Sept. 17, 1940. W. E. GUNDELFINGER 2,215,035

FAN SUPPORTING MEANS

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Fig. 1

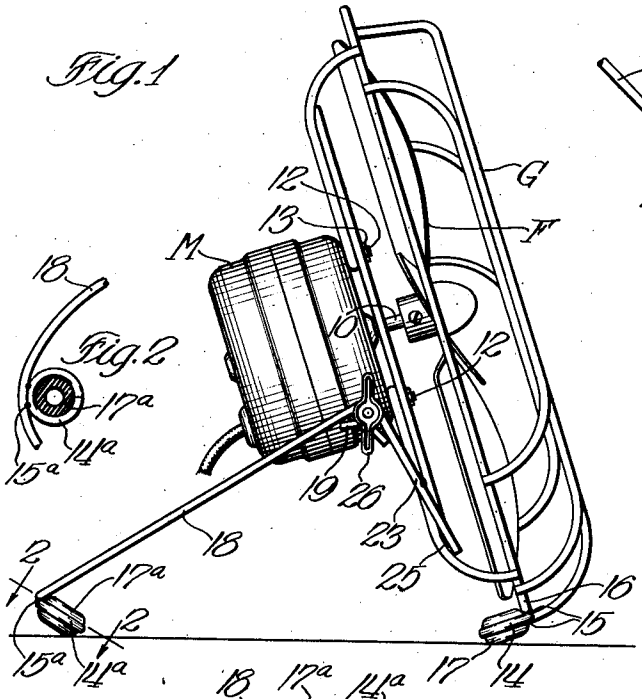

Fig. 5

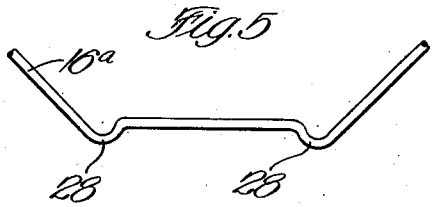

Fig. 2

Fig. 6

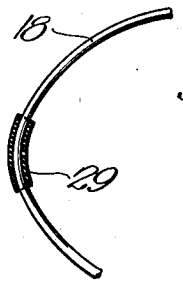

Fig. 4

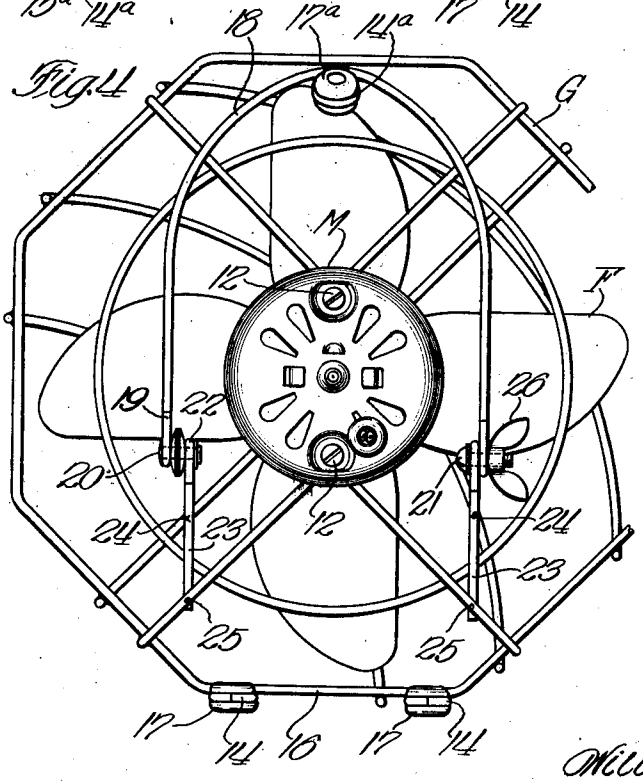

Fig. 3

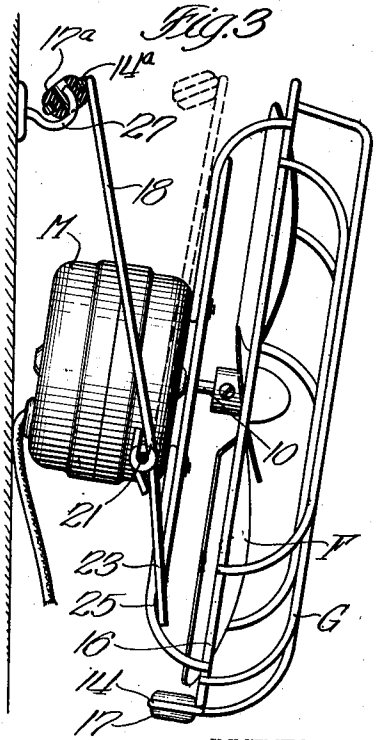

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Fig. 7

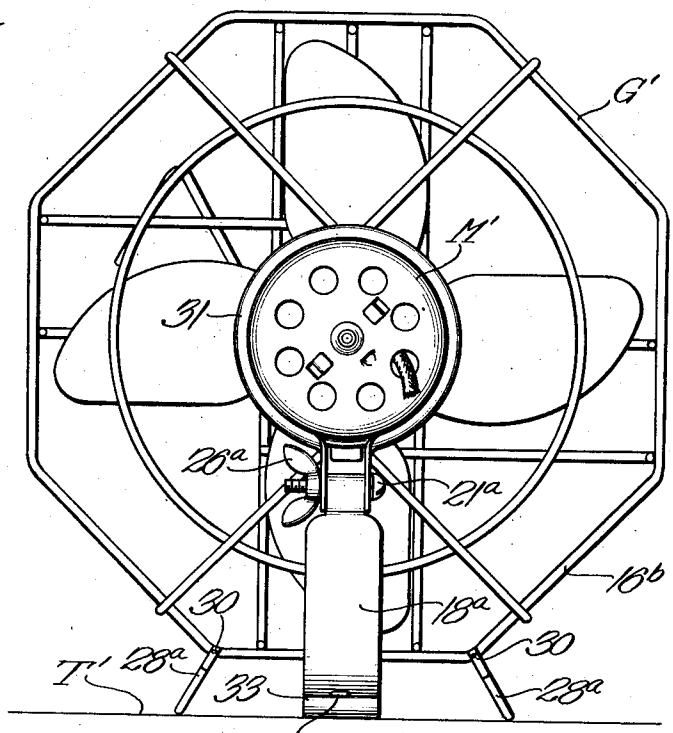


