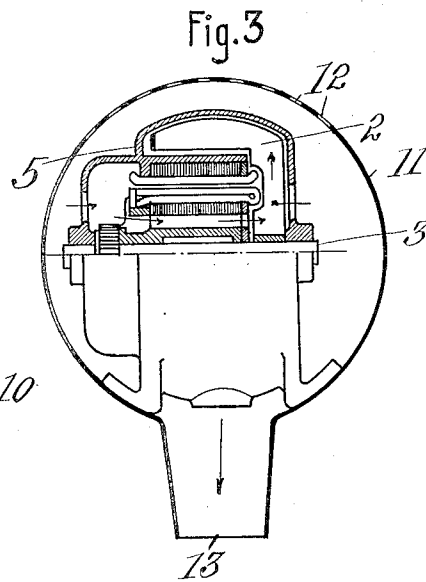
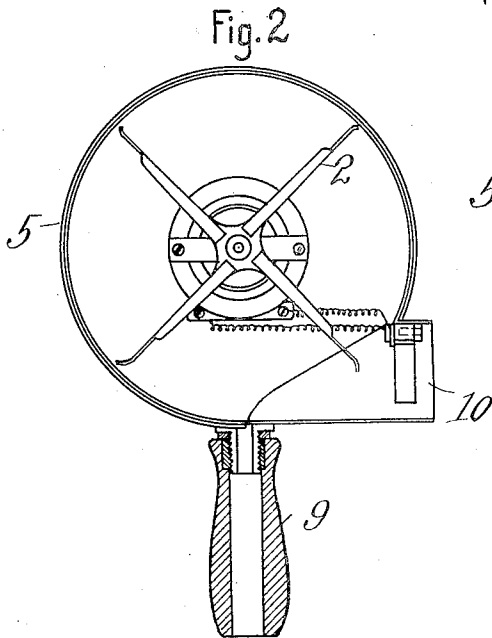
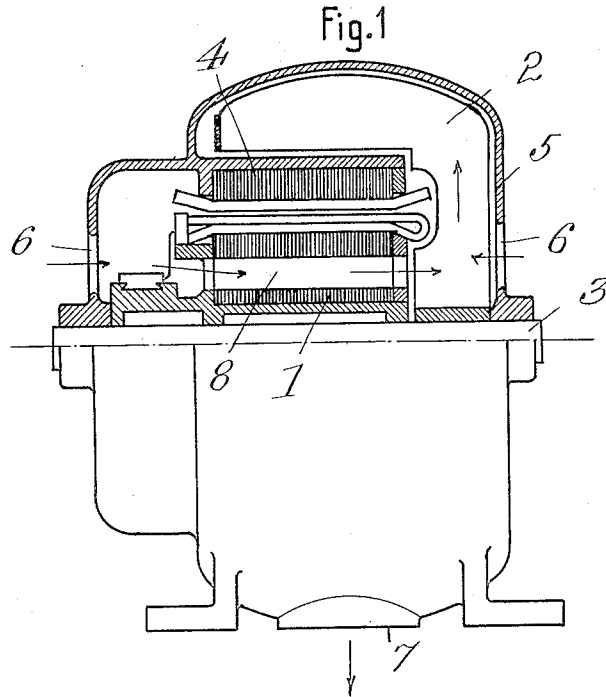


A. SCHAEFFER.
HAIR DRYING APPARATUS.
APPLICATION FILED JUNE 28, 1911.

1,057,282.

Patented Mar. 25, 1913.



Witnesses
J. Austin Stone
Marie McCready

Inventor
August Schaeffer
By Julian C. Howell
his Attorney

UNITED STATES PATENT OFFICE.

AUGUST SCHAEFFER, OF FRANKFORT-ON-THE-MAIN, GERMANY.

HAIR-DRYING APPARATUS.

1,057,282.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed June 26, 1911. Serial No. 635,421.

To all whom it may concern:

Be it known that I, AUGUST SCHAEFFER, a citizen of the German Empire, residing at Frankfort-on-the-Main, in the Province of Hesse-Nassau, and Empire of Germany, have invented certain new and useful Improvements in Hair-Drying Apparatus, of which the following is a specification.

