May 11, 1926. 1,583,864

A. W. TUCKER

FAN

Filed March 12, 1925

Fig. 1.

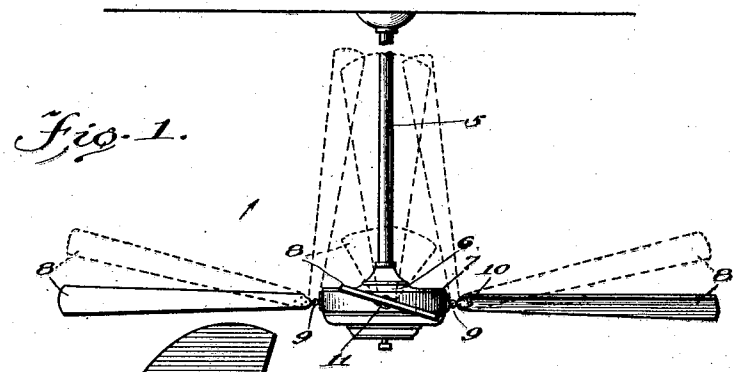


Fig. 2.

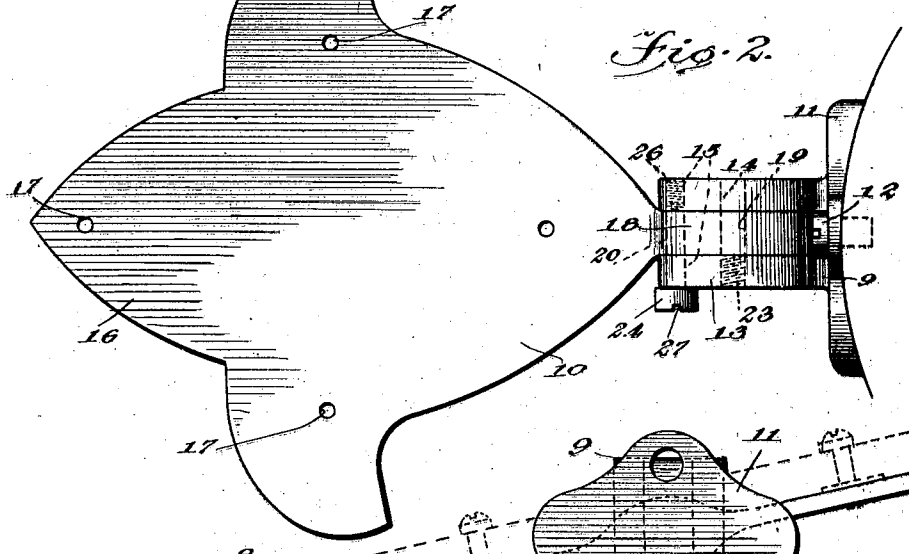
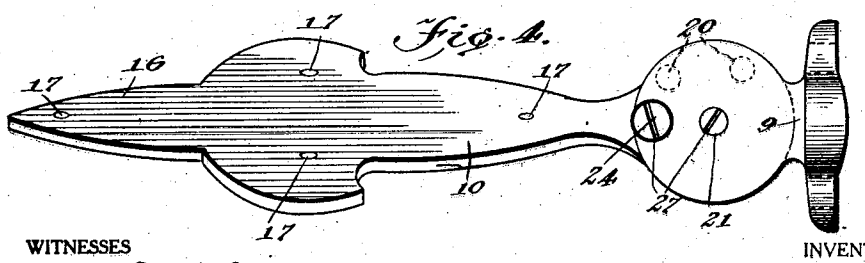


Fig. 3.

Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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FAN.

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My invention relates generally to improvements in fans, and more particularly to an improved fan having adjustable fan blades.

The object of the invention is to provide an improved fan of this character in which the fan blade may be adjusted vertically and secured in adjustable position.

Another object is to provide an improved fan of this character of simple and durable construction, reliable in operation and easy and inexpensive to manufacture.

Other objects and advantages of the invention reside in certain novel features of construction, combination and arrangement of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming part thereof, and in which:—

Figure 1 is an elevational view of a fan embodying my invention, the fan blades being shown in dotted lines in adjusted position;

Figure 2 is a plan view of the adjustable connection;

Figure 3 is an end view thereof; and

Figure 4 is a side view.

Referring to the drawings, the fan casing 5 is hung from the ceiling in any suitable manner, the motor 6 being carried by the lower end thereof. The motor includes a rotor 7 taking the form of a short cylinder which revolves the fan blades 8.