Fig. 8

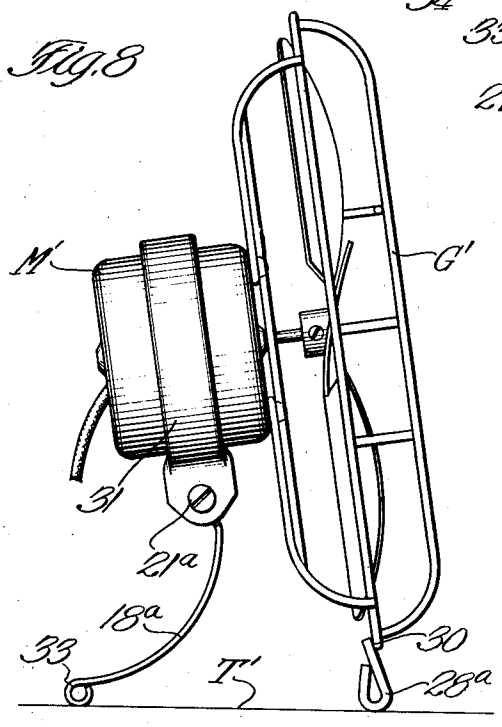
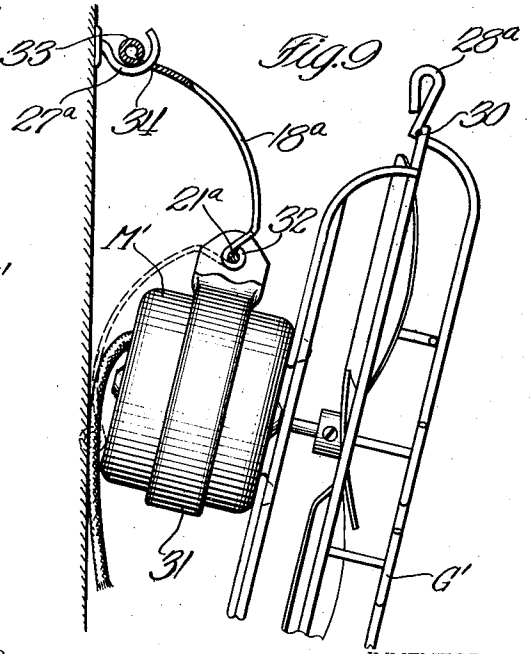


Fig. 9



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FAN SUPPORTING MEANS

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Application May 18, 1938, Serial No. 208,590

4 Claims. (Cl. 230—273)

An object of my invention is to provide means for supporting a fan structure, such means being extremely simple and inexpensive to manufacture.

