences at the angle 18, between the base 17 and the wall 19. The velocity is therefore further retarded. In view of the baffle 12, the air is now directed upwardly, until it contacts against the extension 8, where it again rebounds, and additional turbulences are set up at the angle 21, between the baffle 12 and the extension 8. This additionally retards the velocity. Finally, the air is directed laterally through the nozzle 20 to the point at which it becomes admixed with the fuel.

It will therefore be seen that by means of the present invention, the air delivered by the blower

is caused to take a tortuous path; that is, it is first directed downwardly, then laterally, then upwardly, and finally laterally. By causing the air to take such a path, turbulences are set up at various points, which retard the velocity, so that by the time the air reaches the point where it is carburated with the fuel, it has been slowed down to the proper velocity.

This completes the description of the aforesaid illustrative embodiment of the aforesaid invention. It will be noted from such description that the blowers of the present invention are simple in construction, easy and economical to fabricate and assemble, and readily adapted to perform the intended functions.

Other advantages of the present invention will be obvious to those skilled in the art to which the same relates.

What I claim as my invention is:

A blower comprising an impeller housing, means integrally formed with said housing for directing the flow of air delivered by the impeller in a predetermined direction, said means comprising an extension of said housing and a cooperating baffle wall integrally formed with said housing means cooperable with said first-named means for altering the direction of the air flow at a right angle to the first direction, and setting up turbulences therein for retarding the velocity thereof, said second named means comprising a continuation of said extension at right angles thereto, spaced from said baffle wall perpendicularly thereto, means for again altering the direction of the air flow and setting up additional turbulences therein, said third named means comprising an extension of said second named means at right angles thereto and parallel to said first named means and said cooperating baffle wall, and means for directing the flow of air to an outlet nozzle and setting up additional turbulences therein.

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