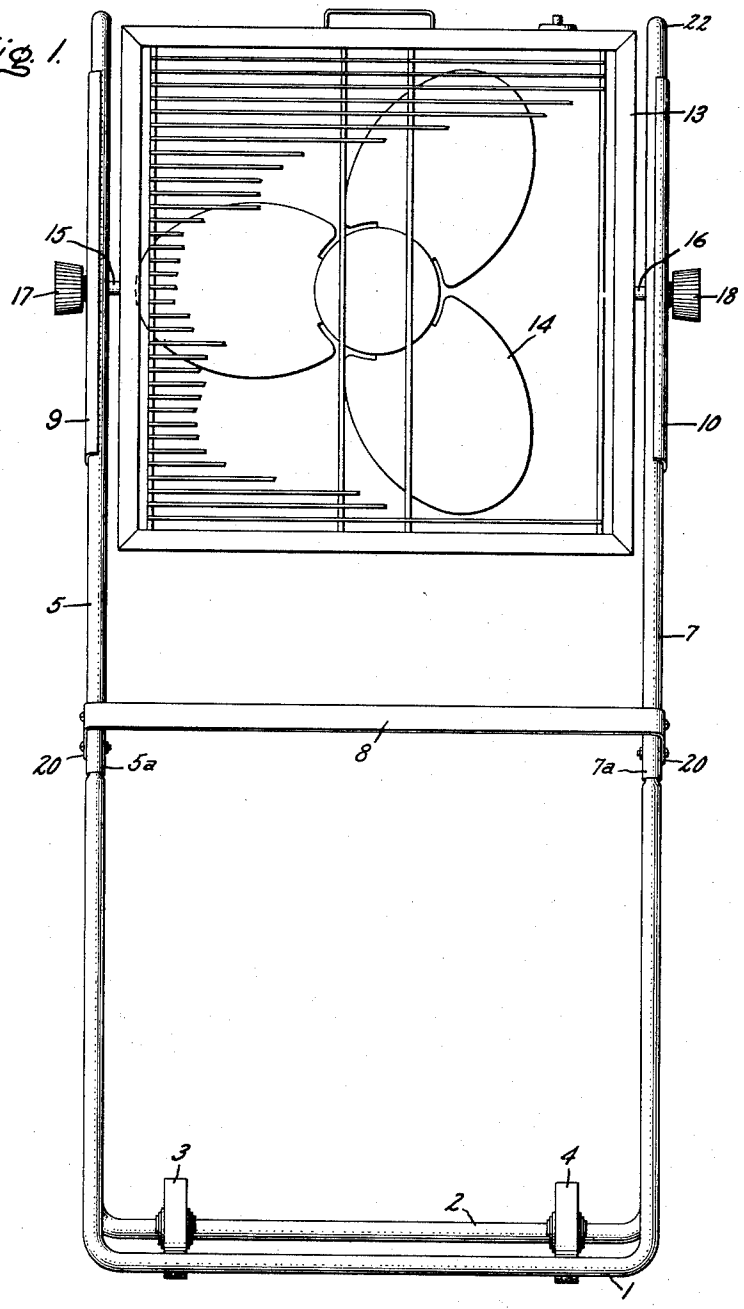
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ADJUSTABLE FAN SUPPORT STAND

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Fig. 1.




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Fig. 2.

