



A SUSPENDING SUPPORT STRUCTURE FOR FIXING A CEILING FAN

BACKGROUND OF THE INVENTION

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The present invention relates to a suspending support structure for fixing a ceiling fan, including a bowl-like support seat and three equally spaced reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally. An arch connecting beam is disposed between each two locking legs to form a close circular firm reinforcement. The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion. Moreover, the arch connecting beams serve to evenly distribute the stress and are not subject to breakage so as to achieve an even stronger and more durable support structure for the ceiling fan.

Fig. 1 shows a conventional suspending support structure 10 for fixing a ceiling fan, including a bowl-like support seat 11 and two opposite reverse L-shaped locking legs 12 disposed on two sides of the support seat 11 and extending upward and laterally. Each locking leg 12 has an upper horizontal section 13 formed with a slot 14 for a screw to pass therethrough. Referring to Fig. 2, the support structure 10 is secured to a ceiling by screws 17 passing through the slots 14. The support seat 11 is formed

with a notch 15 and a vertical rib 16 on inner arch face of the support seat 11, whereby a stem 21 of the ceiling fan 20 can be transversely placed into the support seat 11 through the notch 15 and connected with a semi-spherical head section 22 located on the inner arch face of the support seat 11. The head section 22 is formed with a lower longitudinal channel for engaging with the rib 16 of the support seat 11. A U-shaped connecting beam 18 is disposed between the locking legs 12 for reinforcing the support seat 11. A decorative cover 30 is disposed around the support structure 10 for decoration.

According to the above arrangements, the U-shaped connecting beam 18 cannot provide reliable reinforcing effect for the locking legs 12 and the stress may be focused on the bending portions of the connecting beam 18 and make the connecting beam 18 broken at the bending portions. In addition, the two opposite locking legs cannot provide sufficient fixing force for the support seat 11 and the other sections of the support seat lacking the locking legs will be free from fixing force. Therefore, when the ceiling fan operates and rotates, the ceiling fan may swing back and forth lateral to the locking legs. After a long period of use, this may lead to loosening or even dropping of the ceiling fan due to the heavy weight thereof. Such condition is extremely dangerous and undesirable.

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SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a suspending support structure for fixing a ceiling fan, including a bowl-like support seat and three equally spaced reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally. The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion.

It is a further object of the present invention to provide the above support structure in which an arch connecting beam is disposed between each two locking legs to form a close circular reinforcement. The arch connecting beams serve to evenly distribute the stress and are not subject to breakage so as to achieve an even stronger and more durable support structure for the ceiling fan.

It is still a further object of the present invention to provide the above support structure in which two circular holes are formed on two sides of the notch and two ends of a U-shaped reinforcing rod are inserted into the two holes to reinforce the notch portion of the support seat.

The present invention can be best understood through the following description and accompanying drawings,



wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of the suspending support structure for a conventional ceiling fan;

Fig. 2 is a perspective exploded view of the suspending support structure as well as the conventional ceiling fan;

Fig. 3 is a perspective view of the present invention;

Fig. 4 is a perspective exploded view of the present invention as well as the ceiling fan;

Fig. 5 is a perspective view of another embodiment of the present invention; and

Fig. 6 is a perspective exploded view of the embodiment of Fig. 5 as well as the ceiling fan.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please refer to Fig. 3. The suspending support structure 40 of the present invention includes a bowl-like support seat 41 and three equally spaced reverse L-shaped locking legs 42 disposed on outer face of the support seat 41 and extending upward and laterally. Each locking leg 42 has an upper horizontal section 43 formed with a slot 44 for a screw 50 to pass therethrough and fasten the support structure under a ceiling. The support seat 41 has a notch 45 and a longitudinal rib 46 disposed on inner arch face of



the support seat 41.

Referring to Fig. 4, the support structure 40 is secured to a ceiling by screws 50 passing through the slots 44. A stem 21 of the ceiling fan 20 is transversely placed into the support seat 41 through the notch 45 and connected with a semi-spherical head section 22 located on the inner arch face of the support seat 41. The head section 22 is formed with a lower longitudinal channel for engaging with the rib 46 of the support seat 41. An arch connecting beam 47 is disposed between two locking legs 42. A decorative cover 30 is disposed around the support structure 40 for decoration.

Fig. 5 shows another embodiment of the present invention, which includes a bowl-like support seat 41 and three equally spaced reverse L-shaped locking legs 42 disposed on outer face of the support seat 41 and extending upward and laterally. An arch connecting beam 47 is disposed between each two locking legs 42 to form a close circular firm reinforcement. In addition, two circular holes 48 are formed on two sides of the notch 45 and two ends of a U-shaped reinforcing rod 49 are inserted into the two holes 48 to reinforce the portion of the notch 45. As shown in Fig. 6, when applied to a ceiling fan, the support structure 40 of Fig. 5 provides a firm, reliable and durable fixing force for the ceiling fan.

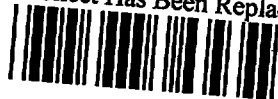
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The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion. Moreover, the arch connecting beams together form a close reinforcement which serves to evenly distribute the stress and are not subject to breakage. The U-shaped reinforcing rod additionally reinforces the notch portion of the support seat 41 to achieve an even stronger and more durable structure.

The above description and accompanying drawings are only used to illustrate some embodiments of the present invention and the scope of the present invention should not be limited to these embodiments. Any modification or variation derived from the embodiments should fall within the scope of the present invention.

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WHAT IS CLAIMED IS:

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1. A suspending support structure for fixing a ceiling fan, comprising a bowl - like support seat and several reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally, each locking leg having an upper horizontal section formed with a slot for a screw to pass therethrough and fasten the support structure under a ceiling, the support seat having a notch and a longitudinal rib disposed on inner arch face of the support seat, a stem of the ceiling fan being transversely placed into the support seat through the notch and connected with a semi-spherical head section located on the inner arch face of the support seat, the head section being formed with a lower longitudinal channel for engaging with the rib of the support seat, a decorative cover being disposed around the support structure for decoration, said support structure being characterized in that three locking legs are equally spaced and an arch connecting beam is disposed between at least two of the locking legs.

2. A suspending support structure as claimed in claim 1, wherein an arch connecting beam is disposed between each two locking legs to form a close circular firm reinforcement, two circular holes being formed on two sides of the notch and two ends of a U-shaped reinforcing rod being inserted into the two holes to reinforce a portion of the notch.

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ABSTRACT OF THE DISCLOSURE

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A suspending support structure for fixing a ceiling fan, including a bowl-like support seat and three equally spaced reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally. Each locking leg has an upper horizontal section formed with a slot for a screw to pass therethrough and fasten the support structure under a ceiling. The support seat has a notch and a longitudinal rib disposed on inner arch face of the support seat. A stem of the ceiling fan is transversely placed into the support seat through the notch and connected with a semi-spherical head section located on the inner arch face of the support seat. The head section is formed with a lower longitudinal channel for engaging with the rib of the support seat. An arch connecting beam is disposed between each two locking legs to form a close circular firm reinforcement. The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion. Moreover, the arch connecting beams serve to evenly distribute the stress and are not subject to breakage so as to achieve an even stronger and more durable support structure for the ceiling fan.

