

May 2, 1933.

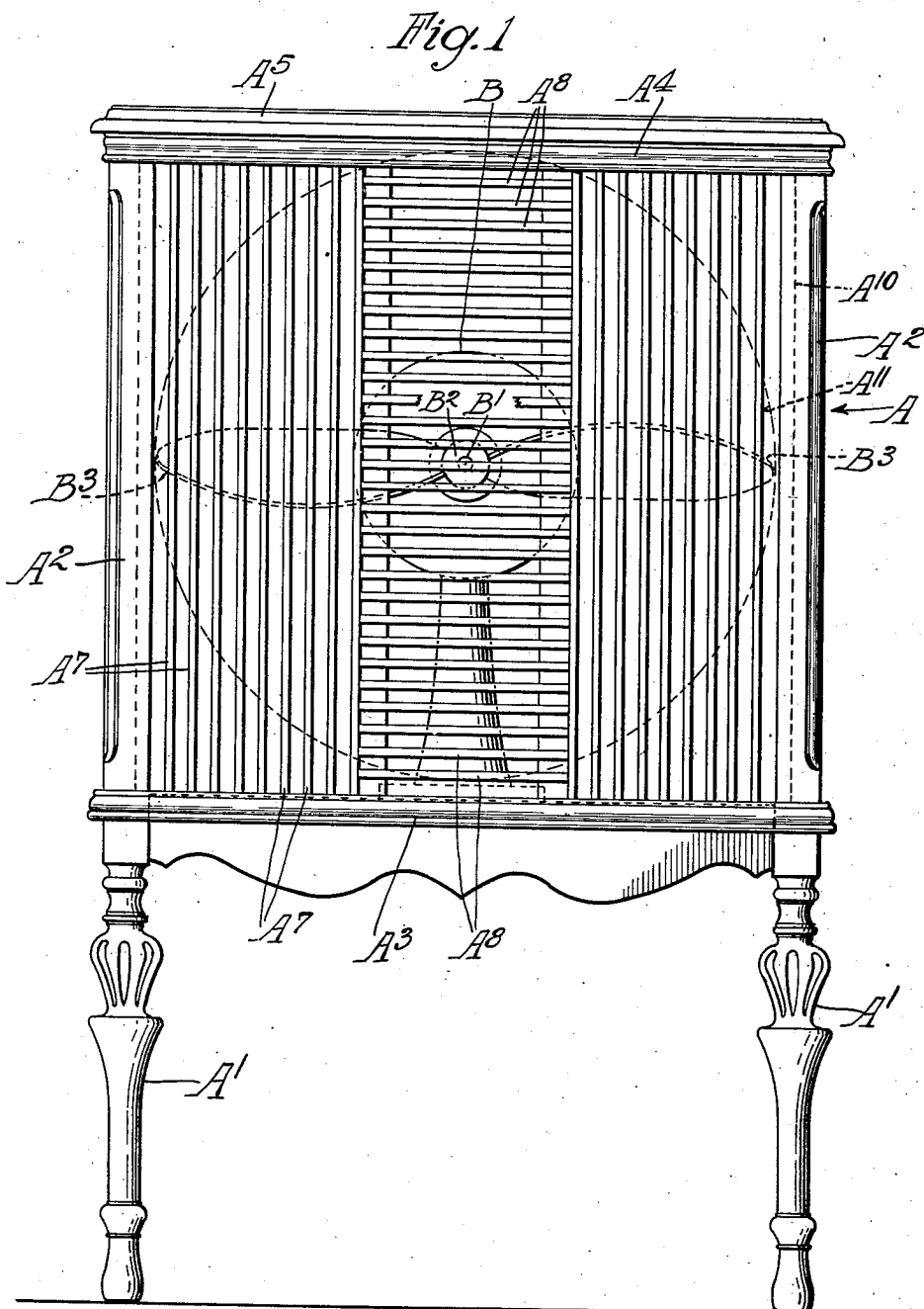
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1,906,408

