To all whom it may concern:

Be it known that I, Frank P. Mies, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric Air-Heating Devices, of which the following is a specification.

My invention relates to improvements in electric air heating devices; and has for one of its objects to provide a highly efficient, compact, and reliable means for heating air, and which is cheap of construction and durable.

In the drawing, Figure 1 is a longitudinal vertical central section showing an ordinary blower fan with my thermic device secured to the circumferential wall of the casing; Fig. 2 is a broken-away fragment of said wall showing the heating medium embedded in porcelain or the like; and Fig. 3 is a cross sectional view of same.

In all of the views the same reference numerals indicate similar parts.

The casing of the fan is indicated by 5. It is provided with an air intake, 6, near the fan axis, and an air discharge opening, 7, tangential to the round part of the casing. A fan, 8, is mounted on a shaft, 9, and has bearings as usual in such fan constructions.

So far as described, the fan structure is not unlike fans of this type well known in the art.

My invention consists in an electric thermic device placed within the fan casing and preferably against the circumferential wall of the fan casing, as shown.

In the specific embodiment, 10 is a metallic wire, continuous in length and wound in flat sinuous folds. Preferably the wire when thus folded is secured to the circumferential wall, 11, of the casing. A coating of porcelain, 12, or other suitable insulating material is applied to the surface, the heating medium is then applied thereto and superposed thereon and another coating 13 of such material is applied over the wire to cement the wire in place, and to provide a smooth interior surface of this portion of the casing for the free movement of the air therein. The terminals, 14, and 15, of the heating medium may be connected to any suitable source of electric current supply, and the heating capacity of the heating medium may be regulated by the usual rheostat or other voltage controller.

When the air is taken at the eye of the fan, it is pressed into contact with the circumferential wall of the casing by the action of the fan wings, 8, and is maintained in contact therewith during its circuit within the casing, and thus the air readily absorbs the heat produced by the heating medium. The heating medium does not interfere with the operation of the fan which can be used without the heating medium exercising its intended function.

It will be apparent to those skilled in the art that the thermic device herein described is merely one of numerous possible embodiments of my invention, and that my invention is not therefore limited to such particular construction further than is defined in the following claim.

I claim—

For insertion in the scroll-shaped casing of a centrifugal fan, an air heating device comprising a continuous wire wound in flat sinuous folds back and forth from side to side to form a long thin heating member of width somewhat less than the width of the completed device, said member being bent to lie in a curve, one end extending outwardly in a line tangential to said curve to a point below the other end, the terminal wires of said curved heating member leading from said ends, and a relatively thin coating in the center of which said wire member is embedded, said coating being of greater width than said embedded wire member and conforming to the curved and tangential portions thereof, whereby said coated member may be inserted in a fan casing, said coating being of a material having the essential qualities of porcelain, to transmit heat from the wire to the air pressed into contact with its smooth interior surface by an inclosed fan, as described.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

FRANK P. MIES.

In the presence of—

Forze Barn,
W. Linn Allen.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."