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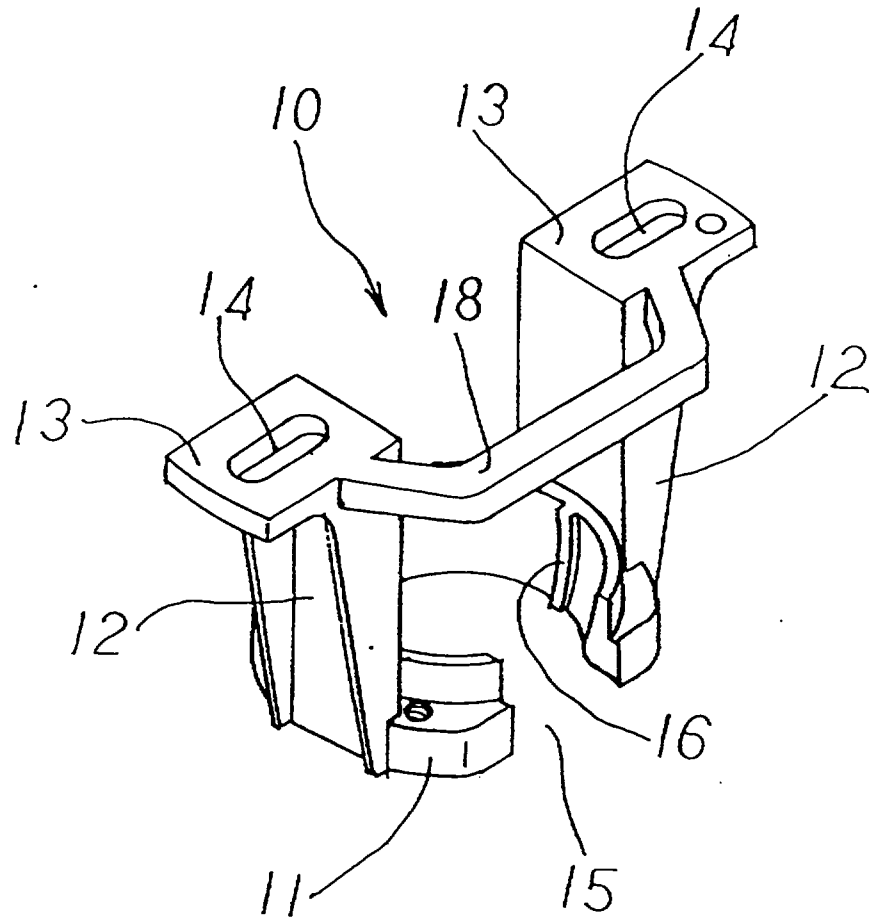


FIG. 1

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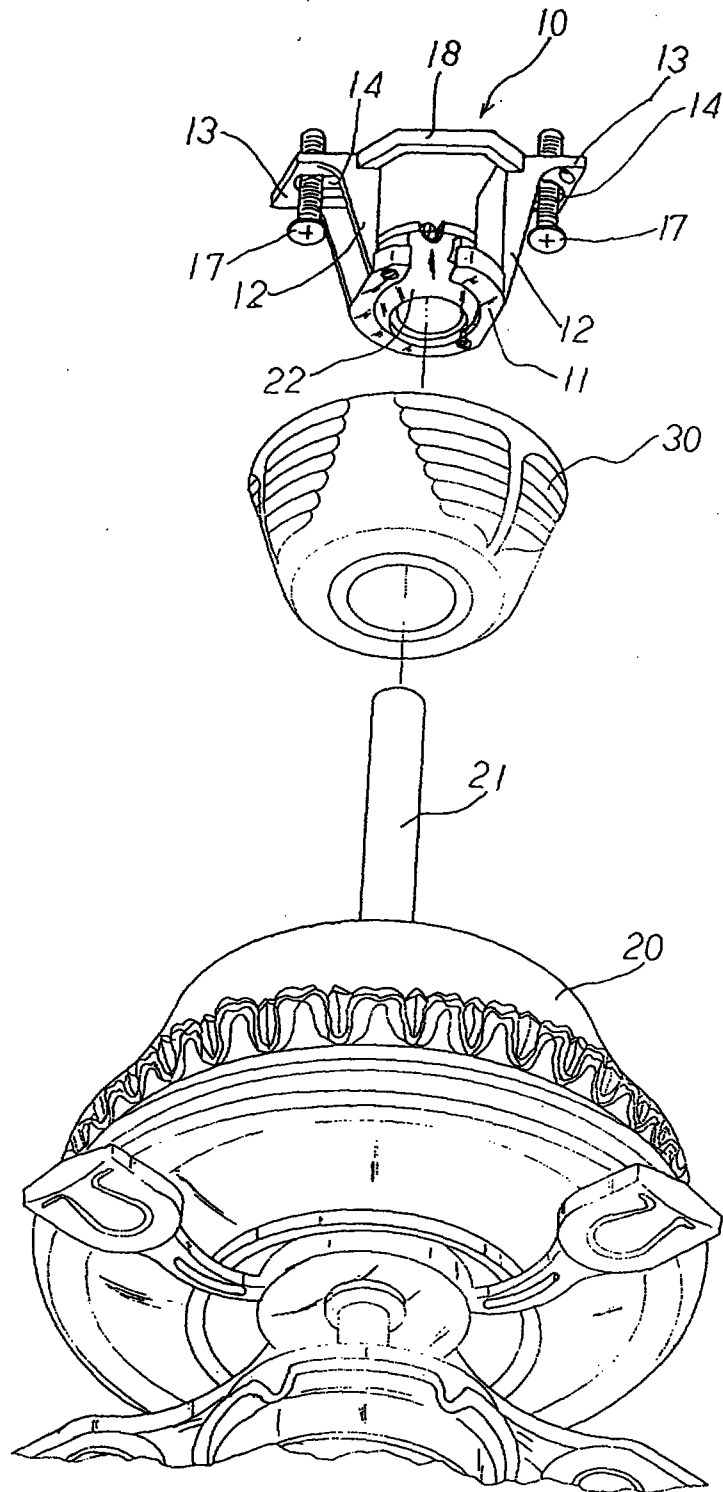
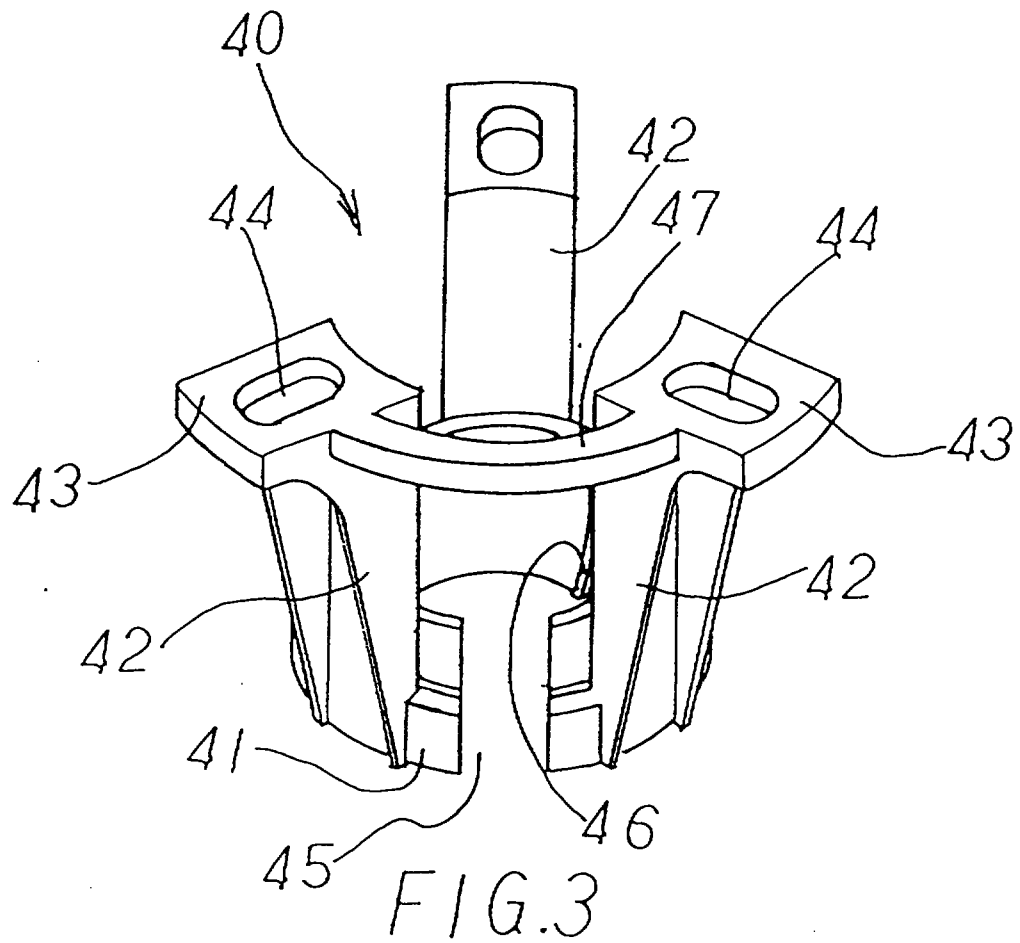