FAN

Filed Aug. 4, 1930

2 Sheets-Sheet 1



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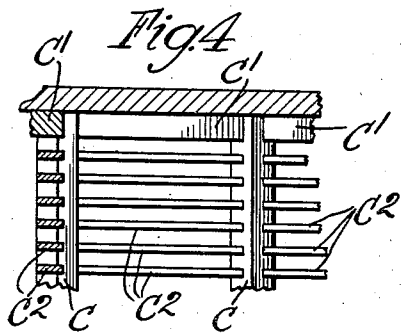
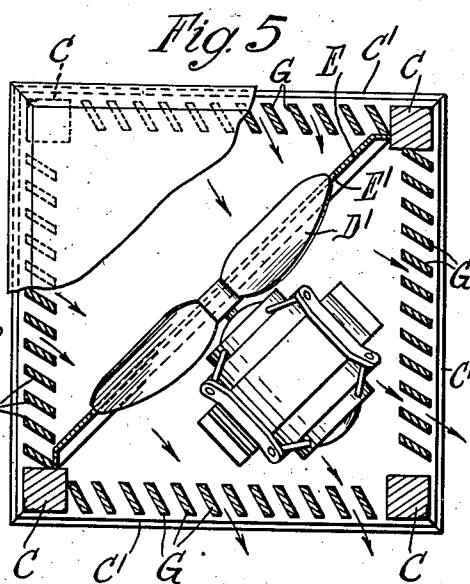
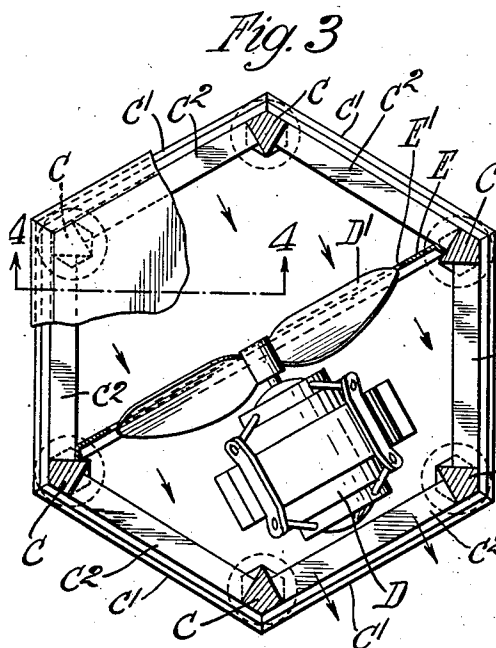
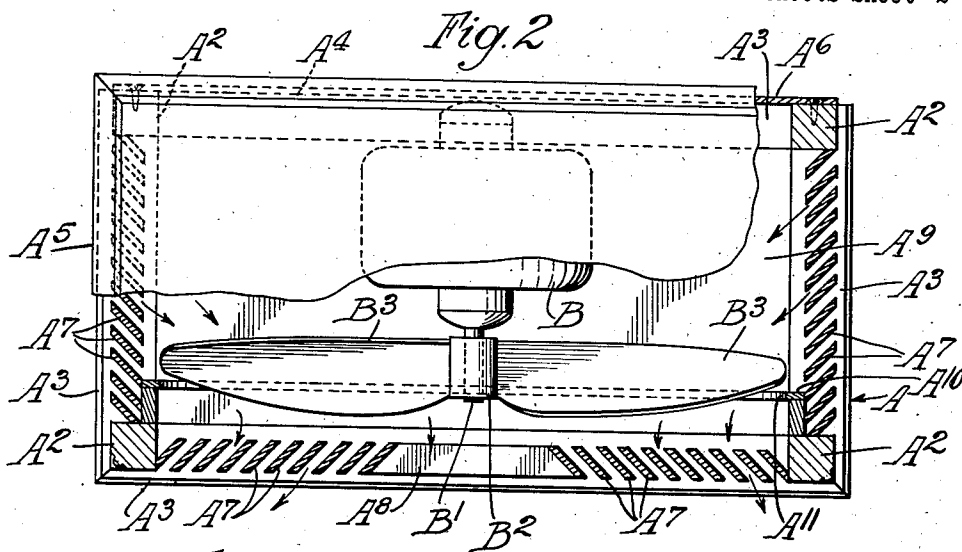
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UNITED STATES PATENT OFFICE

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Application filed August 4, 1930. Serial No. 472,849.

My invention relates to a device for distributing air, and has for one purpose the provision of air distributing or circulating means whereby a fan or its equivalent may be employed to distribute or circulate air in a room. Another object is the provision of an ornamental article of furniture in which a fan or its equivalent may be concealed and protected. Another object is the provision of means for circulating air laterally in a room at the level of maximum utility. Other objects will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawings, wherein:

Figure 1 is a front elevation;

Figure 2 is a plan view, with parts broken away;

Figure 3 is a similar plan view of a variant form of the device;

Figure 4 is a section on the line 4—4 of Figure 3, and

Figure 5 is a plan view, with parts broken away, of a further variation of the device.

Like parts are illustrated by like symbols throughout the specification and drawings.

Referring to Figures 1 and 2, A generally indicates a cabinet, which may be supported upon legs or supports A¹. The cabinet proper is shown as including the side elements A², which may be upward continuations of the legs A¹. A³ are lower transverse frame members which connect the legs A¹ to the supports A². The supports A² are connected at their upper ends, as by the transverse frame members A⁴, upon which may be supported any suitable cover A⁵. A⁶ indicates a closed back for one side of the housing or cabinet so formed. The space between the supports A² may be filled by a plurality of vertical louvers A⁷, which extend between the members A³ and A⁴. The vertical louvers A⁷ may be placed in one portion of the front of the cabinet opposite the back A⁶, the space being filled, for example, by horizontal louvers A⁸. In any case, the result is that the three exposed sides of the cabinet are entirely masked by louvers, horizontal or vertical, so

that the contents of the cabinet may be concealed.

