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1,779,050

REVERSIBLE FAN

Filed Oct. 15, 1928

Fig. 1.

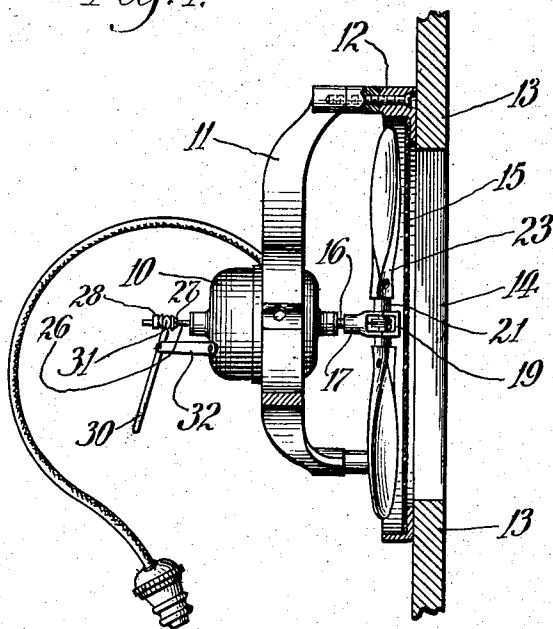


Fig. 2.

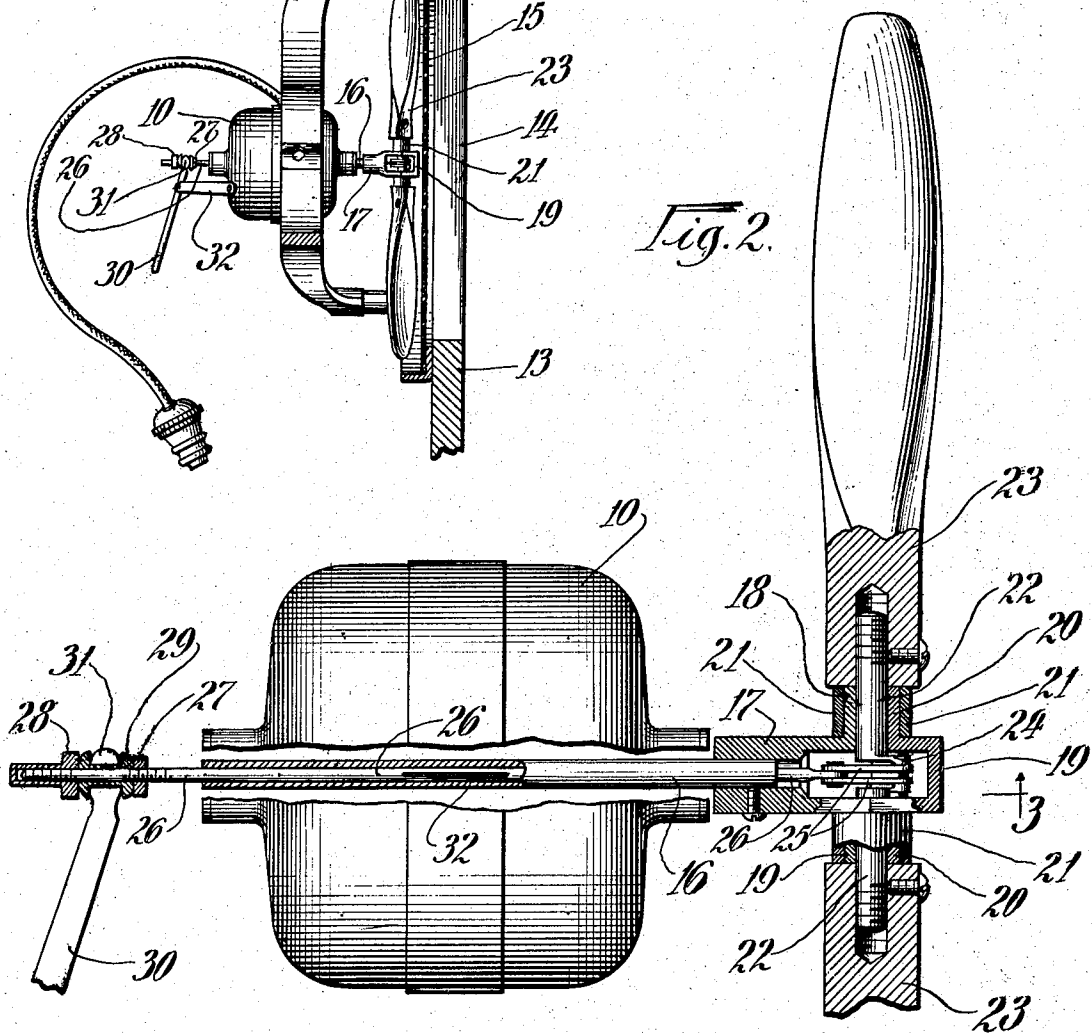
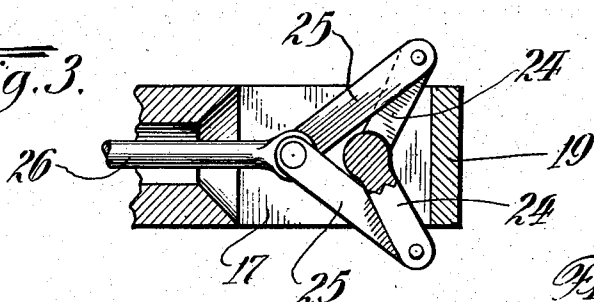


Fig. 3.