FIG.2

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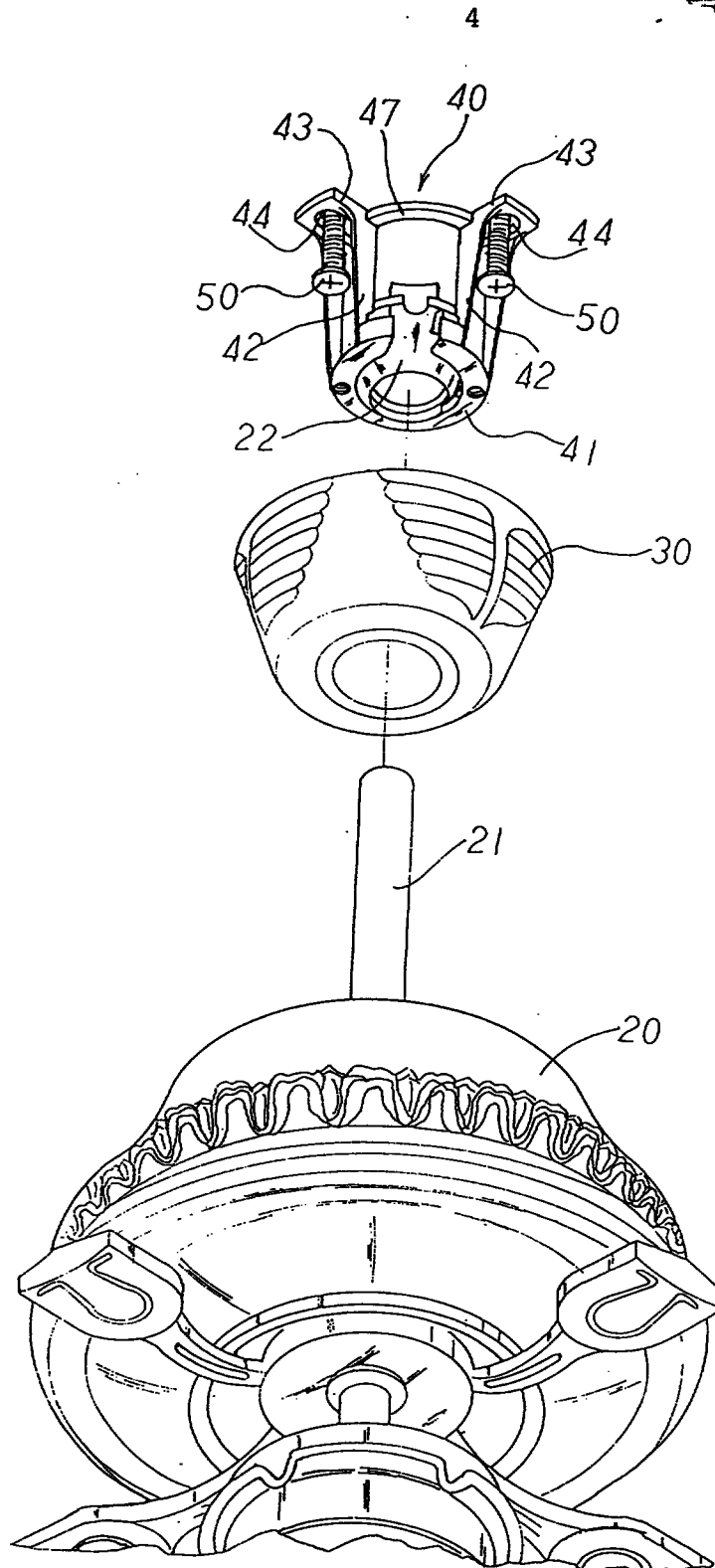


