

April 12, 1932.

J. L. BERGGREN

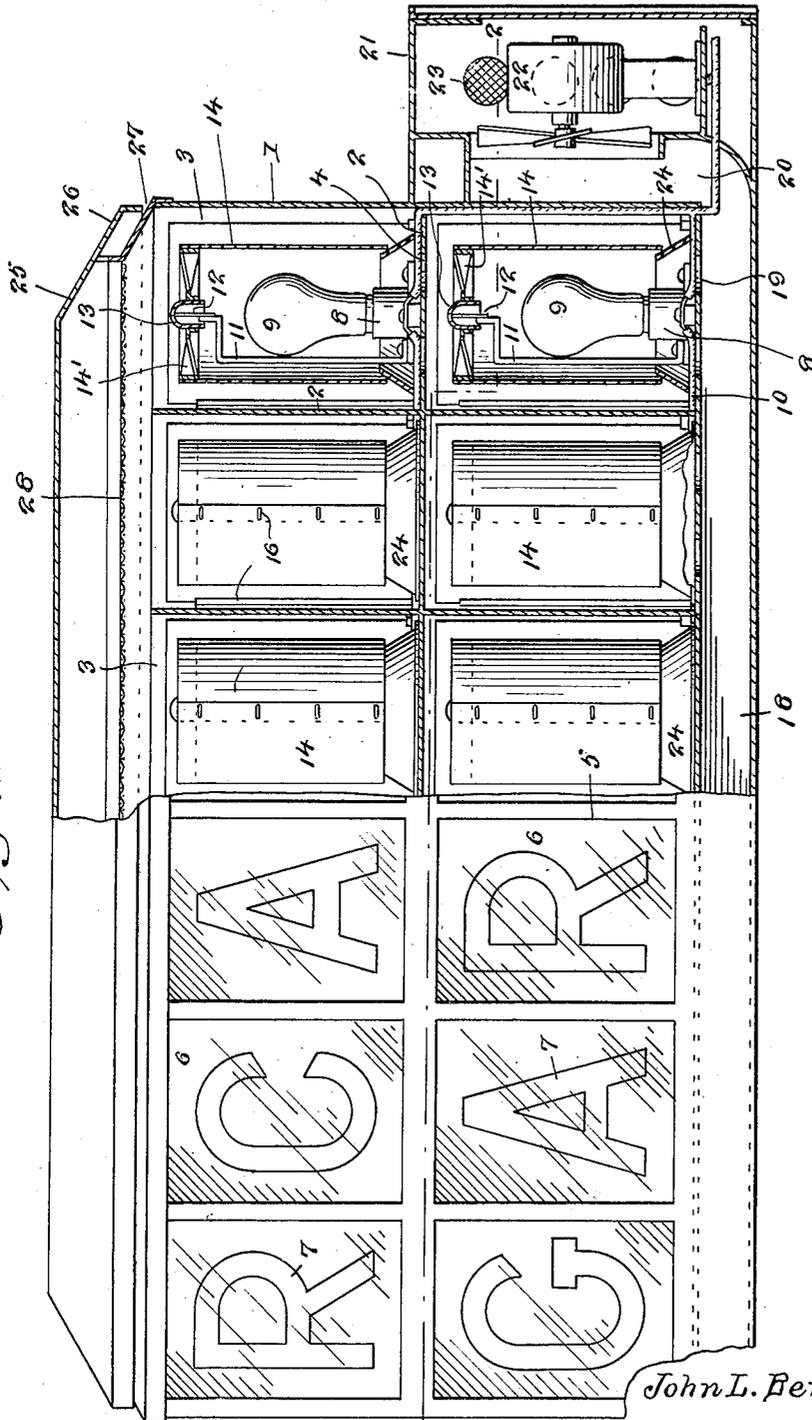
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3 Sheets-Sheet 1

Fig. 1.