Mounted in any suitable manner, for example upon the bottom member A⁹, is a motor diagrammatically illustrated as B, a motor shaft B¹ upon which may be mounted the fan hub B² which carries a plurality of fan blades B³. It will be understood that a rotation of the fan blades will direct air forwardly through the vertical and horizontal louvers aligned with the front of the fan, while air will be drawn into the housing through the louvers at the sides of the cabinet. In order to maintain a constant circulation of air through the housing or cabinet I may provide a baffle plate A¹⁰ cut away as at A¹¹ to form an aperture into which the fan blades may project. Rotation of the fan will draw air through this aperture. The direction of the flow of air is indicated by the arrows of Figure 2.

Referring to Figures 3 and 4, I illustrate a hexagonal cabinet, having the vertical supports or frame members C, and the connecting horizontal frame members C¹. The spaces between adjacent member C are filled by a plurality of louvers C², the ends of which may penetrate any suitable slots C³ in the sides of the members C.

D diagrammatically indicates a motor supported in any suitable fashion within the cabinet. D¹, D² indicate the blades of the fan adapted to be rotated by said motor. In order to maintain a regular draft or circulation of air through the housing or cabinet, I may provide a vertical partition E cut away as at E¹ to form an aperture conforming generally to the periphery of a circle defining a path of the outer tips of the fan blades. Rotation of the fan will draw air through this aperture, causing it to flow in through three sides of the cabinet and to flow out through the other three sides. The louvers C² may lie in horizontal planes, or, if desired, they may be inclined upwardly or downwardly, depending upon the desired direction of air delivery. When so inclined they more effectively perform the function of masking or concealing the fan and motor, but even when in horizontal position, as shown in Figure 4,

they mask it sufficiently for ordinary purposes.

Referring to Figure 5, I position intermediate the vertical supports C a plurality of vertical louvers G, in place of the horizontal louvers in form of Figures 3 and 4. These vertical louvers are preferably inclined in order to perform their masking function.

It will be realized that whereas I have described and shown a practical and operative device, that nevertheless many changes in size, shape, number and disposition of parts may be made without departing from the spirit of my invention. I therefore wish my drawings to be taken as in a broad sense illustrative or diagrammatic, rather than as limiting me precisely to the details herein described and shown.

The use and operation of my invention are as follows:

I provide an air circulating cabinet or housing which is an ornamental piece of furniture. By its size, it permits the employment of a fan of larger diameter than is normally employed in circulating air in a room. The employment of a large and relatively slow fan, which delivers a large volume of air at a relatively small velocity, is a definite advantage. A large fan is quieter and more efficient than a small fan, and the air delivered by it has a more efficient cooling effect. The delivery of a rapid flow of air by a small, high speed fan, is likely to evaporate all the perspiration of the user. In such case the breeze will have the effect of a heating rather than a cooling breeze. Therefore, the employment of effective and sightly concealing means, enabling the employment of a large and relatively slow fan, is definitely advantageous.

Referring to the drawings, and for example to Figures 1 and 3, I employ a cabinet with a fan rotating about a horizontal axis and directing its air at a group of louvers, the louvers being, for example, horizontally positioned in an open side, or an opening of the cabinet. The air delivered by the fan in effect splashes against the louvers and is given a wide angular delivery from the cabinet. Where horizontal louvers are employed, the column of air is provided, or a beam, which is laterally enlarged or flared, but which vertically is restricted. In other words, from the horizontal louvers of Figure 1 the air is directed almost directly laterally, but may flare widely in a general lateral plane. In the form of Figure 1, I associate vertical louvers with the horizontal louvers, and in the form of Figure 5, I substitute vertical louvers for the horizontal louvers. The vertical louvers reverse the function of the horizontal to the extent that the air may be widely dispensed when taken vertically, but is limited to a more or less restricting beam, or beams when taken horizontally. The com-

bination of the two forms, as in Figure 1, gives a very wide dispersion of the air, while nevertheless maintaining the penetration of the air current by the restricting and directing effect of the louvers.

In effect, the louvers perform a triple purpose. They deflect the air and distribute it laterally or vertically, as the case may be. They conceal the fan, thus making the device more sightly. And they protect the fan, preventing access to it by the fingers, and making it safe to use in a home in which there are children.

I claim:

1. In an air distributing device, a multi-sided housing having at least three of its sides open, a fan positioned completely within the housing and operable to cause air to flow therethrough, and a plurality of louvers positioned in said open sides, one of said openings being located on one side of the fan and constituting an air inlet, and another of the openings being located on the opposite side of the fan and constituting an air outlet.

2. In an air distributing device, a housing having openings therein throughout the greater portion of the superficial area of the housing and a closed flat top, a fan located completely within the housing and directing air therethrough, some of said openings being located rearwardly of the fan and constituting air inlets and another of said openings lying on the opposite side of the fan and constituting an air outlet, and a plurality of louvers in each of said openings.

Signed at St. Louis, State of Missouri, this 21st day of July, 1930.

LAURENCE M. PERSONS.