FIG. 4

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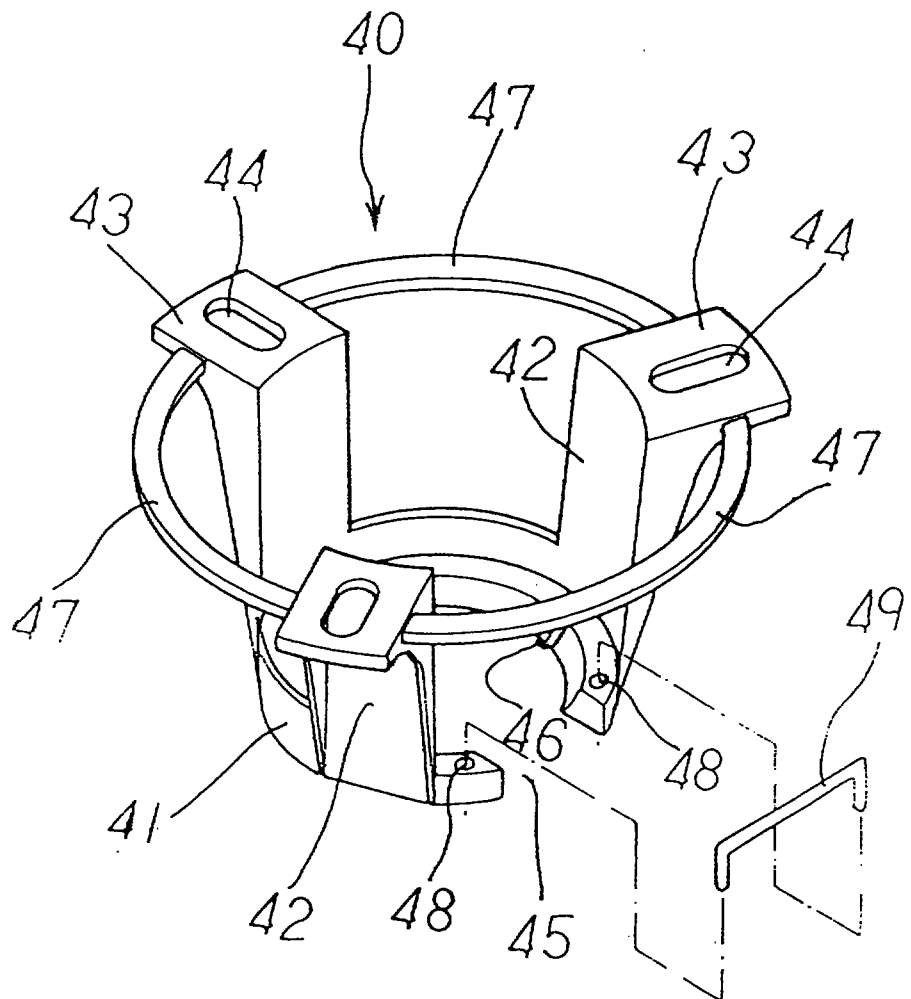


FIG. 5

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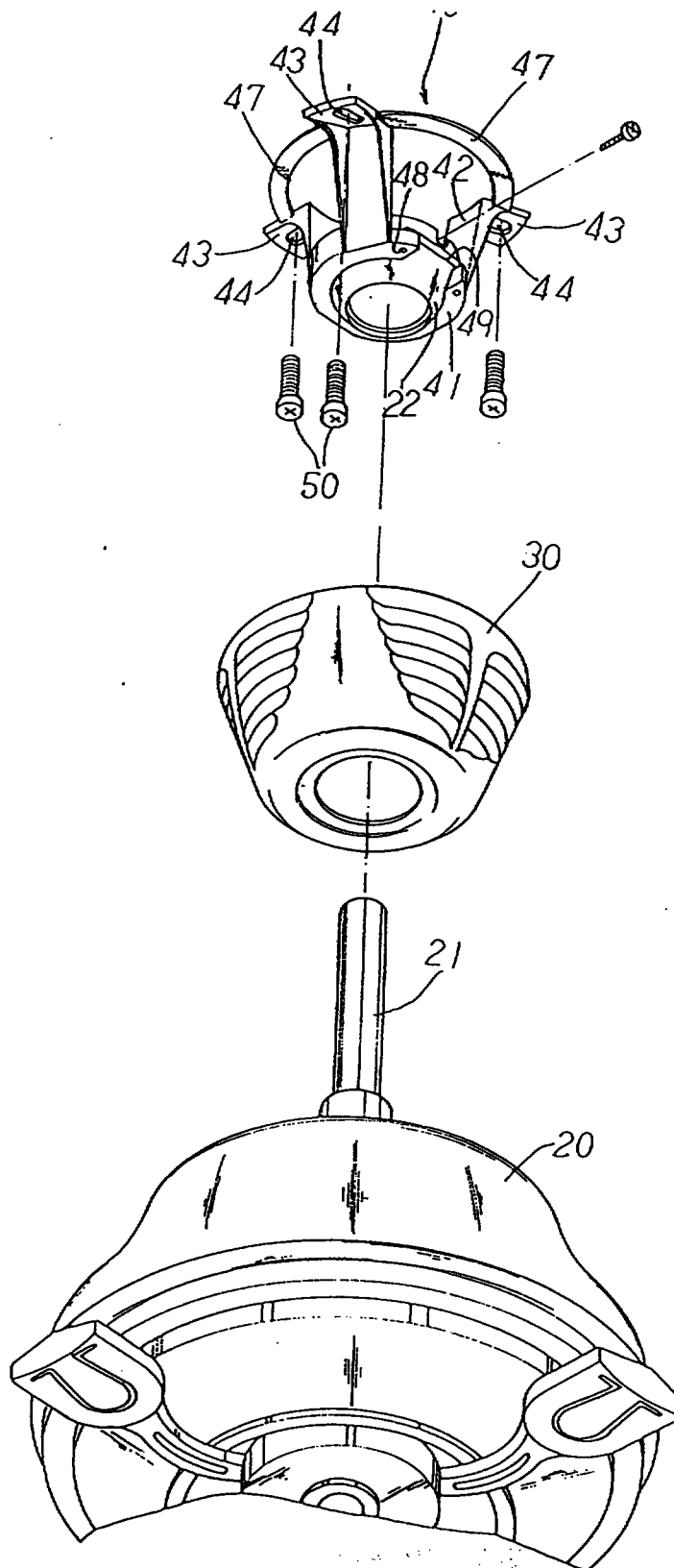


FIG. 6

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A SUSPENDING SUPPORT STRUCTURE FOR FIXING A CEILING FAN

BACKGROUND OF THE INVENTION

The present invention relates to a suspending support structure for fixing a ceiling fan, including a bowl-like support seat and three equally spaced reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally. An arch connecting beam is disposed between each two locking legs to form a close circular firm reinforcement. The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion. Moreover, the arch connecting beams serve to evenly distribute the stress and are not subject to breakage so as to achieve an even stronger and more durable support structure for the ceiling fan.