A further object is to provide supporting means for a fan structure including partially the wire guard for the fan blades having a pair of laterally spaced feet adjacent the bottom thereof and partially a third support comprising a foot member mounted on a yoke or leg member which is pivoted relative to the fan guard and thereby operable to permit inclination of the guard and thereby the fan at different desired angles, said yoke or leg member being also swingable to a non-projecting position for shipping or storing purposes, and to another position where it serves as a support for suspending the fan structure on a wall hook or the like.

Still a further object is to provide inexpensive supporting means for a fan structure which may be formed of or secured to the guard for the fan blades, thereby eliminating the necessity of the usual base and supporting post for the motor, the motor in turn ordinarily supporting the fan guard.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a fan structure with my supporting means applied thereto.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is a side view showing the fan adjusted for support on a vertical wall.

Figure 4 is a rear elevational view with the parts of the structure in the position of Figure 3.

Figure 5 is a view of the lower portion of Figure 4 showing a slightly modified construction.

Figure 6 is a view similar to Figure 2 showing a variation of the invention.

Figure 7 is a rear elevational view of a modified form of my fan structure and its supporting means.

Figure 8 is a side elevation thereof showing the fan supported on a table or the like; and

Figure 9 is a similar view partly in section showing the fan supported on a wall.

On the accompanying drawings I have used the reference character M to indicate a motor. Fan blades F are mounted on the shaft 10 of the motor for rotation thereby. A guard G is provided for the fan blades F and is preferably formed of wire elements spot-welded together. The design of these elements may vary greatly and forms no part of my invention, the main consideration being that the guard G safely enclose the fan blades F against accidental contact of the user's person therewith. The guard G is illustrated as being secured to the motor M by bolts 12 and nuts 13.

The supporting means for the elements M, F and G are the novel features of my present invention. Instead of providing the usual base and supporting post for the motor, I utilize the guard G for at least partially serving as a support, thus eliminating expensive parts of the usual construction and thereby effecting an economy in manufacture.

As one method of forming feet on the guard, I provide a pair of laterally spaced ring elements 14 secured as by spot-welding indicated at 15 to the lower portion of the guard G. Specifically the guard has a peripheral wire 16 and as shown in Figure 4, I secure the rings 14 thereto. Each ring has mounted therein a foot 17 formed of rubber or other resilient material to contact with a table top or the like and thereby prevent scratching the table.

The two feet 17 are laterally spaced and a third foot 17*a* serves to provide a three-point support for the fan structure. The foot 17*a* is shown in section in Figure 3. The foot 17*a* is mounted in a ring element 14*a* which is secured as by spot-welding 15*a* to a yoke member 18.

The yoke member 18 is formed of wire and has a pair of ears 19 encircling a friction rivet 20 and a clamp bolt 21 as shown in Figure 4. Stationary ears 22 also encircle the rivet and bolt and are formed on arm members 23. The arm members 23 are spot-welded as at 24 and 25 to portions of the guard G and are thereby rigidly secured to the guard.

A wing nut 26 is mounted on the clamp screw 21 whereby the yoke 18 can be retained at different angles relatives to the plane of the guard G and the fan may thereby be tilted for delivering air parallel to the table top on which it is supported or at different angles of inclination relative thereto.

The rivet 20 and the clamp screw 21 are mounted on opposite sides of the motor M and the yoke 18 is swingable to a position over the motor as shown in Figure 3 so that the bushing 17*a* can be hooked on a nail or wall hook 27

whereby the fan may be suspended on the wall. Here again it is possible to change the inclination of the fan as desired due to the pivoted connection between the yoke 18 and the guard G and the possibility of keeping the parts in any desired position by tightening the wing nut 26.