The means for connecting the fan blades to the rotor comprises an adjustable connection embodying my invention. This means includes a motor bracket, indicated generally at 9, and which is carried by the rotor of the motor and a fan bracket, indicated generally at 10, which cooperates with the motor bracket and which itself is carried by the inner or adjacent end of the fan blade.

The motor bracket 9 includes base 11 having its inner face concaved and of arcuate form to conform to and snugly fit against the periphery of the rotor of the motor the base being directly secured to the rotor by fastening means 12. A pair of circular spaced ears 13 extend outwardly from the base and are preferably formed integral therewith. These spaced ears are each provided with a pivot bearing 14 formed centrally of the ear, the pivot bearing of one ear being alined with the pivot bearing of the other. Adjacent their outer periphery the ears are provided with alined apertures 15 one of which is threaded as shown in Figure 2. The blade bracket comprises a plate 16 provided with apertures 17 to facilitate the attachment of the plate to the inner end of the fan blade. A circular ear 18 is integrally formed with the inner end of the plate 16. The circular ear is provided with a central pivot bearing 19 and with a circular series of apertures 20.

The ear 18 of the blade bracket is adapted to be exerted between the spaced ears 13 of the motor bracket and its pivot bearing 19 is adapted to be alined with the pivot bearings 14 of the spaced ears. When these pivot bearings are alined a pivot pin or pintle 21 is inserted to extend through all of the pivot bearings as shown in the drawings. This pintle has its outer extremity threaded to engage corresponding threads of the adjacent ear 13, as indicated at 22 in Figure 2. When the blade bracket and the motor bracket are thus assembled the openings of the circular series 20 of the ear 18 of the blade bracket may be brought into register with the openings 15 of the spaced ears of the motor bracket. When one of the openings of the circular series is thus brought into register the lock pin 24 is inserted and secured in position by means of the engagement of the threads formed at the outer extremity of the shank with the threads formed in the aperture of the adjacent ear 13, as indicated at 26 in Figure 2. Both the head of the lock pin and the head of the pivot pin or pintle are provided with a slot 27 for the reception of a suitable tool.

In practice, it will be seen that when the motor bracket and the fan bracket are assembled with the pivot pin or pintle in position and the fan blade is secured in position on the plate of the fan bracket; the fan blade may be adjusted to any one of a plurality of positions simply by rotating it until the desired one of the circular series of apertures 20 is registered with the apertures 15 and inserting the lock pin 24 and threading the same on. This construction and arrangement provides for the ready and easy adjustment of the fan blades and does not require for its installation any modification of the fan blade or of the motor.

I claim:—

1. In a fan of the character described, in combination, a motor having a rotor, a fan blade, and means independent of the motor

and of the fan blade for adjustably connecting the fan blade to the motor comprising a motor bracket including a base directly secured to the rotor of the motor, spaced ears formed on said base and provided with centrally disposed and alined pivot bearings and with alined openings adjacent their periphery, a fan bracket consisting of a plate directly secured to the adjacent end of the fan blade and an ear formed on said plate, having a pivot bearing adapted to be alined with the pivot bearings of said spaced ears and having a circular series of openings adjacent its periphery adapted to be selectively brought into register with the peripheral openings of said spaced ears, a pivot pin operatively arranged in the alined pivot bearings of said ears, and a lock pin operatively arranged in the registering openings of said ears.

2. In a device of the character described for use with fans having a fan blade and a motor including a cylindrical rotor, independent means for adjustably conecting the fan blade to the motor comprising a motor bracket including a base having a concaved arcuate face adapted to be snugly fitted against the periphery of the rotor and to be directly secured thereto, and a fan bracket adjustably connected to the motor bracket and including a flat plate upon which the adjacent end of the fan blade is adapted to be seated and to be directly secured.

3. In a device of the character described for use with fans having a fan blade and a motor including a rotor, independent means for adjustably connecting the fan blade to the motor comprising a motor bracket including a base adapted to be snugly fitted against and directly secured to the rotor of the motor, spaced ears formed on the base and provided with centrally disposed and alined pivot bearings and with alined openings adjacent their periphery, a fan bracket including a plate upon which the adjacent end of the fan is adapted to be seated and to be directly secured, and an ear formed on said plate and having a pivot bearing adapted to be alined with the pivot bearings of said spaced ears and having a circular series of openings adjacent its periphery adapted to be selectively brought into register with the peripheral openings of said spaced ears, a pivot pin operatively arranged in the alined pivot bearings of said ears, and a lock pin operatively arranged in the registering openings of said ears.

ARTHUR WALLACE TUCKER.