

(No Model.)

W. SAYER.
AIR PROPELLER OR VENTILATING FAN.

No. 494,307.

Patented Mar. 28, 1893.

FIG. 1.

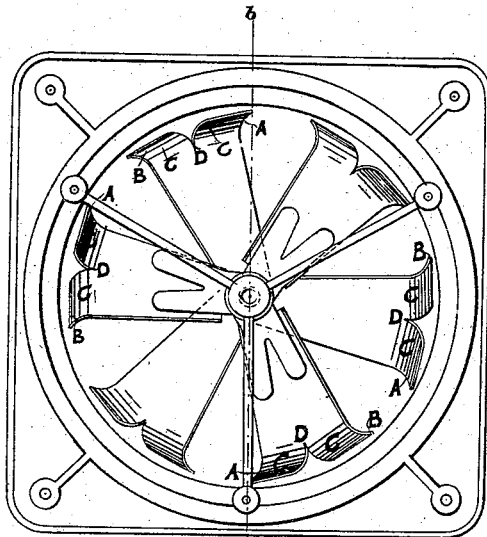
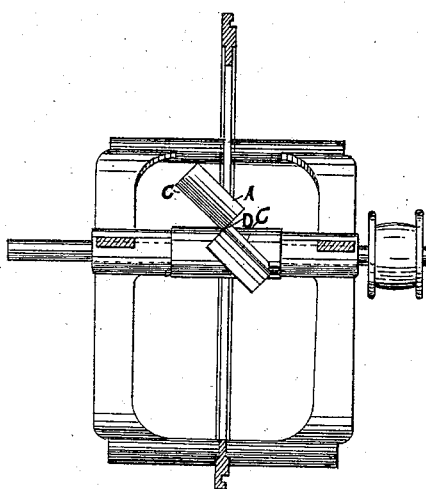


FIG. 2.



Witnesses,
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By his Attorneys,
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UNITED STATES PATENT OFFICE.

WILLIAM SAYER, OF DERBY, ENGLAND.

AIR-PROPELLER OR VENTILATING-FAN.

SPECIFICATION forming part of Letters Patent No. 494,307, dated March 28, 1893.

Application filed September 14, 1892. Serial No. 445,915. (No model.) Patented in England February 7, 1890, No. 2,014.

To all whom it may concern:

Be it known that I, WILLIAM SAYER, a subject of the Queen of Great Britain, and a resident of Derby, in the county of Derby, England, have invented certain new and useful Improvements in Air-Propellers or Ventilating-Fans, (for which I have obtained a patent in Great Britain, No. 2,014, dated February 7, 1890,) of which the following is a full, clear, and exact specification thereof.

By my present invention I desire to provide an improved method of forming the peripheral tips or ends of the blades or wings described in the specification and drawings referred to in Letters Patent granted to me numbered 16,201 and dated October 15, 1889, which said blades or wings have a T shaped peripheral extremity which might be partially cut away on either side. According to that specification I so construct the blades or wings of my propeller or ventilator, that the peripheral extremities of the same are of T-section and by this means the centrifugal force of the air is to a great extent counteracted and I am enabled to reverse the direction of revolution and thus use the same apparatus for either forcing, exhausting or agitating a current of air, vapor or gas in either direction at will. The blades are mounted in or in front of a suitable cylinder or frame, and actuated by any well known mechanical means.

Now by my present invention instead of forming the peripheral extremities of such blades or wings of a T shape or at right angles to the blades I cut or divide the plates forming such blades near to the peripheral ends thereof and bend or form one half in one direction and the other half in the opposite direction and in a curved line instead of at a direct right angle thereto or with part of the extremity at right angles to the blade or plate but joined thereto by a curved portion.

Referring to the accompanying drawings and to the letters of reference thereon, Figure 1 is a front elevation showing the blades or wings in position and Fig. 2 is a cross section through the frame on line *a-b* one blade only of the propeller being shown.

In the figures A indicates one half of the peripheral extremity divided at D and bent in one direction and B shows the other half bent in the opposite direction.

C is the curved portion in each half or section.

It will be understood that more than one division and more than two bent parts or sections may be employed without departing from the spirit of my invention.

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—

1. In air propellers, ventilating fans and like devices, the combination of a shaft, means for driving the same, and blades or wings fixed to the shaft and having their peripheral extremities divided radially into two parts, such parts being bent into curves having their concavities in opposite directions.

2. In air propellers, ventilating fans and like devices, the combination of a shaft, means for driving the same, and blades or wings fixed to the shaft and having their peripheral extremities divided radially into parts, such parts being bent into curves having their concavities alternately in opposite directions.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of July, 1892.

WM. SAYER.

Witnesses:

WM. ALLAN REID,
THOS. HEATH.