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REVERSIBLE FAN

Application filed October 15, 1928. Serial No. 312,438.

This invention relates to reversible fans, and the like, and is fully described in the following specification and shown in the accompanying drawings, in which—

5 Figure 1 is an end elevation of the fan partly in section showing the method of mounting;

Fig. 2 is an enlarged vertical section to the fan shaft; and

10 Fig. 3 is a partial enlarged section on the line 3 of Fig. 2.

The embodiment illustrated comprises a motor 10 mounted by means of a suitable bracket 11 upon a frame 12, which is secured
15 as by means of screws (not shown) to a wall or partition 13, having an opening 14 in front of the frame 12. The partition 13 is often placed in the upper portion of a window opening, particularly a kitchen window, and
20 a screen 15 in such cases is usually secured within the frame 12 in any desired manner.

The motor 10 has a motor shaft 16 journaled therein and carrying at its outer end a member 17, which has laterally extending
25 arms 19 which are semi-cylindrical in form. A corresponding member 19 having similar semi-cylindrical members 20 at each side lies at the end of the member 17, and is secured thereto by means of bands 21 which are preferably pressed over the semi-cylindrical sections 18 and 20. These sections 18 and 20
30 are drilled to receive rocker shafts 22 which extend outwardly to receive fan blades 23.

At the inner ends the rocker shafts 22 are
35 provided with lever arms 24 which are reversely disposed, as shown in Fig. 3, each being connected by means of a link 25 with a rod 26 which is slidably mounted within the hollow motor shaft 16. The rod 26 is preferably screw threaded at its outer end to receive nuts 27 and 28, between which is held a thrust collar 29 and an operating lever 30
40 is pivotally mounted at 31 on a bracket 32 secured to the motor 10, the same having bifurcated ears 31 which lie on each side of the collar 29.

Thus it will be seen that by means of the operating lever 30 the rod 20 may be moved back and forth within the hollow shaft 16 to
50 vary the angular positions of levers 24, and

consequently the angular positions of fan blades 23. With the motor shaft 16 rotating continuously in one direction, the fan blades, as shown in the three figures in the drawing, will propel air to the right through the opening 14, as indicated by the arrows. By moving the lever 30 so as to pull the rod 26 outwardly or to the left, the rocker arms 24 and the fan blades 23 are moved so as to cause the fan blades to move first toward a position in
60 which substantially no air will be moved either forward or back. If this movement is continued further the fan blades will assume a position where air will be propelled in the reverse direction to that indicated in Fig. 1. 65

It will be noted in Fig. 2 that the rod 26 is provided with a central slot 32. The rod at this point is spread slightly or bowed so as to produce a certain amount of friction with the inner wall of the longitudinal opening
70 through the shaft 16. The friction thus induced will cause the rod 26 to stay in any adjusted position.

While only two fan blades 23 are shown, it will be understood that three, four or more
75 blades may be used if desired. Thus it will be seen that a very simple and efficient means has been provided for producing a flow of air through an opening, and in changing either the speed or direction of this flow at
80 will.

While I have shown and described but a few embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction may be made which do not depart from the spirit and scope of the invention as defined by the appended claims. 85

I claim:

1. A reversible fan comprising a mounting, 90 a shaft journaled therein, a plurality of fan blades carried by the shaft and rotatable relative thereto on axes at an angle to the axis of the shaft, said shaft being hollow, and a member in said hollow shaft for reversing
95 said blades, said member and shafts having co-acting friction means intermediate its ends adapted to center said member and to maintain said fan blades in any position of adjustment. 100

2. A reversible fan comprising a mounting,
a shaft journaled therein, a plurality of fan
blades carried by the shaft and rotatable rela-
tive thereto on axes at an angle to the axis of
the shaft, said shaft being hollow, and a rod
5 in said hollow shaft and rotatable therewith
operably connected to said fan blades for ro-
tating said blades about their axes to control
their propelling action, said rod being slotted
10 intermediate its ends and outwardly bowed
to center said rod within said shaft and to
provide frictional engagement with the said
shaft for holding it in any adjusted position.

In testimony whereof, I have hereunto set
15 my hand this 11th day of October, 1928.

FRED F. SCHRODER.

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