Nov. 30, 1937. R. F. ANDLER 2,100,690

MECHANICAL ADVERTISING DEVICE

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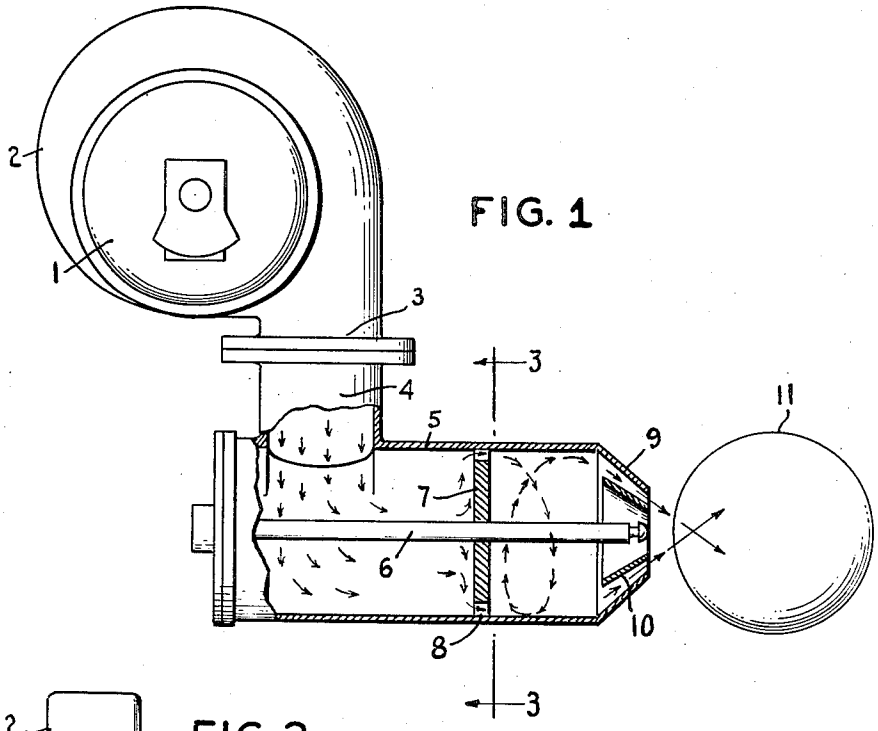


FIG. 1

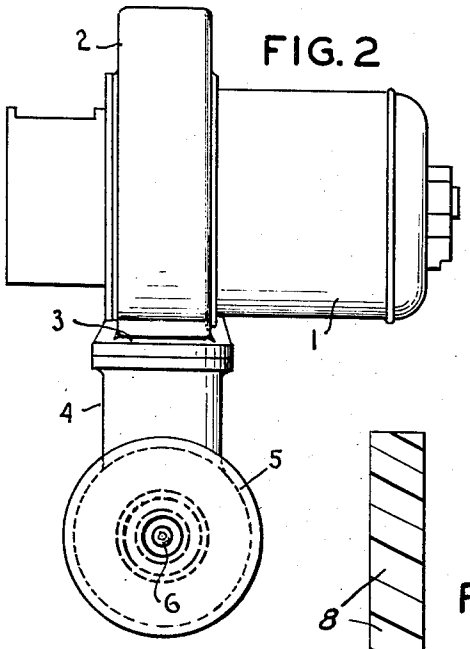


FIG. 2

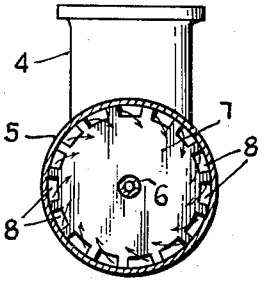


FIG. 3

FIG. 4

INVENTOR.
Robert F. Andler
BY Harvey Lea Dodson
ATTORNEY.

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MECHANICAL ADVERTISING DEVICE

Robert F. Andler, Rutherford, N. J., assignor to Electrol Incorporated, Clifton, N. J., a corporation of Delaware

Application December 29, 1936, Serial No. 118,082

3 Claims. (Cl. 35—49)

My invention relates to that class of devices which are shown in United States Patent No. 1,816,521, issued to J. P. Feeley, July 28, 1931. As shown in that patent the device is used to illustrate the manner of travel of the flame of an oil burner it being illustrated by supporting an air filled balloon, adjacent the end of a cylinder of the gun type of oil burner with a rapidly rotating current of air projected from the end of the gun, due to the fact that the air enters the cylinder from a blower fan having an involute curve.