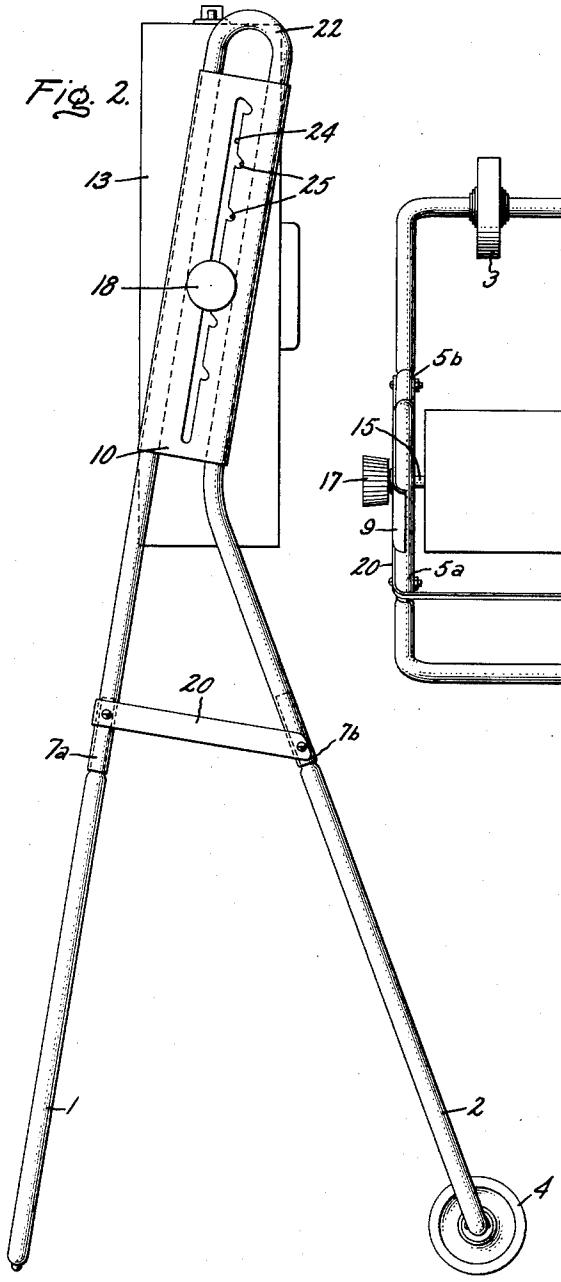
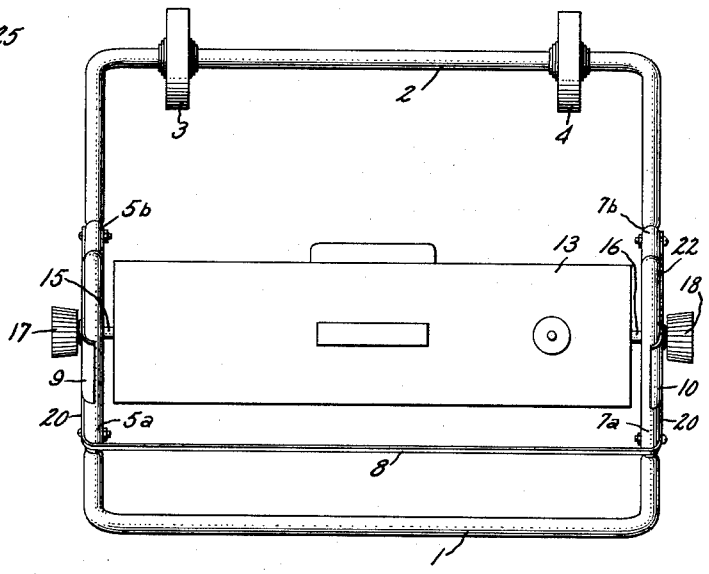



Fig. 3.




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United States Patent Office 3,121,548 Patented Feb. 18, 1964



3,121,548

# ADJUSTABLE FAN SUPPORT STAND

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Filed Sept. 13, 1961, Ser. No. 137,798
2 Claims. (Cl. 248—13)

The present invention relates to an air circulating fan construction and more particularly to an adjustable fan and stand arrangement.

It has been desirable in certain air circulating fans to provide mobile fan stands that will facilitate moving the fans from room to room, dependent only upon where an individual user would desire that the fan be located. Additionally, it has been desirable to have such fans provide a vertically adjustable feature so as to more readily correspond with various operating heights that may be dictated for example by the varying heights of window openings. Also, the need arises to have a fan casing supported by such a mobile fan stand adapted to pivot or tilt about a horizontal axis so as to vary the direction of air flow developed by such an air circulating fan. However, the vertical adjustment of the fan casing with respect to the fan stand has not in the past incorporated a suitable guide with such fan stands to assist in locating the fan casing accurately and rapidly with a minimum of effort on the part of the individual user.

Accordingly, it is an object of the present invention to provide a new and improved fan stand to retain a fan casing therein.

It is likewise an object of the present invention to provide a new and improved fan stand that is mobile.

Another object of the present invention is to provide a new and improved fan stand that will permit vertical adjustment of a fan casing.

Yet another object of the present invention is to provide a new and improved fan stand which will permit vertical and pivotal adjustment of a fan casing.

Briefly stated, and in accordance with the present invention, a fan assembly is provided having a fan casing with suitable outwardly extending clamping means defining a pivotal axis through the casing and adapted to engage a pair of opposed elongated plates having suitable longitudinal slots therein with a plurality of spaced lateral notches intersecting each individual slot. A pair of spaced upwardly extending legs are provided and have the elongated plates mounted thereon to form a stand and base assembly.

While the specification concludes with claims particularly pointing out and distinctly claiming this subject matter, which may be regarded as the invention, the organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawings, in which:

FIG. 1 is a front view of a fan assembly in accordance with the present invention;

FIG. 2 is a side view of the fan assembly shown by FIG. 1; and

FIG. 3 is a top view of the fan assembly shown by FIG. 1.