Fig. 1 shows a conventional suspending support structure 10 for fixing a ceiling fan, including a bowl-like support seat 11 and two opposite reverse L-shaped locking legs 12 disposed on two sides of the support seat 11 and extending upward and laterally. Each locking leg 12 has an upper horizontal section 13 formed with a slot 14 for a screw to pass therethrough. Referring to Fig. 2, the support structure 10 is secured to a ceiling by screws 17 passing through the slots 14. The support seat 11 is formed

with a notch 15 and a vertical rib 16 on inner arch face of the support seat 11, whereby a stem 21 of the ceiling fan 20 can be transversely placed into the support seat 11 through the notch 15 and connected with a semi-spherical head section 22 located on the inner arch face of the support seat 11. The head section 22 is formed with a lower longitudinal channel for engaging with the rib 16 of the support seat 11. A U-shaped connecting beam 18 is disposed between the locking legs 12 for reinforcing the support seat 11. A decorative cover 30 is disposed around the support structure 10 for decoration.

According to the above arrangements, the U-shaped connecting beam 18 cannot provide reliable reinforcing effect for the locking legs 12 and the stress may be focused on the bending portions of the connecting beam 18 and make the connecting beam 18 broken at the bending portions. In addition, the two opposite locking legs cannot provide sufficient fixing force for the support seat 11 and the other sections of the support seat lacking the locking legs will be free from fixing force. Therefore, when the ceiling fan operates and rotates, the ceiling fan may swing back and forth lateral to the locking legs. After a long period of use, this may lead to loosening or even dropping of the ceiling fan due to the heavy weight thereof. Such condition is extremely dangerous and undesirable.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a suspending support structure for fixing a ceiling fan, including a bowl-like support seat and three equally spaced reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally. The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion.

It is a further object of the present invention to provide the above support structure in which an arch connecting beam is disposed between each two locking legs to form a close circular reinforcement. The arch connecting beams serve to evenly distribute the stress and are not subject to breakage so as to achieve an even stronger and more durable support structure for the ceiling fan.

It is still a further object of the present invention to provide the above support structure in which two circular holes are formed on two sides of the notch and two ends of a U-shaped reinforcing rod are inserted into the two holes to reinforce the notch portion of the support seat.

The present invention can be best understood through the following description and accompanying drawings,

wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of the suspending support structure for a conventional ceiling fan;

Fig. 2 is a perspective exploded view of the suspending support structure as well as the conventional ceiling fan;

Fig. 3 is a perspective view of the present invention;

Fig. 4 is a perspective exploded view of the present invention as well as the ceiling fan;

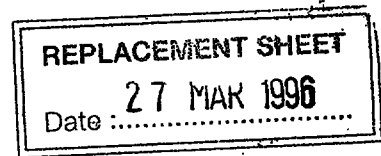
Fig. 5 is a perspective view of another embodiment of the present invention; and

Fig. 6 is a perspective exploded view of the embodiment of Fig. 5 as well as the ceiling fan.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please refer to Fig. 3. The suspending support structure 40 of the present invention includes a bowl-like support seat 41 and three equally spaced reverse L-shaped locking legs 42 disposed on outer face of the support seat 41 and extending upward and laterally. Each locking leg 42 has an upper horizontal section 43 formed with a slot 44 for a screw 50 to pass therethrough and fasten the support structure under a ceiling. The support seat 41 has a notch 45 and a longitudinal rib 46 disposed on inner arch face of

the support seat 41.



Referring to Fig. 4, the support structure 40 is secured to a ceiling by screws 50 passing through the slots 44. A stem 21 of the ceiling fan 20 is transversely placed into the support seat 41 through the notch 45 and connected with a semi-spherical head section 22 located on the inner arch face of the support seat 41. The head section 22 is formed with a lower longitudinal channel for engaging with the rib 46 of the support seat 41. An arch connecting beam 47 is disposed between two locking legs 42. A decorative cover 30 is disposed around the support structure 40 for decoration.

Fig. 5 shows another embodiment of the present invention, which includes a bowl-like support seat 41 and three equally spaced reverse L-shaped locking legs 42 disposed on outer face of the support seat 41 and extending upward and laterally. An arch connecting beam 47 is disposed between each two locking legs 42 to form a close circular firm reinforcement. In addition, two circular holes 48 are formed on two sides of the notch 45 and two ends of a U-shaped reinforcing rod 49 are inserted into the two holes 48 to reinforce the portion of the notch 45. As shown in Fig. 6, when applied to a ceiling fan, the support structure 40 of Fig. 5 provides a firm, reliable and durable fixing force for the ceiling fan.

Date: 27 MAR 1996

The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion. Moreover, the arch connecting beams together form a close reinforcement which serves to evenly distribute the stress and are not subject to breakage. The U-shaped reinforcing rod additionally reinforces the notch portion of the support seat 41 to achieve an even stronger and more durable structure.

The above description and accompanying drawings are only used to illustrate some embodiments of the present invention and the scope of the present invention should not be limited to these embodiments. Any modification or variation derived from the embodiments should fall within the scope of the present invention.



1. A suspending support structure for fixing a ceiling fan, comprising a bowl - like support seat and several reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally, each locking leg having an upper horizontal section formed with a slot for a screw to pass therethrough and fasten the support structure under a ceiling, the support seat having a notch and a longitudinal rib disposed on inner arch face of the support seat, a stem of the ceiling fan being transversely placed into the support seat through the notch and connected with a semi-spherical head section located on the inner arch face of the support seat, the head section being formed with a lower longitudinal channel for engaging with the rib of the support seat, a decorative cover being disposed around the support structure for decoration, said support structure being characterized in that three locking legs are equally spaced and an arch connecting beam is disposed between at least two of the locking legs.
2. A suspending support structure as claimed in claim 1, wherein an arch connecting beam is disposed between each two locking legs to form a close circular firm reinforcement, two circular holes being formed on two sides of the notch and two ends of a U-shaped reinforcing rod being inserted into the two holes to reinforce a portion of the notch.

ABSTRACT OF THE DISCLOSURE

A SUSPENDING SUPPORT STRUCTURE FOR FIXING A CEILING FAN

A suspending support structure for fixing a ceiling fan, including a bowl-like support seat and three equally spaced reverse L-shaped locking legs disposed on outer face of the support seat and extending upward and laterally. Each locking leg has an upper horizontal section formed with a slot for a screw to pass therethrough and fasten the support structure under a ceiling. The support seat has a notch and a longitudinal rib disposed on inner arch face of the support seat. A stem of the ceiling fan is transversely placed into the support seat through the notch and connected with a semi-spherical head section located on the inner arch face of the support seat. The head section is formed with a lower longitudinal channel for engaging with the rib of the support seat. An arch connecting beam is disposed between each two locking legs to form a close circular firm reinforcement. The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan so that the ceiling fan can operate and rotate without swinging left and right and abnormal abrasion. Moreover, the arch connecting beams serve to evenly distribute the stress and are not subject to breakage so as to achieve an even stronger and more durable support structure for the ceiling fan.

