T. A. DE VILBISS.

PROTECTIVE DEVICE FOR VENTILATING FANS.

APPLICATION FILED NOV. 8, 1913.

**1,096,694.** Patented May 12, 1914.

Fig. 1.

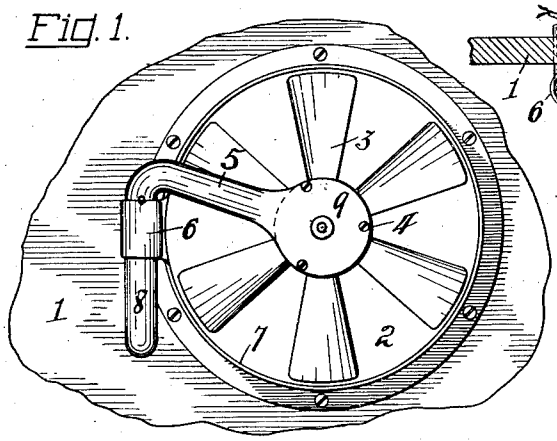
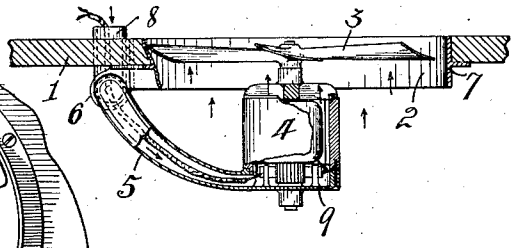



Fig. 2.



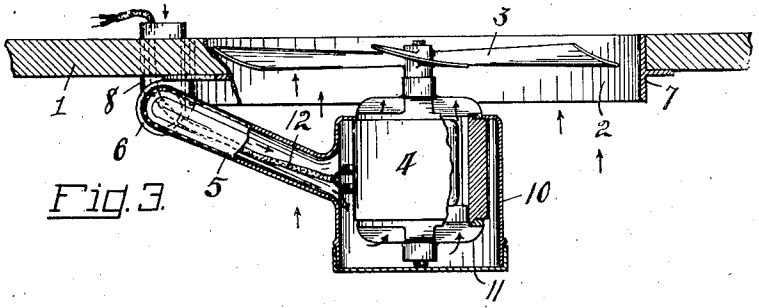
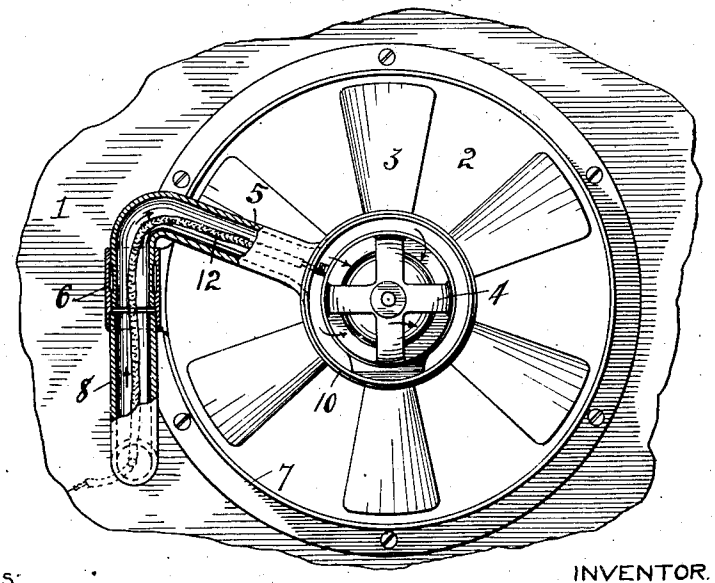




Fig. 3.

Fig. 4.




WITNESSES:

W. G. Allen.

E. E. Thomas.

INVENTOR.

Thomas A. DeVilbiss,

By Owen, Owen & Crampton,

His attys.

# UNITED STATES PATENT OFFICE.

THOMAS A. DE VILBISS, OF TOLEDO, OHIO, ASSIGNOR TO THE DE VILBISS MANUFACTURING COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

## PROTECTIVE DEVICE FOR VENTILATING-FANS.

1,096,694. Specification of Letters Patent. Patented May 12, 1914.

