April 27, 1965 E. LARSON 3,180,043

ADVERTISING DISPLAY DEVICE

Filed Sept. 26, 1962

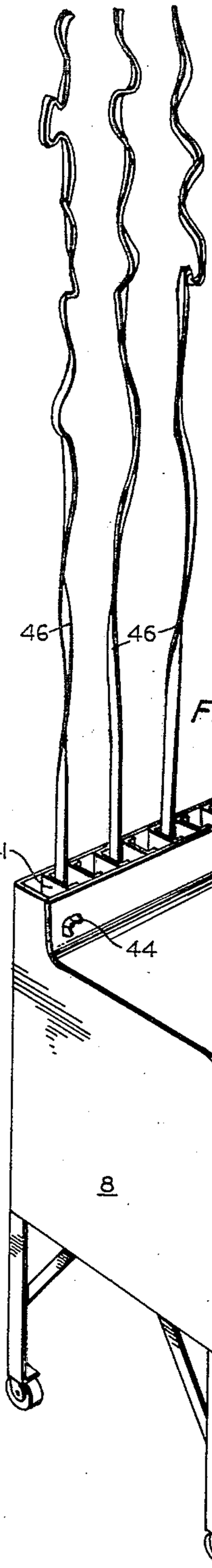

FIG_1

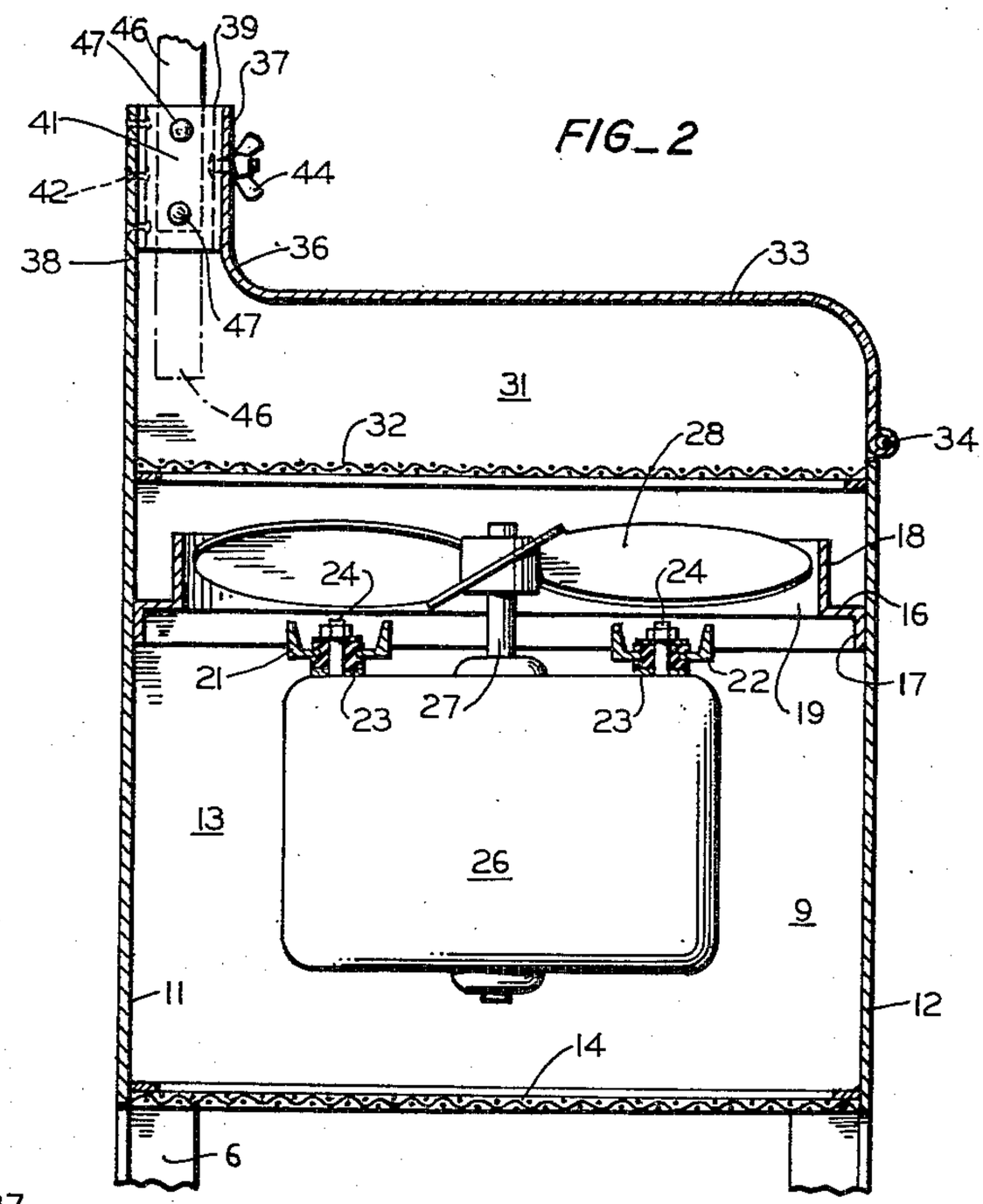

FIG_2

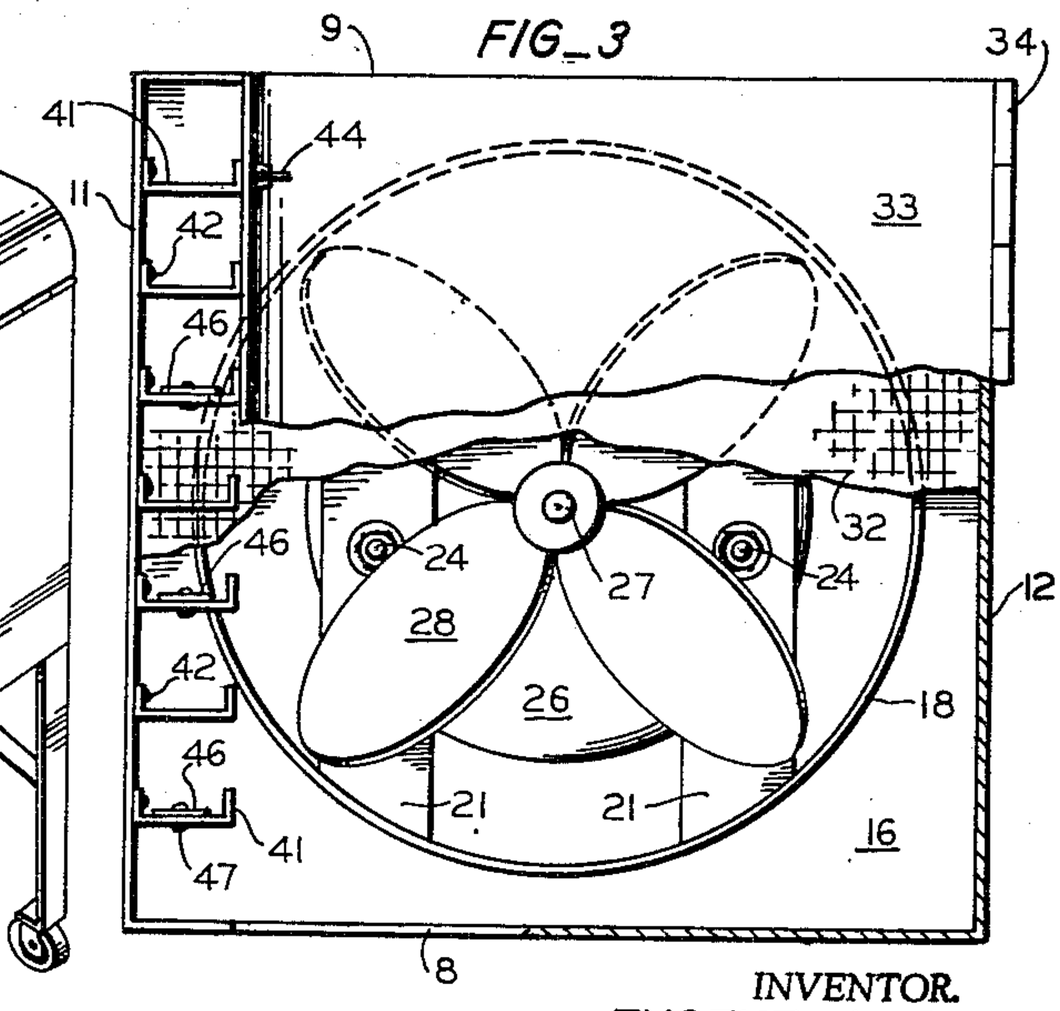

FIG_3

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ADVERTISING DISPLAY DEVICE

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1 Claim. (Cl. 40—37)

My invention relates to machines useful in attracting attention to a sales point; for example, for use in a supermarket to attract attention to a particular area in which a demonstration is being given or a particular display is arranged.