(FIGURES 4 AND 6)

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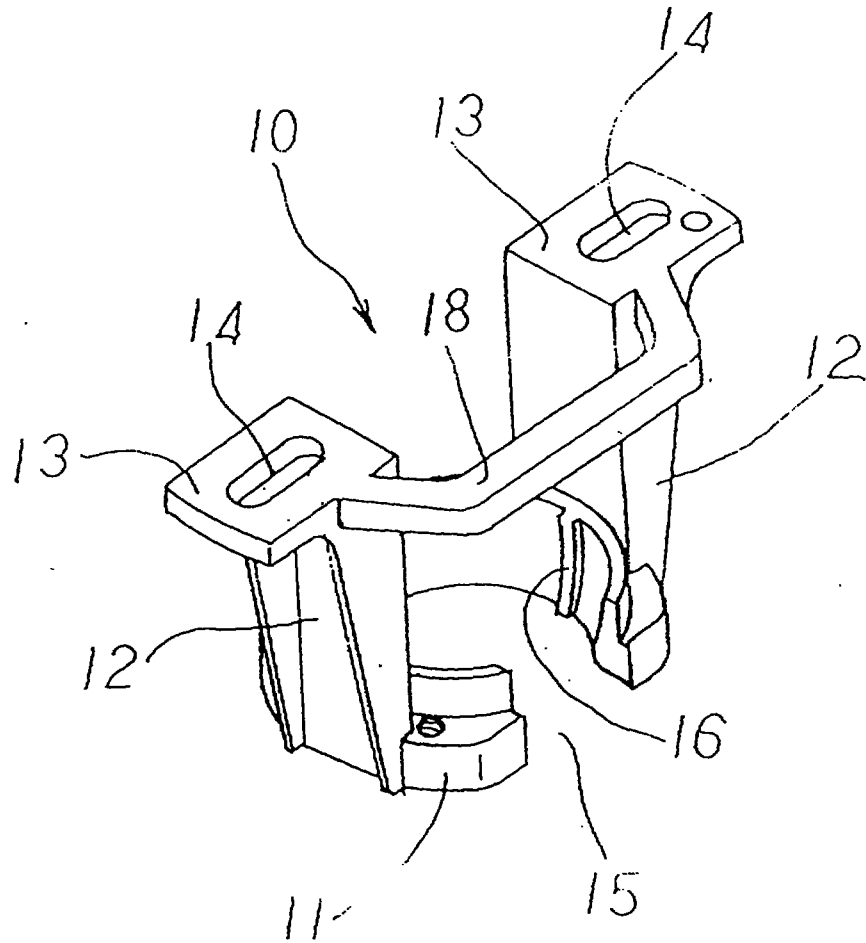


FIG. 1

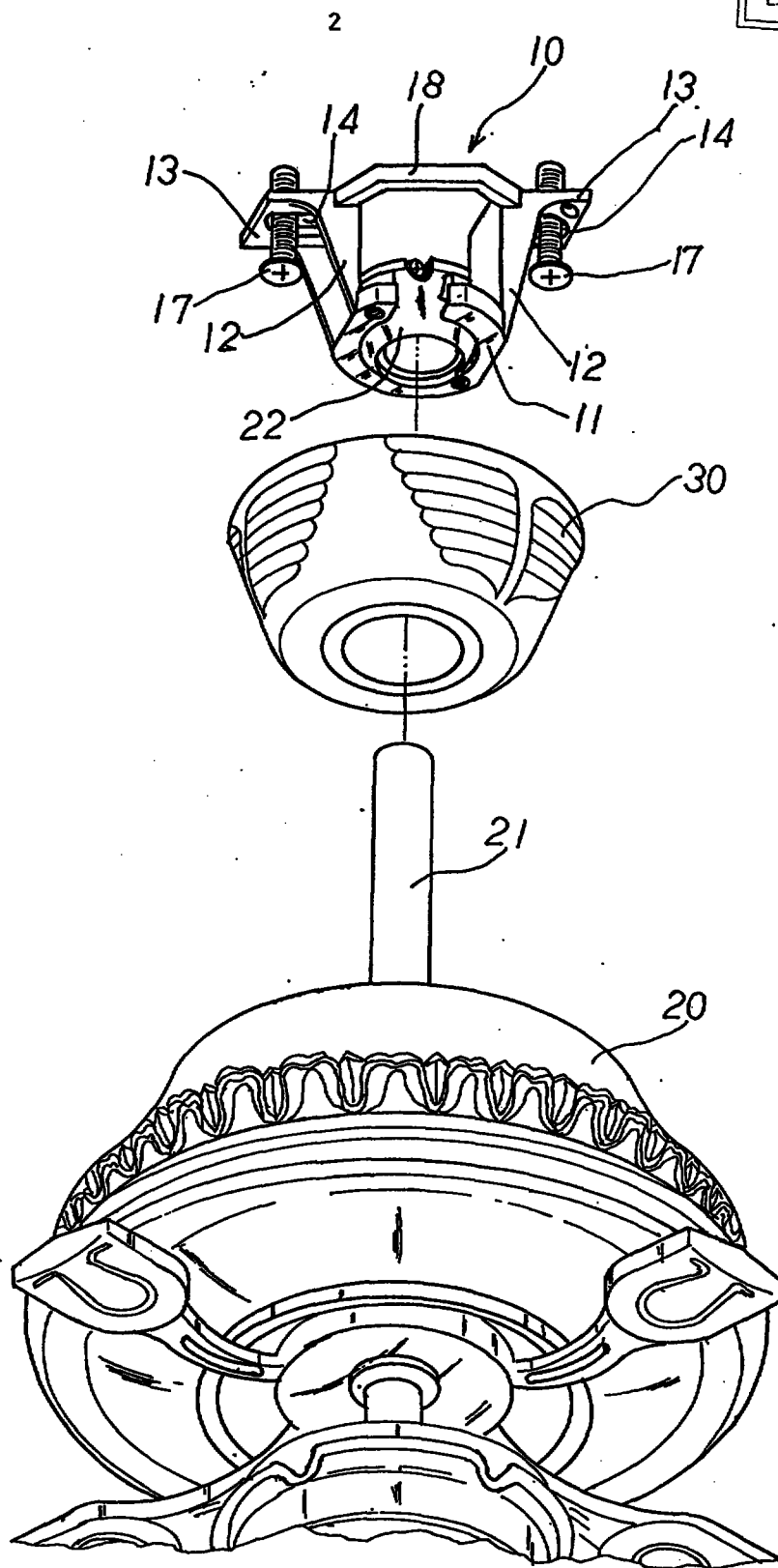
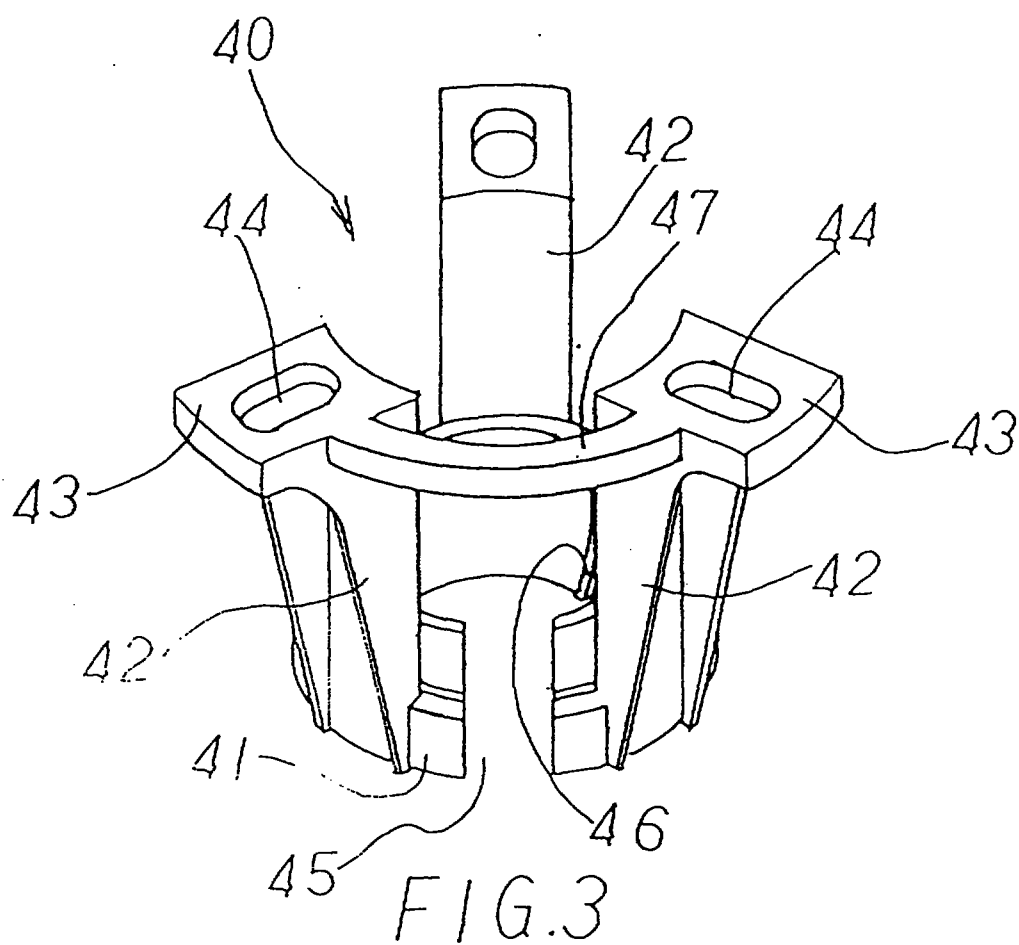