Application filed November 8, 1913. Serial No. 799,885.

*To all whom it may concern:*

Be it known that I, THOMAS A. DE VILBISS, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Protective Device for Ventilating-Fans; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable other skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates particularly to a protecting device for the direct connected motors of electric ventilating fans, and has for its object the provision of improved means for carrying and protecting the motor from dust, dirt, paint and the like when in use, and enabling the motor and attached fan to be swung from operative position when not in use.

It is also the purpose of my invention to provide improved means for conveying or directing fresh or specially treated air to the motor for cooling purposes.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, two preferred embodiments thereof are illustrated in the accompanying drawings, in which,—

Figure 1 is an elevation of a motor and its fan disposed in a wall opening and having one form of the invention associated therewith. Fig. 2 is a top plan view thereof with parts broken away and in section. Fig. 3 is a top plan view of another form of the invention with parts broken away and in section, and Fig. 4 is an elevation of such latter form with parts in section and removed.

Referring to the drawings, 1 designates a wall having a ventilating opening 2 therein in which the fan 3 of an electric motor 4 may be disposed, whereby a driving of such fan will create a forced draft through said opening. The motor 4 is supported in a horizontally swinging manner relative to the opening by a bracket arm 5, which is hollow throughout its length to provide a channel therethrough and has its inner end angled or bent in vertically disposed position and fitted down into a pivotal or rotating manner in a bearing stud 6. This stud is fixed relative to the wall 1 at one side of the opening 2, and, in the present instance, is attached or formed integral with a casing ring or member 7, which is mounted within the opening 2. A pipe or conduit 8 extends from the lower end portion of the bearing-stud opening with its channel in communication with the channel through the arm 5 and with its opposite end extended through the wall 8 to a suitable or convenient point for taking in fresh or specially treated air.

Referring to Figs. 1 and 2, the arm 5 is shown as having its outer or free end terminating in a head or cap portion 9 which is secured, by screws or otherwise, to the outer open end of the frame or housing of the motor 4 and serves to tightly close such end of the motor frame except to the passage through the arm 5. The inner end of the motor frame being open, a running or rotating of the fan 3 causes an induced draft to be set up through the tube 8, arm 5 and motor frame so that fresh air is drawn therethrough for cooling purposes. The closing of the outer end of the motor frame by the arm head 9 prevents air which is more or less charged with chemicals, paint, dirt, etc. from passing through the motor to the injury of the windings and other delicate parts thereof.

In the form of the invention shown in Figs. 3 and 4 the bracket arm 5 is provided at its outer or free end with a shell or housing 10, which carries and incloses the motor frame with the exception of the inner open end thereof and permits the passage of air from the arm 5 around the motor frame and thence longitudinally through the same, the motor being of the common open end or ventilating type. The shell 10 is preferably provided at the outer end of the motor with a removable cap or closure member 11 to facilitate access to the motor without removing it from the shell.

In both forms of the invention the motor leads are extended to and from the motor through the arm 5 and tube 8, as indicated at 12, thus protecting such leads from the injurious action of gases, fumes, paint, or the like, which are drawn through the ventilating opening 2 by the action of the fan.

I wish it understood that my invention is

not limited to any specific construction or arrangement of the parts thereof but that it may be varied in respect to details within the general purview and principle thereof.

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

1. The combination with the motor of an electric fan, which motor has a ventilating passage therethrough, of means swingingly supporting said motor and forming a communicating passage between the ventilating passage of the motor and the atmosphere at a distance from the motor.

2. The combination with the motor of an electric fan such motor being of the open-end ventilating type, of a bracket-arm carrying said motor for swinging movements, said arm having a passage therethrough to the atmosphere and closing the communication between the air intake end of the motor and the atmosphere except through the arm.

3. The combination with the motor of an electric fan, such motor being of the ventilating type, of a hollow bracket-arm carrying the motor for swinging movements and closing the air intake portion thereof to the atmosphere except through said arm, a bearing-stud carrying said bracket-arm, and means forming a channel leading from said bearing-stud with one end in communication with the hollow of the arm and its other end leading to a fresh air intake point.

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

THOMAS A. DE VILBISS.

Witnesses:
C. W. Owen,
E. E. Thomas.