A. W. TUCKER.

FAN BLADE.

APPLICATION FILED DEC. 24, 1919.

1,361,785. **Patented Dec. 7, 1920.**

2 SHEETS—SHEET 1.

Fig. 1.

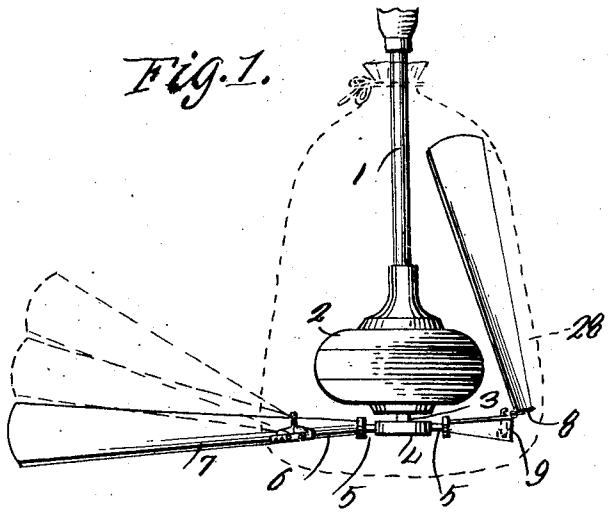


Fig. 3.

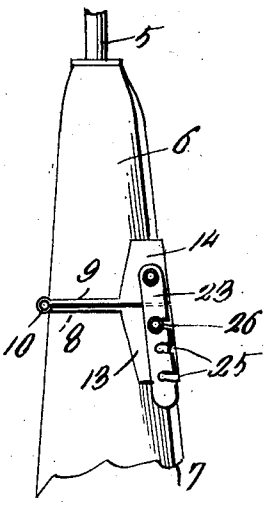
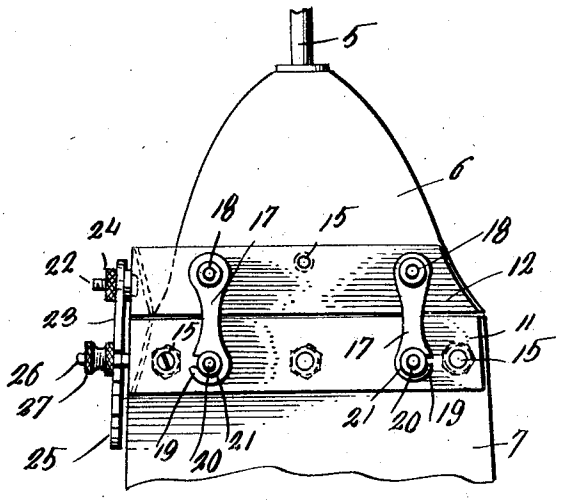


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 4.

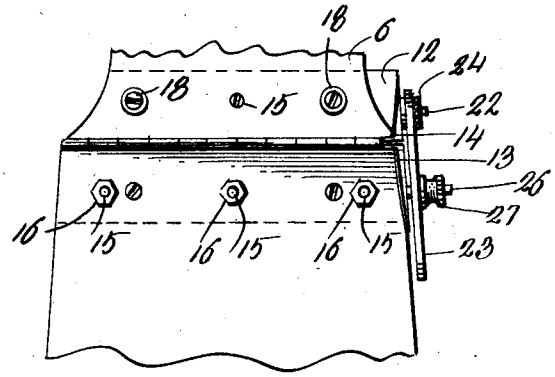


Fig. 5.

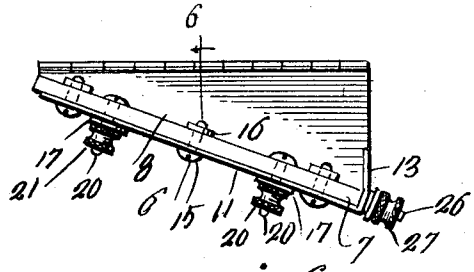
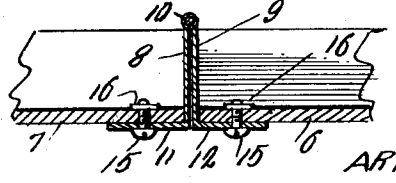


Fig. 6.