FIG. 2

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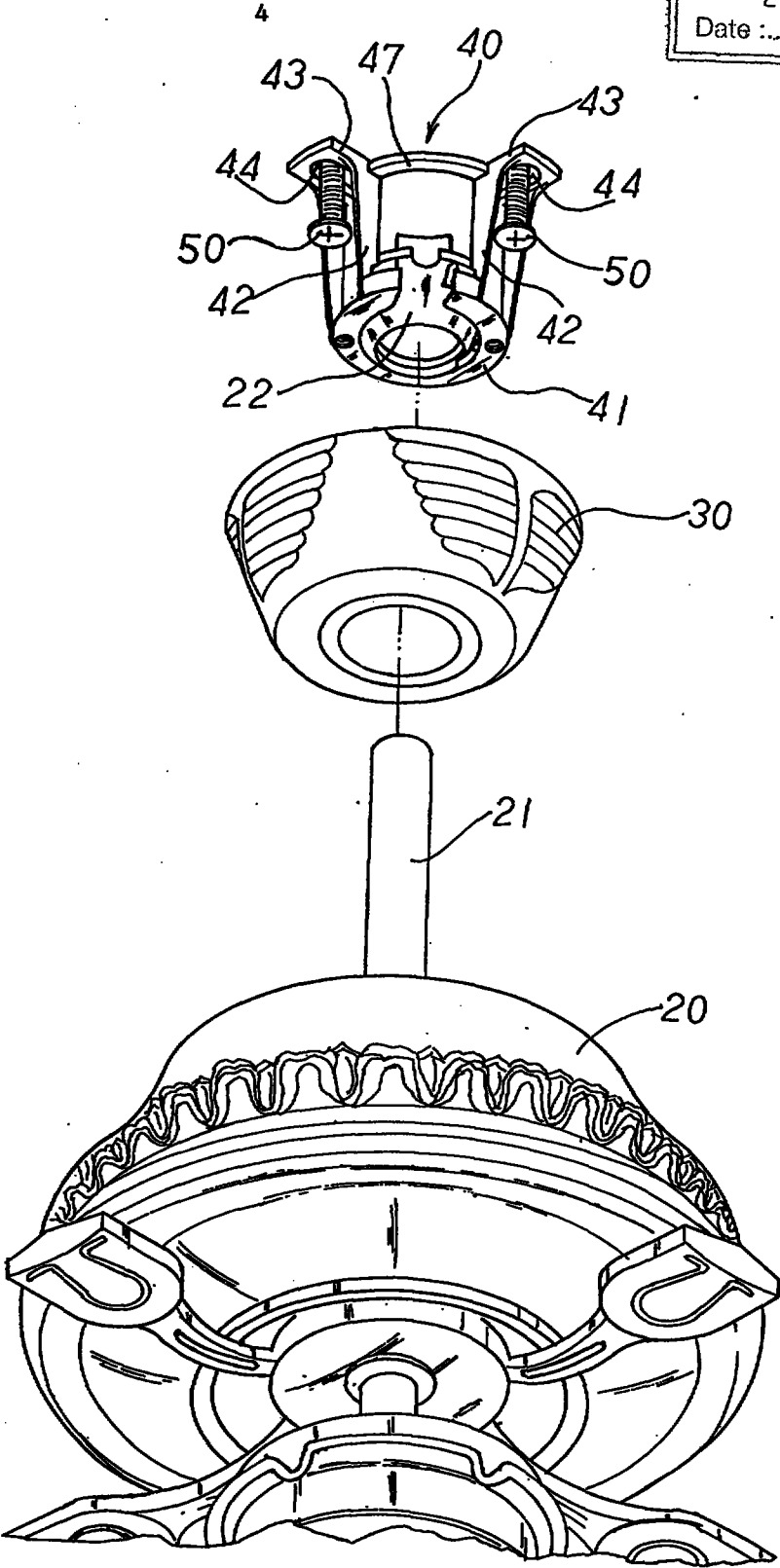