To further reduce the expense of manufacture, the ring elements 14 can be eliminated and foot elements 28 formed directly on the circumferential element 16*a* of the fan guard, as shown in Figure 5. Since these foot elements are formed with a rounded lower surface and can be made of plated or polished wire, the rings 14 and the resilient means such as the feet 17 can be dispensed with. As shown in Figure 6 if desirable a length of rubber tubing 29 may be mounted on the yoke member 18 to take the place of the foot 17*a* and contact with the table surface.

As shown by dotted lines in Figure 3 it is possible to swing the yoke member 18 to a non-projecting position relative to the fan structure whereby to facilitate shipping of the fan and storage thereof when not in use. This is a desirable feature from the standpoint of economizing on the space necessary for the fan when storing or shipping it.

In Figures 7, 8 and 9 I show modified structures in which eye-shaped foot elements 28*a* are formed as shown in Figure 8, and secured to the peripheral wire 16*b* of a guard G' as by spot-welding indicated at 30. Instead of the yoke member 18, a leg member 18*a* is illustrated which is pivoted relative to the guard G' by a clamp bolt 21*a*. The clamp bolt 21*a* extends through a clamp band 31 around the motor M' whereby the clamp screw 21*a* is carried indirectly by the guard instead of directly thereby as shown in Figure 1. The leg member 18*a* may be formed of flat bar stock with tubular eyes 32 and 33 formed at its ends. The eye 32 receives the clamp screw 21*a*, while the eye 33 serves as a rounded surface to engage the table top T'. Adjacent the eye 33 a perforation 34 is provided for receiving the wall hook 27*a* when the fan is to be hung on the wall as shown in Figure 9. The dotted position in this figure shows the leg member 18*a* folded to a non-projecting position for shipping or storage purposes.

The pivoted supports 18 or 18*a* of my fan structures serve as means to adjust the inclination of the fan whether resting on the table or suspended on the wall. Thus an adjustment is secured without the necessity of going to an expensive construction involving a base, a supporting post and a pivotal support between the post and the motor. The guard of my invention in each instance serves partially as a support when the fan structure is resting on a table or other supporting surface, and the pivoted leg or yoke member serves in conjunction therewith to provide a complete three point support for the structure. The leg or yoke member may be readily adjusted to secure projection of the air at any desired incline.

Some changes may be made in the construction and arrangement of the parts of my supporting arrangement without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

1. A fan structure comprising a motor, fan blades driven thereby, a wire guard secured to said motor and surrounding said fan blades, and supporting means for said fan comprising a pair of laterally spaced feet on said guard adjacent the bottom thereof, a yoke pivoted to said guard at a point spaced above said pair of feet and extending rearwardly and downwardly therefrom at an acute angle to that portion of a supporting surface between said feet and the outer end of said yoke, a third foot on said outer end, and means to lock the pivotal connection.

2. A fan structure comprising a motor, fan blades driven thereby, a guard secured to said motor and enclosing said fan blades, and supporting means for said guard and thereby said motor comprising a pair of laterally spaced ring elements secured to said guard adjacent the bottom thereof, a pair of ears on said guard on opposite sides of said motor, a yoke element having the ends of its arms pivoted to said ears, a ring element secured to the central portion of said yoke element and resilient feet within each of said ring elements and having portions extending downwardly below the lower surfaces thereof.

3. A fan structure comprising a motor, fan blades driven thereby, a guard secured to and thereby supporting said motor, and supporting means for said fan comprising a pair of laterally spaced feet on said guard adjacent the bottom thereof, said feet being formed of resilient material and a leg member pivotally mounted relative to said guard and extending rearwardly therefrom, said leg member having a third foot element on its outer end, said third foot being in the form of a perforated bushing and being formed of resilient material to receive a hook for suspending said fan structure on a wall, said leg member being foldable to a non-projecting position with respect to said fan structure.

4. A fan structure comprising a motor, fan blades driven thereby, a guard secured to said motor, and supporting means for said motor and fan blades comprising a pair of laterally spaced feet on said guard adjacent the bottom thereof and a leg member pivotally mounted with relation to said motor and guard, said feet being formed of resilient material, said leg member extending rearwardly from its pivotal connection and having a third foot element on its rearward end in the form of a perforated bushing, said bushing being formed of resilient material and adapted to receive a hook for suspending said fan structure on a wall, said leg member being foldable by swinging on said pivotal connection to a non-projecting position with respect to said motor and guard.

WILLIAM E. GUNDELFINGER.