This invention relates to small air propellers driven by electric motors and constituting hand apparatus for drying hair and similar purposes, the objects of the invention being to reduce the size of the device and to secure the maximum capacity for the space occupied by the same.

A further object is to obviate the vibration and gyroscopic action due to a heavy mass rotating at a distance from the center of gravity of the apparatus, whereby the handling of the device is greatly simplified and the arm is not tired by the constant effort to balance the apparatus which would otherwise be necessary.

The invention is illustrated in the accompanying drawings and will be hereinafter fully described, the novel features being pointed out in the claims appended to the description.

In the drawings, Figure 1 is a view, partly in section and partly in elevation, of a ventilating fan and motor embodying my invention, Fig. 2 is a view showing the invention arranged as an air-douche. Fig. 3 is a view of an air-douche having a round casing.

In carrying out my present invention, I secure the motor armature or rotor 1 and the fan or ventilator blades 2 upon the same axle or shaft 3, the stator blades 4 of the motor being supported by one wall of the casing 5 which incloses both the motor and the fan and is provided with openings 6 in its sides to admit air. The axle 3 is journaled in the sides of the casing and the casing is provided with a discharge 7, preferably in its bottom. It will be noted that the blades 2 are secured directly upon the axle immediately adjacent the motor and consist of a radial branch extending from the axle and an outer axial branch projecting from the end of the radial branch along and adjacent the periphery of the motor, both branches fitting closely to both the motor and the casing. It will also be noted that the armature is provided with passages 8 through which air is drawn by the fan.

By arranging the motor and the fan on the same shaft within a common casing, I produce a very simple and compact structure by which a thorough circulation of a large volume of air may be easily effected.

The fan blades are disposed longitudinally of the motor shaft, and follow the contour of the casing, fitting to the same, and to the annular partition therein which carries the stationary member of the motor, as closely as possible without being in actual contact therewith. I thus provide a large air-propelling surface within a small space and also cause the air to play around the motor and prevent heating of the same. Inasmuch as the fan draws air through the passages 8 in the armature, the armature remains cool and the motor is very durable.

My device is intended more particularly for use as a hair-drier which may be held in the hand to direct a blast of air upon the hair being treated, this particular application of the invention being illustrated in Fig. 2 in which 9 designates the handle and 10 the discharge. In my present device, the rotating parts are brought close to the center of gravity, the rotor or armature of the motor being fitted closely to the shaft, whereby the effect of vibration and gyroscopic action is largely overcome so that the arm is not quickly tired by a constant effort to balance the apparatus.

In Fig. 3, the casing 5 is secured within an outer casing 11 having inlet openings 12 at one side and provided with a discharge 13 alining with the discharge 7. This outer casing muffles the sound caused by the rotation of the fan and the motor and also protects the parts against heating by the surrounding air.

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

1. An air-douche comprising a casing having air inlet and discharge openings, an internal annular partition on one end wall of the casing, a shaft journaled in the casing concentric with said partition, an electromotor having its rotor secured on said shaft and its stator secured on said partition, and a plurality of fan blades secured directly upon the shaft and extending laterally along said partition, the area of said fan blades being substantially equal to the transverse area of the space defined by the casing, the partition and the motor.

2. An air-douche comprising a casing having oppositely disposed air inlets in its end and an intermediate discharge, an internal annular partition on one end wall of the casing, a shaft extending between the end walls of the casing concentric with said partition, an electromotor having its rotor secured on said shaft and its stator secured on said partition, and a plurality of fan blades secured directly upon the shaft and disposed longitudinally thereof, said blades having an area substantially equal to the transverse area of the space defined by the casing, the partition and the motor, and the edges of the blades fitting closely to the motor, the partition and the casing without actually touching the same. 15

In testimony whereof I affix my signature, in presence of two witnesses.

AUGUST SCHAEFFER.

Witnesses:

FRIEDRICH CARL WENTZEL,
MAX. DEUTSCHER.