WITNESSES

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ARTHUR W. TUCKER, OF TULSA, OKLAHOMA.

FAN-BLADE.

1,361,785. Specification of Letters Patent. Patented Dec. 7, 1920.

Application filed December 24, 1919. Serial No. 347,077.

To all whom it may concern:

Be it known that I, ARTHUR W. TUCKER, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Fan-Blades, of which the following is a specification.

My invention relates to new and useful improvements in a fan and more particularly to a ceiling fan blade.

The principal object of the invention consists in providing a ceiling fan blade which may be swung from a horizontal to a vertical position.

Another object of the invention resides in the provision of means for vertically adjusting the angle of the blade and holding it in its adjusted position.

A further object consists in the provision of a novel form of hinge adapted for connecting the meeting ends of the sections of the blade and means carried by said hinge for securing the blade in its adjusted positions.

With these and other objects in view my invention consists in the novel details of construction and arrangement of parts which will be more clearly understood from the following specification and drawings in which:—

Figure 1 is an elevation of a ceiling fan showing one blade in horizontal position and another blade in vertical position.

Fig. 2 is a bottom plan of a section of the blade.

Fig. 3 is a side view of a section of the blade.

Fig. 4 is a top plan of a section of the blade.

Fig. 5 is an end view of the blade and,

Fig. 6 is a section on the line 6—6 of Fig. 5 looking in the direction of the arrows.

In the drawings the numeral 1 indicates the shaft casing which is hung from the ceiling in any desired manner and 2 indicates the motor casing. The rotatable fan shaft is indicated at 3 in Fig. 1 of the drawings. A disk 4 is secured to the lower end of the shaft 3 and is provided with the oppositely extending rods or stub shafts 5 to which the fan blade is attached. Each of the fan blades is composed of the sections 6 and 7 the section 6 being of sufficient length so that when the section 7 is swung upwardly it will be spaced from the motor casing 2 as more particularly illustrated in Fig. 1 of the drawings. The sections 6 and 7 are adapted to be adjustably connected together by means of a hinge. The hinge comprises the two plates 8 and 9 which are connected at their upper ends by means of a longitudinally extending pin 10. The lower ends of the plates are bent at right angles to form the flanges 11 and 12 respectively and as is more clearly illustrated in Fig. 5 of the drawings these flanges extend at an incline and the upper ends thereof lie adjacent the upper edge of the plates. Each of the flanges 11 and 12 is formed at its lower edge with an upstanding plate or flange 13 and 14 respectively. The sections 6 and 7 of the blades are secured to the flanges 11 and 12 by means of bolts 15 and nuts 16.

Latch plates 17 are pivotally connected on the underside of the flange 12 by means of nuts and bolts indicated generally at 18 and each of these latch plates is provided with a transversely extending slot 19 adjacent the opposite end. These slots 19 are adapted to receive bolts 20 carried on the under side of the flange 11 and thumb nuts 21 are received on the bolts 20 and are adapted to engage the underface of the latch plate 17 when the bolts 20 are received in the transversely extending slots 19 as more particularly illustrated in Fig. 2 of the drawings.

A threaded bolt 22 is secured to the plate 14 formed on the end of the flange 12 and a plate 23 is swung on said bolt 22 and held in position by means of a thumb nut 24. This plate 23 is provided with a plurality of longitudinally spaced notches 25 along its lower edge and these notches are adapted to engage over a bolt 26 secured to the end plate 13 of the flange 11. A thumb nut 27 is received on the bolt 26 and is adapted to engage the outer face of the plate 23 for holding the notches 25 over said bolt 26. By loosening this nut 27 the different longitudinally spaced notches may be engaged over the bolt 26 so as to adjust the section 7 of the fan blade in the manner as indicated by dotted lines in Fig. 1 of the drawings.

At 28 in Fig. 1 I have illustrated, in dotted lines, a bag or other suitable covering adapted to inclose the fan blades when swung in vertical position.