It is desirable to have some means effective despite the surrounding welter of advertising displays to attract particular attention from even remote points to a designated area, usually a certain spot within a store, for example. The display device should have eye-catching motion but should be relatively simple mechanically so as to operate without critical supervision. The device should occupy a small amount of floor space, which usually is at a premium. The device also should be such as not to be in any wise dangerous to any of the patrons, particularly children, and to resist tampering.

It is therefore an object of my invention to provide an advertising display device to meet the foregoing requirements.

Another object of the invention is to provide an advertising display device which can be moved about from time to time so as to change the focus of attention.

Another object of the invention is to provide an advertising display device which will attract attention by using some of the now unused overhead space in a supermarket.

Another object of the invention is to provide a simple, straightforward, safe and effective advertising display device.

A still further object of the invention is to provide an advertising display device which can be stored in a relatively small compass, yet which can make an extended display when in operation.

Other objects together with the foregoing are attained in the embodiment of the invention described in the accompanying description and illustrated in the accompanying drawings, in which:

FIGURE 1 is an isometric perspective view showing the advertising display device of the invention as it appears in operation;

FIGURE 2 is a cross sectional view, the section being taken on a transverse vertical plane through the advertising display device of the invention; and

FIGURE 3 is a top plan view with portions of the structure broken away at successively lower levels to show the interior construction of the device.

While the advertising display device pursuant to the invention can be incorporated in a number of different ways, it has successfully been commercially embodied as illustrated. The device is adapted to be moved about within an enclosure such as a supermarket and includes a frame, generally designated 6, including a number of structural members such as angles and plates or sheets to afford a generally upright device movable about the floor on supporting casters 7. The frame also includes a pair of side plates 8 and 9 as well as a rear plate 11 and a forward plate 12. These serve partially as structural members and partially to enclose the four sides of a chamber, generally designated 13, having a rectangular shape in plan. The plates 8, 9, 11 and 12 do not extend as far as the floor, but are spaced therefrom to leave a freely accessible open bottom for the chamber 13. The bottom opening is partially obstructed by a transversely extending horizontal screen 14 suitably fastened in place.

Spanning the four sides of the chamber 13 at an appropriate elevation is a transversely extending shroud plate 16 having downturned flanges 17 secured appropriately to the four sides of the chamber and having an upstanding flange 18 constituting a circular shroud band defining a circular opening 19.

Extending across the opening 19 and secured to the frame 6 are channels 21 and 22 bearing insulating supports 23 with which fasteners 24 are associated. An electric motor 26 is suspended by the fasteners 24 through the insulating supports 23 on the channels 21 and 22 and is thus symmetrically located within the frame 6. The drive shaft 27 of the motor is disposed with its axis vertical. At the upper end of the motor shaft 27 a fan 28 is fastened. In this instance a multi-bladed axial flow fan is used and is efficiently located within the opening 19 in an appropriate position with regard to the shroud flange 18.

Also spanning the interior of the frame 6 and in effect dividing the chamber 13 into a lower compartment containing the fan and motor and an upper compartment 31 is a screen 32 secured at its sides to the various walls 8, 9, 11 and 12 and in effect duplicating the lower screen 14.

The upper portion of the chamber 13 and of the compartment 31 is substantially closed by a cover 33. This is preferably an appropriately contoured metal sheet mounted by a hinge 34 on the front wall 12. The cover 33 encloses the upper compartment 31 except that the cover 33 has a gradually curved portion 36 leading into an upright wall 37 parallel to and spaced from an upwardly extending portion 38 of the wall 11. These upwardly extending portions together with extensions on the side walls 8 and 9 help to define an upwardly opening elongated rectangular outlet 39. The air outlet 39 is of considerably less area than that of the opening 19 and the contours of the chamber 13, particularly of the compartment 31, are such that air induced to flow in through the inlet screen 14 and accelerated by the fan 28 is directed through the outlet 39 in a generally upward direction at a relatively high velocity, very little of the force imparted by the fan being dissipated in unnecessary eddy currents. In effect, an upwardly extending air curtain comparable to an elongated thin air jet is afforded.

