

No. 725,558.

PATENTED APR. 14, 1903.

H. K. GRÜLL.  
ELECTRICALLY DRIVEN CENTRIFUGAL BLAST FAN.  
APPLICATION FILED JAN. 28, 1902.

NO MODEL.

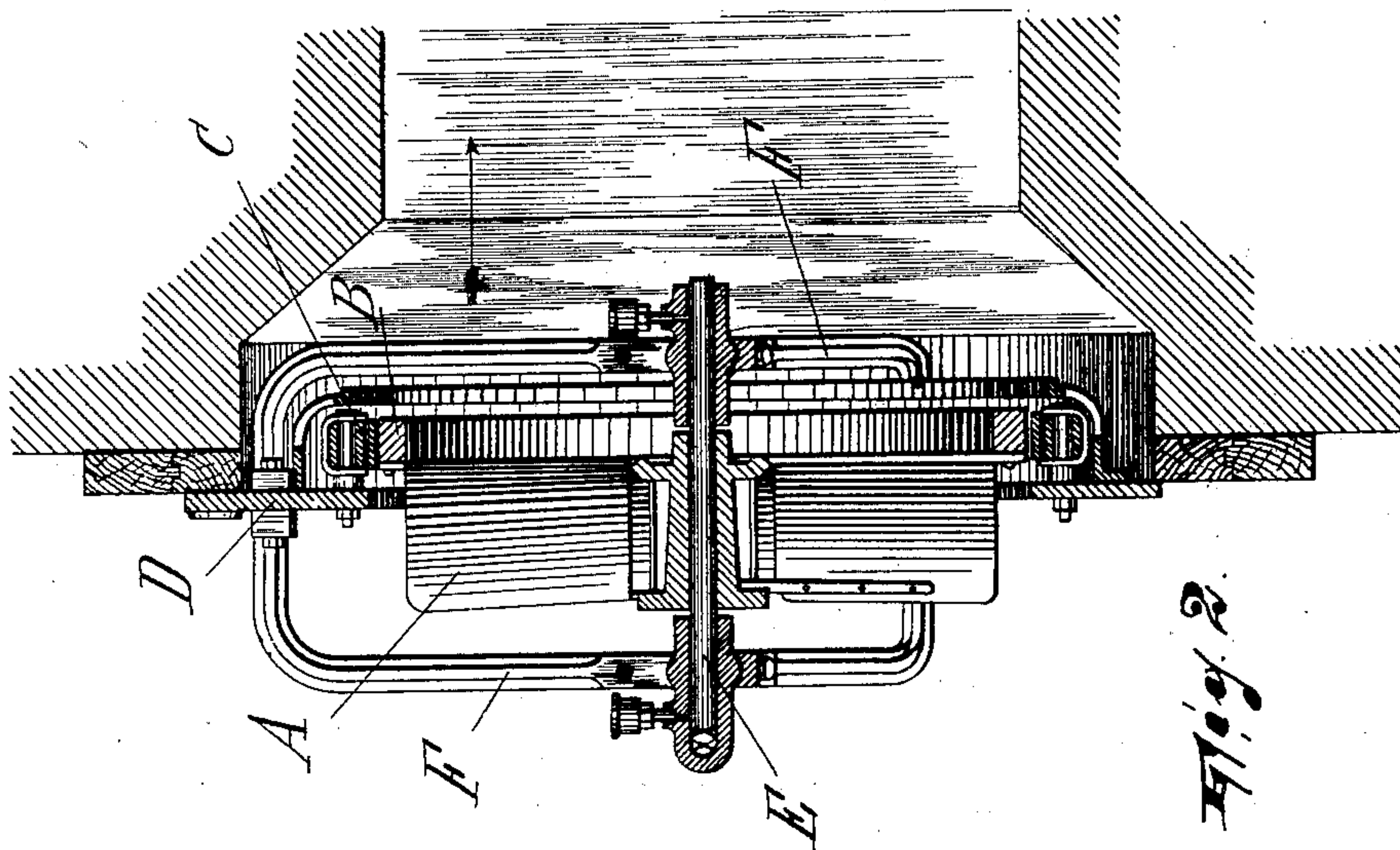


Fig. 2.