Referring to the drawings, and particularly to FIG. 1, the fan assembly of the present invention is shown therein and comprises a base assembly having a generally U-shaped lower front tube 1 in tandem with and spaced from a lower rear frame 2 that is also suitably U-shaped and adapted to receive spaced rollers 3 and 4 such as shown thereon. A first upper frame 5 is formed to define a generally U-shaped member having deformed legs terminating in sockets 5*a* and 5*b* to receive respectively one end of the lower front tube 1 and one end of the lower rear frame 2. A second upper frame member 7 is correspondingly formed and adapted to receive the remaining end of the lower front tube and the remaining end of the lower rear frame in the sockets 7*a* and 7*b* of the second upper frame member 7. The upwardly extending vertical legs defined by the union of the first upper frame member 5 and the second upper frame member 7 with the lower front tube 1 and the lower rear frame 2, are parallel to each other and spaced from each other and retained more securely in this position by means of a suitable cross member 8. A first elongated plate 9 is fixed to and bridges the space between the legs of the first upper frame member 5 and in conjunction with a similar second elongated plate 10 fixed to the second upper frame member 7 forms the arrangement of the invention that provides for the vertical and pivotal adjustment of the fan assembly.

A portable fan casing 13 is provided and received between the upwardly extending vertical legs of the base assembly. The fan casing 13 has a motor driven fan 14 therein which forms no part of the present invention but is of the type generally found in air circulating devices. A first stud member 15 and a second stud member 16 define support surfaces and extend outwardly from opposed walls of the fan casing 13 to engage and pass through the respective first plate member 9 and the second plate member 10. The stud members 15 and 16 receive a threaded knob 17 and 18 respectively, which form suitable clamping means.

Referring now to FIG. 2, a side view of the fan assembly shown by FIG. 1 is presented wherein the elongated plate 10 is clearly shown. The generally U-shaped second upper frame 7 is shown suitably deformed and terminating in sockets 7*a* and 7*b* to receive the respective ends of the lower front tube 1 and the lower rear frame 2. Cross member 8 includes two generally parallel side arms 20 and uniquely serves as a brace between members 7*a*, 7*b*, 5*a* and 5*b*. The elongated plate 10 fixed to the second upper frame member 7 bridges the area between the U and leaves only the bight of the U open to serve as one handle 22 when the particular fan assembly being described is moved from one location to another. Such movement may be accomplished by tilting the fan assembly about the horizontal pivotal axis defined by the rollers 3 and 4 so that the lower front tube 1 is elevated from a support surface. The fan assembly may then be moved to a desired location where it is again pivoted forwardly about the axis defined by the rollers until the lower front tube again engages the support surface and restrains further movement of the fan assembly.

The elongated plate 10 has a longitudinal slot 24 therein adapted to receive, with a slight tolerance therebetween, the outwardly extending stud 16 from the fan casing 13. A plurality of spaced notches such as shown at 25 are further provided that intersect the longitudinal slot 24. Elongated plate 9 is similar to plate 10 and has a longitudinal slot such as slot 24 therein with similarly spaced notches such as the notch 25 of plate 10. The notches in both plates 9 and 10, such as the notch 25 of plate 10, intersect the longitudinal slot 24 laterally to provide suitable retaining means for the stud members 15 and 16 when the stud members are moved from the longitudinal slot 24 into the desired notches of the elongated plates 9 and 10.

FIG. 3 more clearly shows by a top view of the fan assembly the base assembly developed by the respective lower front tube 1 and lower rear frame 2 in cooperation with the first upper frame 5 and the second upper frame 7. The base assembly with the upwardly extending legs thus formed provides, when reinforced by the unique cross member 8, the light weight yet substantially rigid support for the fan casing 13 incorporating a degree of mo-

bility as evidenced by the suitable rollers 3 and 4 provided on the lower rear frame member 2.

In operation, the portable fan casing 13 is positioned between the first upper frame member 5 and the second upper frame member 7 so that the outwardly extending stud members 15 and 16 engage and pass through the longitudinal slots of the elongated plates 9 and 10 such as the slot 24 of plate 10. The clamping knobs 17 and 18 are then threaded upon the stud members to restrain pivotal movement of the fan casing 13 about the pivotal axis defined by the outwardly extending opposed stud members 15 and 16. Generally, vertical adjustment of the fan casing 13 is provided by the longitudinal slots such as slot 24 so that when the clamping knobs 17 and 18 are released, the stud members 15 and 16 of the fan casing may be raised or lowered to position the fan casing at a desired height above the base assembly and in a predetermined relationship thereto. In the present form of the fan assembly being described, the predetermined relationship of the pivotal axis would be that of a horizontal position which is parallel to the surface supporting the base assembly. When a desired vertical height of the fan casing 13 is achieved, the fan casing is displaced from the longitudinal slots into selected ones of the adjacent lateral notches and the clamping knobs 17 and 18 are again tightened to secure the fan casing at the desired height. However, the primary support is now provided by the respective notches receiving the stud members 15 and 16 rather than depending entirely upon a friction clamp means engaging only the elongated plates 9 and 10. Rapid alignment with regard to the base assembly is assured since the spaced lateral notches in the individual elongated plates define equal steps that are in alignment with each other. A lateral or pivotal axis is thus defined which has a predetermined relationship to the base assembly. By means of the clamping knobs 17 and 18, the fan casing 13 may be tilted about the pivotal axis defined by the outwardly extending stud members 15 and 16 to any desired angle to direct the air flow developed by the motor driven fan 14. The clamping knobs 17 and 18 restrain the fan casing at the desired tilt.