FIG.4

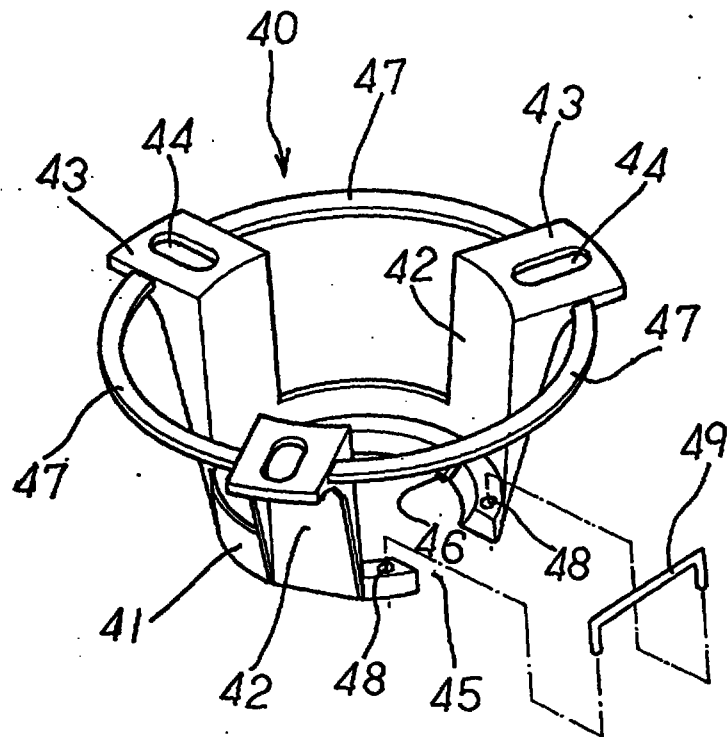


FIG.5

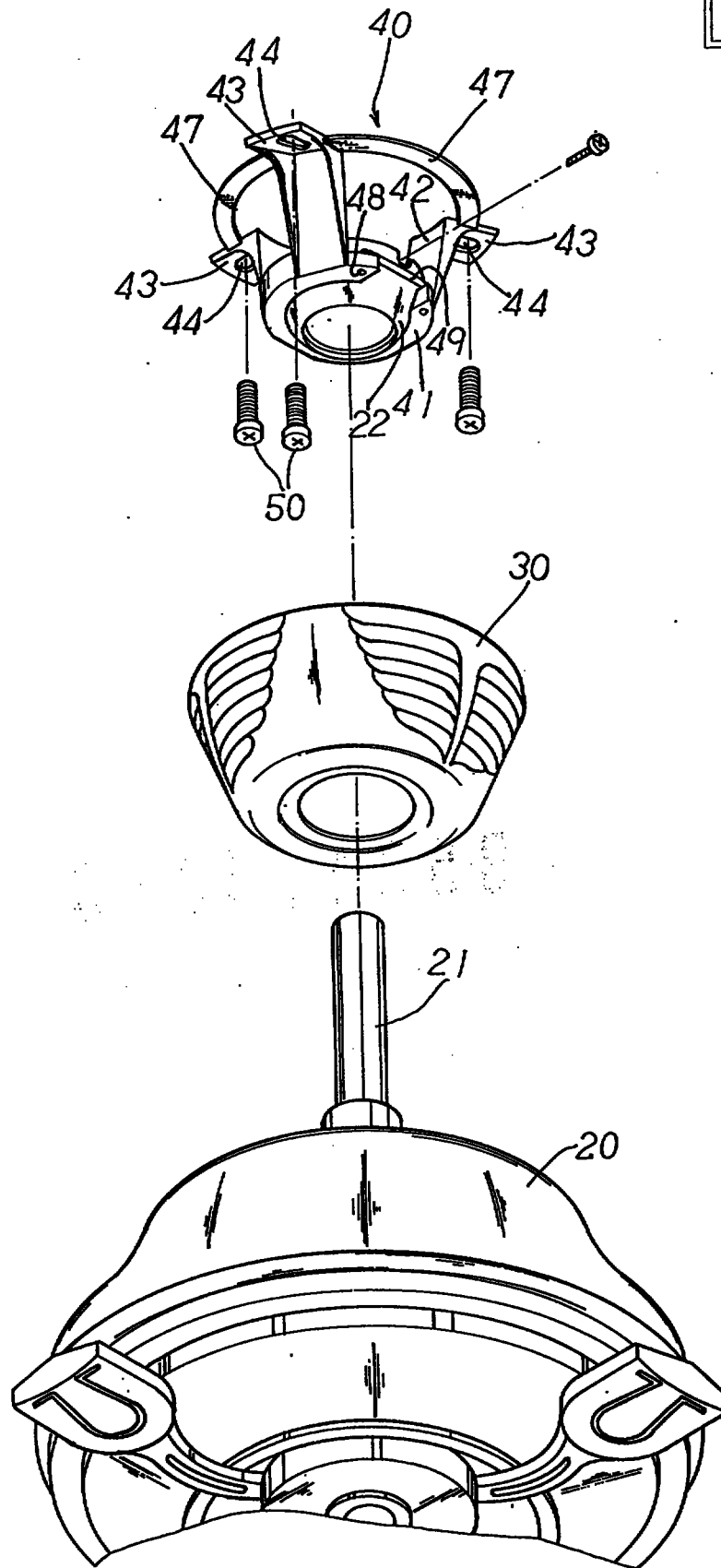


FIG. 6



TEXT OF THE ABSTRACT

REPLACEMENT SHEET

Date: 11 APR 1997

A SUSPENDING SUPPORT STRUCTURE FOR FIXING A CEILING FAN

A suspending support structure for fixing a ceiling fan, including a bowl-like support seat (41) and three equally spaced reverse L-shaped locking legs (42) disposed on outer face of the support seat (41) and extending upward and laterally. Each locking leg (42) has an upper horizontal section (43) formed with a slot (44) for a screw (50) to pass therethrough and fasten the support structure under a ceiling. The support seat (41) has a notch (45) and a longitudinal rib (46) disposed on inner arch face of the support seat (41). A stem (21) of the ceiling fan (20) is transversely placed into the support seat (41) through the notch (45) and connected with a semi-spherical head section (22) located on the inner arch face of the support seat (41). The head section (22) is formed with a lower longitudinal channel for engaging with the rib (46) of the support seat (41). An arch connecting beam (47) is disposed between each two locking legs (42) to form a close circular firm reinforcement. The three equally spaced locking legs serve to provide a balanced supporting force for the ceiling fan (20) so that the ceiling fan (20) can operate and rotate without swinging left and right and abnormal abrasion. Moreover, the arch connecting beams (47) serve to evenly distribute the stress and are not subject to breakage so as to achieve an even stronger and more durable support structure for the ceiling fan.

Fig. 4 and 6.