From the above detailed description it is thought that the advantages and manner of using my fan or fan blade will be clearly understood. In the winter it is the usual

custom to remove the blades of ceiling fans and inclosing the fan fixtures in a bag or other suitable covering. When this is done the blades often become misplaced and broken. It is one of the objects of my invention to provide a ceiling fan blade which may be swung from a horizontal to a vertical position to be inclosed in a bag or other suitable covering as indicated more particularly in Fig. 1 of the drawings. When in use the fan blades will assume a horizontal or a substantially horizontal position. When in horizontal position the latch plates 17 are swung so that the transversely extending slots 19 will engage around the bolts 20 and are held in this position by means of the thumb nuts 21. The plate 23 is also swung in position so that the inner notch 25 will engage over the pin or bolt 26 and is held in position by means of the thumb nut 27. If it is desired to swing the section 7 of the blade from a horizontal to a vertical position the latch plates 17 and plate 23 are disengaged so that the section 7 may be swung up on the hinge. When in vertical position the bag or other covering 28 may be placed in position as clearly illustrated in dotted lines in Fig. 1 of the drawings. The section 7 of the blade is also adapted to be adjusted into several different positions as indicated in dotted lines in Fig. 1 of the drawings. In order to so adjust the sections the plate 23 is swung so that any one of the notches 25 may be engaged over the bolt 26. The thumb nut 27 will be adjusted to hold the plate to support the section in its adjusted position.

My improved hinge is so constructed that it may be used with the ordinary fan blade now in use and all that is necessary is to cut the blade into sections and apply the hinge. In cutting the blades the section 6 will be left sufficiently long to enable the section 7 to be swung vertically and be spaced from the motor casing 2. The flanges 11 and 12 of the plates 8 and 9 of the hinge being inclined will allow the sections of the blades to extend at an angle as is ordinarily the case.

The foregoing description and the accompanying drawings have reference to what might be considered to be the approved, or preferred, form of my invention. I desire it to be understood that I may make such changes in construction, combination and arrangement of parts, materials, dimensions, et cetera, as may prove expedient and fall within the scope of the appended claims.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A ceiling fan having sectional blades, means for adjustably connecting the sections, pivoted latches carried by one section and adapted to engage the other section for holding the sections in horizontal position, and plates pivotally connected to one section and adjustably connected to the other section.

2. A ceiling fan having sectional blades, hinges for connecting the sections, means carried by the hinge for holding the sections in horizontal position, and means carried by the hinge for vertically adjusting one of the sections of each blade.

3. A ceiling fan having sectional blades, hinges for connecting the sections together, said hinges provided with flanges, means passing through the sections of the blades and flanges for securing the sections to the hinge, and means carried by the hinge for holding the sections in horizontal position.

4. A ceiling fan having sectional blades, hinges for connecting the sections, said hinges provided with flanges, means passing through the sections of the blades and flanges for securing the sections to the hinge, and means for holding the sections in horizontal position including a bolt carried by one of said hinges, and a latch plate carried by the other of said hinges and having a transverse slot adapted to receive said bolt.

5. A ceiling fan having sectional blades, hinges for connecting the sections, said hinges provided with flanges, means passing through the sections of the blades and flanges for securing the sections to the hinge, and means for holding the sections in horizontal position including a bolt carried by one of said hinges, a latch plate carried by the other of said hinges and having a transverse slot adapted to receive said bolt, and a thumb-nut threaded on said bolt and engageable with the latch plate to retain the same in bolt engaging position.

6. A ceiling fan having sectional blades, means for adjustably connecting the sections and means for vertically adjusting one of the sections of each blade including a bolt carried by one of said sections, a plate pivoted to the other of said sections and having a plurality of notches adapted to be selectively engaged with the bolt.

7. A ceiling fan having sectional blades, means for adjustably connecting the sections and means for vertically adjusting one of the sections of each blade including a bolt carried by one of said sections, a plate pivoted to the other of said sections and having a plurality of notches adapted to be selectively engaged with the bolt, and a thumb nut threaded on said bolt and engageable with the latch plate to retain the same in bolt engaging position.

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

ARTHUR W. TUCKER.

Witnesses:
JOHN C. BONSHELL,
JOHN A. BASFORD.