As will be evidenced from the foregoing description, certain aspects of the invention are not limited to the particular details of the construction illustrated, and it is contemplated that other modifications and applications will occur to those skilled in the art. It is, therefore, intended that the appended claims shall cover such modifications and applications that do not depart from the true spirit and scope of the invention.

What I claim is:

1. A mobile, adjustable fan support assembly comprising, a pair of U-shaped tubular lower frame members positioned with their open ends extending generally upwardly and their closed ends adapted to contact a floor or other support surface, a pair of tubular upper frame members supported in spaced parallel relation by said lower frame members with one leg of each upper member being rigidly connected to a respective leg of one of the lower frame members and the other leg of each upper member being connected to a respective leg of the other of the lower frame members, a pair of wheels rotatably mounted on the closed end of one of said pair of lower frame members to permit the support assembly to be tilted and rolled on said wheels, a pair of opposed elongated rectangular plates each extending between the legs of a respective one of said pair of upper frame members with the longer edges of said plates fixed to and conforming to the adjacent leg and being substantially parallel to the legs of the frame members, said plates being spaced from the closed ends of said pair of upper frame members so that the closed ends form convenient handles by which the support assembly may be grasped when being rolled on the wheels, each of said plates having an elongated slot extending between said legs in substantially parallel relation to said legs and the longer edges of the plates, a plurality of spaced notches formed in each of said plates, said notches being lateral to and intersecting a respective one of said slots and being spaced along said slots, a fan casing having oppositely positioned outwardly extending stud members defining a horizontal pivotal axis through said casing, each of said members being received in a respective one of said slots and movable into a selected one of said notches to thereby support said fan casing at the desired height, and a pair of adjustable frictional clamp means adapted to cooperate with a respective one of said studs to selectively abut the adjacent one of said plates so that said fan casing may be clamped in a desired angular position about said horizontal pivotal axis.



2. A vertically adjustable fan support assembly comprising, a pair of spaced U-shaped tubular lower frame members positioned with their open ends extending generally upwardly, a pair of substantially U-shaped tubular upper frame members supported in spaced parallel relation by said lower frame members with one leg of each of said upper frame members being rigidly connected to a respective leg of one of said lower frame members and the other leg of each of said upper frame members being rigidly connected to a respective leg of the other lower frame member so that the entire supporting arrangement forms a support with the closed ends of the lower frame members being adapted to contact a floor or other support surface and with the closed ends of the upper frame members extending upwardly to form convenient handles by which the support assembly may be grasped, each of said upper frame members having a portion of one leg adjacent the open end bent away from the other leg of the frame member thereby causing the lower frame members to diverge from each other with their closed ends being spaced a distance substantially greater than the spacing between the legs of the upper frame members so that the support assembly will be relatively stable, a pair of elongated plates each fixed to the legs of a respective one of said upper frame members within the area between the closed upper ends of the upper frame members and the point at which said one leg of each of the upper frame members is bent away from the other leg, an elongated slot in each of said plates extending between the legs of a respective one of said upper frame members in substantially parallel relation to the legs of the frame members, a plurality of spaced notches in each of said plates lateral to and intersecting a respective one of said slots, a fan casing having oppositely positioned outwardly extending stud members defining a pivotal axis through said casing, each of said stud members being slidable in a respective one of said slots and movable into a selected one of said spaced notches to position the fan casing at the desired height.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 1,855,245 | Kuenzel | Apr. 26, 1932 |
| 2,201,831 | Jacque | May 21, 1940 |
| 2,521,920 | Koch | Sept. 12, 1950 |
| 2,830,779 | Wentling | Apr. 15, 1958 |
| 2,868,558 | Krauss | Jan. 13, 1959 |
| 2,904,298 | Tateishi | Sept. 15, 1959 |

FOREIGN PATENTS

| | | |
|---|---|---|
| 13,240 | Great Britain | of 1913 |