My invention has for its object to provide an apparatus which will accomplish the result without employing an involute curve and which will operate to hold the balloon suspended a short distance in front of the nozzle.

My means of accomplishing the foregoing objects may be more fully comprehended by having reference to the accompanying drawing, which is hereunto annexed and is a part of this specification in which:

Fig. 1 is a side elevation of my improved construction, a portion of the nozzle being shown in section so as to illustrate the manner in which the air is caused to circulate in a spiral, and the means for winding it into a vortex beyond the end of the nozzle so as to hold the balloon in the desired position;

Fig. 2 is a front elevation;

Fig. 3 is a cross section taken on the line 3—3 in Fig. 1; and

Fig. 4 is an enlarged detailed end view of the disc.

As shown in the drawing, an electric motor 1 is suitably connected to a standard blower fan 2, the discharge 3 of which carries the air through a pipe 4 which is suitably connected to a cylindrical sleeve 5. A tube 6 which simulates the tube used to convey the fuel is mounted in an axial center of the sleeve 5. On this tube is mounted a disc 7 which is provided with peripheral orifices 8 the walls of which are inclined so as to cause the air to assume a gyrating movement inside of the cylindrical sleeve 5 after it passes the disc 7, its travel being indicated by directional arrows.

The end 9 of the cylindrical sleeve 5 is formed by an inwardly extending truncated conoidal portion, a smaller truncated conoidal portion 10 is mounted inside of the truncated conoidal portion 9, the outer walls of which are spaced therefrom so as to provide an annular conoidal space for the travel of the air.

The result of this construction is that when the electric motor is revolved, it will cause the blower fan 2 to discharge an air stream, as indicated by the arrows, into the cylindrical sleeve 5, where it will impinge against the disc 7 and escape through the peripheral orifices 8 which cause it to assume the gyrating motion indicated by the arrows in Fig. 1.

This air escapes through the annular conoidal space intermediate the cones 9 and 10 which operates to wind it up so that it will produce a vortex when it leaves the nozzle. This results in producing a partial vacuum at the center of the vortex which serves to draw the balloon inwardly at that point.

The balloon is constructed in the usual manner of rubber, and is filled with air. The action of the vortex in drawing the balloon inwardly is resisted by the outwardly flowing currents of air which, impinging upon the surface of the balloon repel it with the result that it is caused to rotate upon its axis and is held suspended adjacent the end of the cylinder sleeve 5 as clearly seen in Fig. 1 of the drawing.

Having described my invention, what I regard as new and desire to secure by Letters Patent is:

1. An advertising device designed to hold an air filled balloon adjacent the end of a cylindrical sleeve, a source of air supply, means to direct said air into said cylindrical sleeve, a disc mounted in said sleeve having a plurality of peripheral orifices inclined to cause the air currents to gyrate in said sleeve on the side of the disc away from the entrance of the air current, the end of said cylindrical sleeve being formed by a truncated conoidal portion, a smaller truncated conoidal cone mounted inside of the end of said sleeve, forming an annular conoidal space intermediate the two, whereby the air escaping therefrom will be wound up into a vortex which operates to support the air filled balloon adjacent the end of said cylindrical sleeve.

2. An advertising device designed to hold an air filled balloon adjacent the end of a cylindrical sleeve, a source of air supply, means to direct said air into said cylindrical sleeve, means mounted in said sleeve to cause the air to gyrate in said sleeve the end of said cylindrical sleeve being formed of a truncated conoidal portion, a smaller truncated conoidal cone mounted inside of the end of said sleeve forming an annular conoidal space intermediate the two whereby the air escaping therefrom will be wound up into a vortex which operates to support the air filled balloon adjacent the end of said cylindrical sleeve.

3. An advertising device designed to hold an

air filled balloon adjacent the end of a cylindrical sleeve, a source of air supply, means to direct said air into said cylindrical sleeve, a plurality of inclined walls mounted in said sleeve adjacent the inner wall of said sleeve to cause the air currents to gyrate in said sleeve on the side of the disc away from the entrance of the air current, the end of said cylindrical sleeve being formed of a truncated conoidal portion, a smaller truncated conoidal cone mounted inside of the end of said sleeve forming an annular conoidal space intermediate the two, whereby the air escaping therefrom will be wound up into a vortex which operates to support the air filled balloon adjacent the end of said cylindrical sleeve.

ROBERT F. ANDLER.