(No Model.)

# J. J. PHILLIPS & C. E. THOMAS.

## FAN.

No. 578,360. Patented Mar. 9, 1897.

Fig. 1.

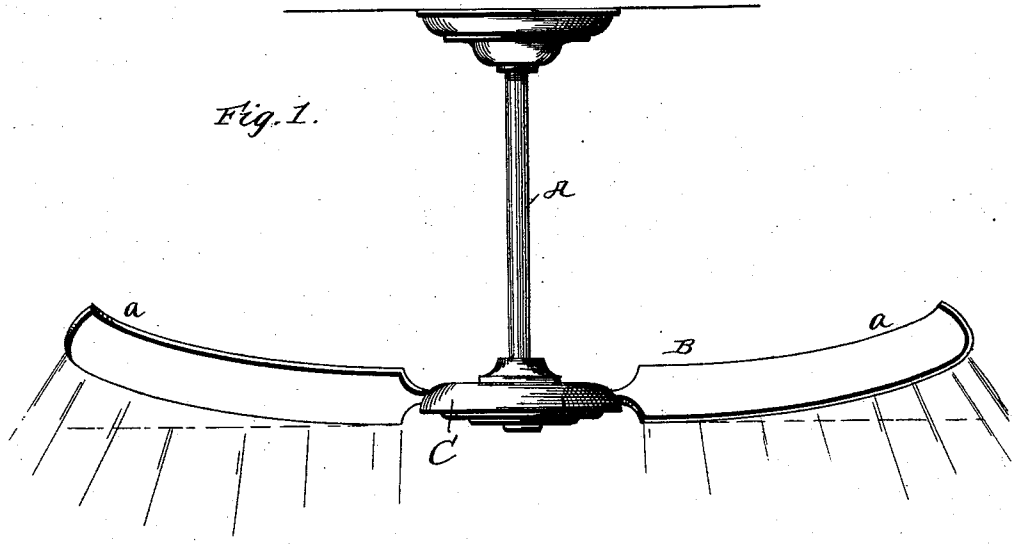
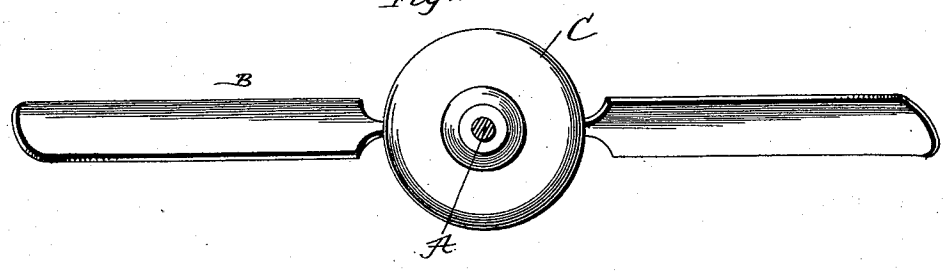



Fig. 2.

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# UNITED STATES PATENT OFFICE.

JAMES J. PHILLIPS AND CHARLES E. THOMAS, OF NEW ORLEANS, LOUISIANA.

## FAN.

SPECIFICATION forming part of Letters Patent No. 578,360, dated March 9, 1897.

Application filed October 24, 1895. Serial No. 566,736. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES J. PHILLIPS and CHARLES E. THOMAS, citizens of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Fans; and we do 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.

This invention relates to improvements in that class of fans known as "revoluble fans;" and it has for its prime object to improve such devices by rendering them more effective in distributing the air brought into circulation by the action of the blades, the construction of the blades being such that the air will be cast off or disseminated over a great area and with equal force from all points throughout the length of the blades at a given distance.

Other objects and advantages will appear from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is a side view of our improved fan, and Fig. 2 is a plan view of the same with the motor or drive-shaft in section.

Referring by letter to said drawings, A indicates a shaft, which may be of the character usually employed in rotary fans, such as suspended from the ceiling of a room, and may be driven by an electric motor or other suitable power. The driving-power and shaft A form no part of our invention; but said shaft is here shown for the purpose of illustrating the application of our improvements in connection therewith.

B indicates our improved blades, there being two shown in the present illustration, although it is obvious that more may be used. We find, however, that very good results may be obtained from the employment of two blades without requiring much power to operate them. These blades are of a peculiar construction, being of a flat form in cross-section, with their longitudinal edges parallel, and curved at or near their outer ends in a plane transverse to their flat sides, as shown at *a*. They are of a partly-elliptical form in longitudinal section, and while the longitudinal curvature may vary, yet the ends of the blades need not be turned or bent higher than shown, as the ends when turned up or backwardly any farther would only serve to throw the air horizontally, which would be of no benefit, but on the contrary would offer a certain amount of resistance and thereby require greater power to operate. The blades are placed in the hub in a pitched or oblique manner, as shown, so that the air-current will be cast over a great area. These blades have their inner ends suitably fixed to a hub C, which is in turn suitably secured to a shaft A, so as to receive rotary motion therefrom. The blades are disposed obliquely in the hub and by reason of the peculiar formation and the fact that the edges are kept parallel thoughout the length air-currents will be thrown off with as much force and effect directly beneath the shaft or the inner ends of the blade as at the outer ends thereof, at a given distance, and by having them curved upwardly or back, as described, the air will be disseminated not only in a downward direction, but laterally or outwardly as well. The blades may be formed of wood or other suitable material and can be produced at a very small expense.

The extent of the curvature may be changed as desired, and the ends of the blades can be ornamented with brass tips.

Having described our invention, what we claim is—

The combination with a suitable hub, of blades of approximately flat form in cross-section having their longitudinal edges parallel, and curved or bent gradually from their inner to their outer ends and in a plane transverse to the flat sides, said blades being secured in the hub in a pitched or oblique manner substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES J. PHILLIPS.
CHARLES E. THOMAS.

Witnesses:
CHAS. HERE,
MINER ENANDINE.