The discharge outlet 39 is divided into a number of nearly square openings by a plurality of partitions 41 extending across the outlet. The partitions are conveniently made in the form of channels secured by fastenings 42 to the extension of the wall 11. The partitions extend from a point flush with the upper edges of the wall 37 and the wall portion 38 downwardly about to the entrance curve 36. The partitions also serve as abutments for the upwardly turned wall 37 of the cover 33. The wall 37 is normally urged against the partitions and the end walls and the cover is retained in closed position by wing nuts 44 engaging appropriate studs on the frame 6.

Particularly pursuant to the invention, the frame 6 and especially the partitions 41 are utilized as anchor or fastening points for a number of streamers 46. These streamers are conveniently of a very flexible light material such as reinforced paper or cloth or plastic of a length which is considerably greater than the height of the frame 6. The streamers 46 have a width substantially the same as or slightly less than that of the openings defined by the partitions 41. At its lower end each streamer is secured by a fastening 47 to an individual one of the partitions.

When the device is operating, as shown in FIGURE 1, with the motor 26 energized and the fan 28 inducing an air flow from the inlet screen 14 through the chamber 13 and the compartment 31 and out the outlet 39, the streamers 46 are impelled into substantially vertical positions. The lower portions of the streamers are nearly straight with

relatively small vibrations usually, but the upper portions, where the air velocity is somewhat less directional, wave and move about with random motions. The velocity of efflux of the air is sufficient to extend the streamers 46 upwardly, in a practical case about eighteen to twenty feet above the floor, so that the upper ends of the streamers particularly, whipping and moving about and preferably being of bright colored materials, can be readily seen from a distance and attract considerable attention. All the time that the device is operating the streamers are substantially air supported and are largely blown upwardly into an upper space of the supermarket not otherwise used.

During the operation of the fan the screen 14 keeps out any miscellaneous debris which might otherwise enter and the size of the openings between the partitions 41 in the outlet 39 is such that no sizeable debris can be introduced therein. Debris small enough to enter the openings is usually expelled readily without harm, or, if it happens to be heavy, may even fall into the machine as far as the screen 32, but is thereby kept from getting into the fan mechanism.

When the device is to be shut down, the motor 26 is turned off and as the air velocity dies out, the streamers 46 fall by gravity. The streamers then can be individually rolled, folded or otherwise compacted and introduced through the openings between the partitions 41 part way into the compartment 31. If they are so introduced with some regularity and a small amount of care, they are well stowed out of the way. Then when the device is re-energized for subsequent use the air velocity from the fan is sufficient to blow the streamers out of their somewhat folded condition from the openings and into their upright display position as shown in FIGURE 1. Alternatively, the wing nuts 44 can be removed and the cover 33 opened so that the falling streamers can be positioned at random within the compartment 31. Then when the cover is restored to its closed condition and the wing nuts 44 retightened, the mechanism is safe from any ordinary tampering.

Pursuant to the invention, there has been provided very simply an effective display device which can be utilized in any of various different locations and which attracts attention by an animated display rather high in the air and alluring to an observer.

What is claimed is:

An advertising display device comprising a portable frame, means on said frame providing a chamber, said chamber being closed on four sides and having an air inlet at the bottom, means on said frame for supporting an electric motor with the drive shaft of said motor vertical, a shroud plate disposed horizontally on said frame and having a circular opening, a fan mounted on said drive shaft and disposed in said opening, a screen disposed horizontally on said frame and overlying said fan, an openable cover disposed on said frame and closing the top of said chamber except for an air outlet and defining a compartment between said cover and said screen, a plurality of partitions extending across said outlet from said frame to said cover, a plurality of streamers, and means for securing said streamers at the lower end of each to said partitions to dispose said streamers at a plurality of horizontally spaced points across said frame and adjacent said outlet in position to be supported substantially vertically and in side-by-side relationship above said outlet by air blown from said inlet through said outlet by said fan and in position to be passed through said outlet between said partitions and to be received within said compartment.

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