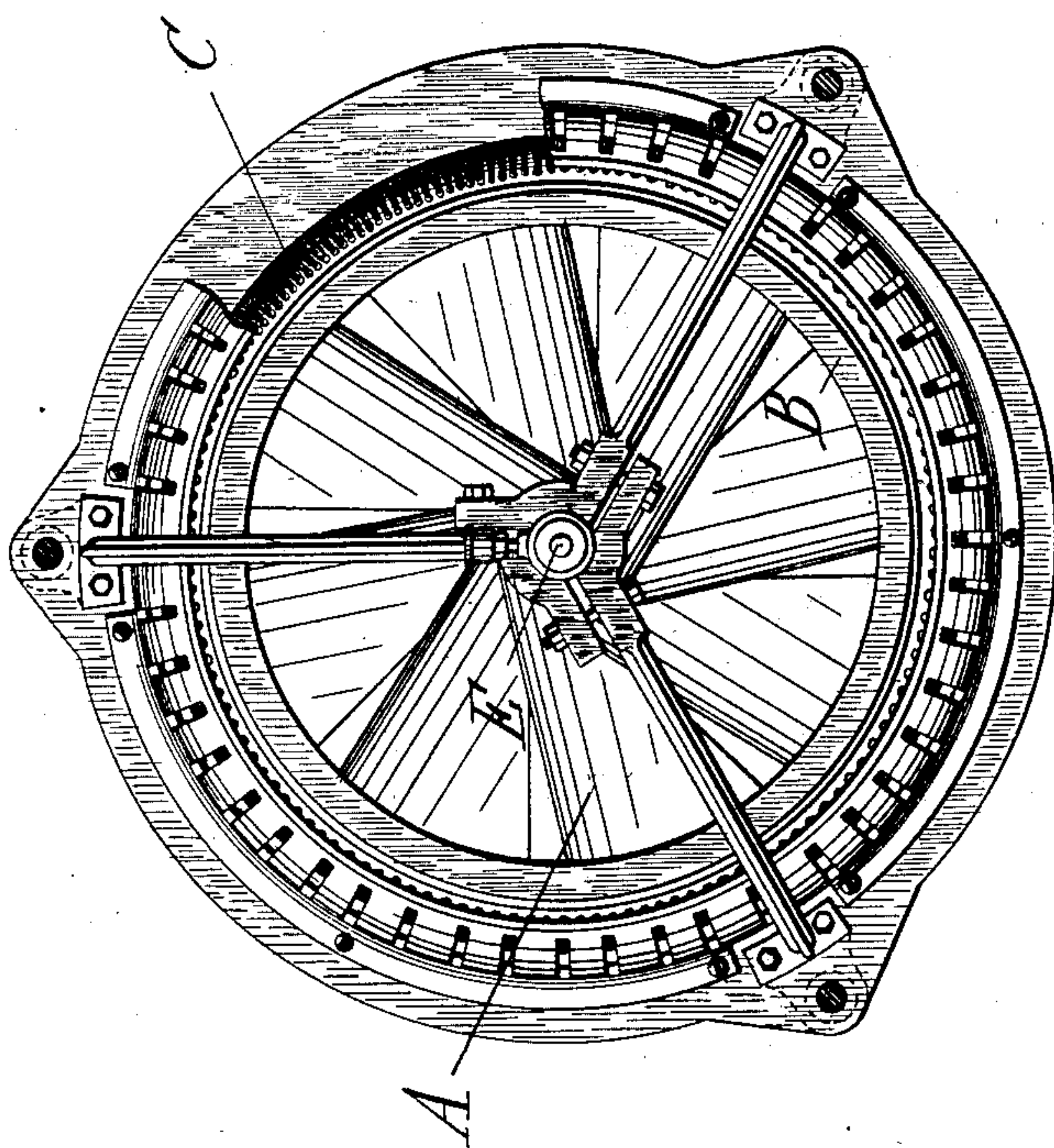


Fig. 1.

WITNESSES.

Wm. S. Bell.  
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# UNITED STATES PATENT OFFICE.

HERMANN K. GRÜLL, OF VIENNA, AUSTRIA-HUNGARY.

## ELECTRICALLY-DRIVEN CENTRIFUGAL BLAST-FAN.

SPECIFICATION forming part of Letters Patent No. 725,558, dated April 14, 1903.

Application filed January 28, 1902. Serial No. 91,562. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN K. GRÜLL, manufacturer, a subject of the Emperor of Austria-Hungary, residing in Rasumoffsky-gasse 29, Vienna, Austria-Hungary, have invented Improvements Relating to Electrically-Driven Centrifugal Blast-Fans; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Electrically-driven centrifugal blast-fans in which the armature of the electromotor is mounted direct on the fan-shaft have the disadvantage that the electromotor covers around the shaft a circular surface, thus permitting the fan-blades to act within an outer annular space, and this whether the electromotor is placed on the suction or on the delivery side of the fan.

According to this invention a direct-driven fan may be adapted to utilize the entire surface of the wings for producing the draft, so that the inner diameter of the ring-shaped armature and the outer diameter of the wings are of equal or nearly-equal size.

The accompanying drawings show a constructional form of the improved fan.

Figure 1 is a view in front elevation, and Fig. 2 a view in vertical axial section.

According to this invention the ring-shaped armature B of the electromotor B C is directly connected with the periphery of the

blades A of the fan, so that thereby the inner diameter of the armature and the outer diameter of the blades are the same, thus allowing the entire surface of the blades to be brought into action, with the exception of the usual arms forming the frame. The field-magnets C of the electromotor surround the armature in the usual manner and are fixed to the frame part D, which is in the form of an annular plate surrounding the fan and carrying the shaft E, by means of appropriate arms F. Said part D also serves as a support for the fan, as shown in Fig. 2. While retaining the same conditions for the fan-blades and the armature, such blades may be separately keyed one after another upon the shaft E, or the ring-shaped armature of the electromotor may be furnished with appropriate blades.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

The combination of a shaft, a fan carried by said shaft, radial arms carrying said shaft, an electromotor, and an annular mounting-plate, said arms and the field-magnet of said electromotor being carried by said plate, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of December, 1901.

HERMANN K. GRÜLL.

Witnesses:

FRANZ REITER,

ALVESTO S. HOGUE.