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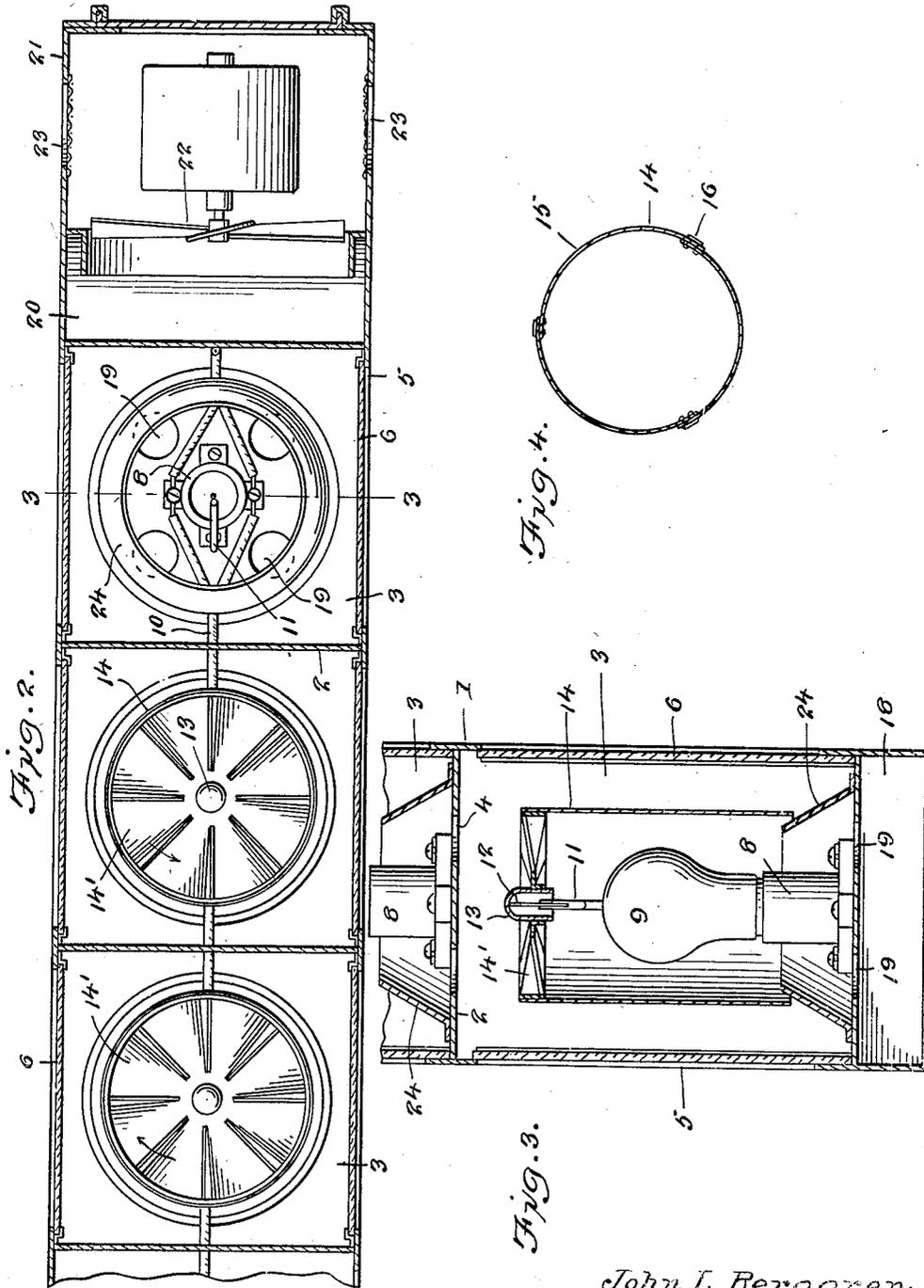
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Fig. 6.

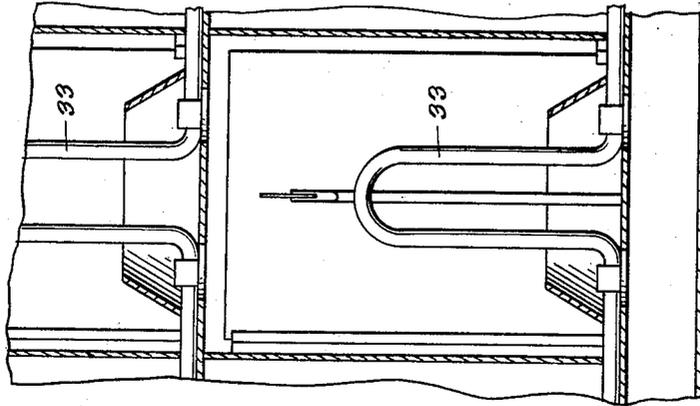


Fig. 6.

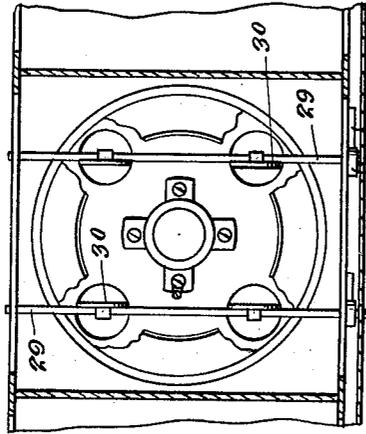


Fig. 7.

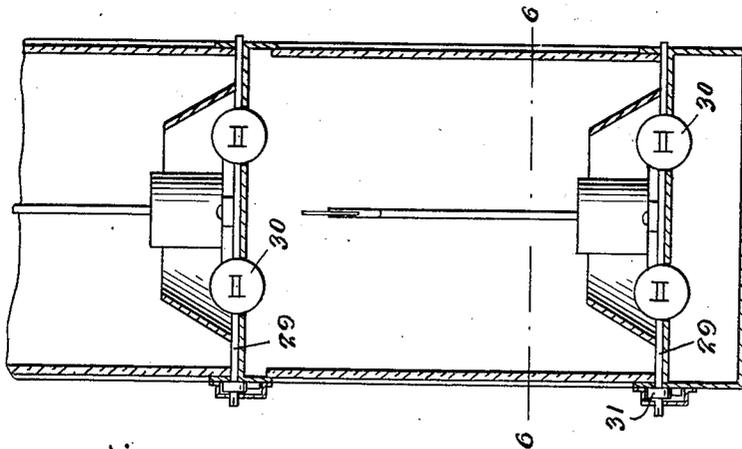
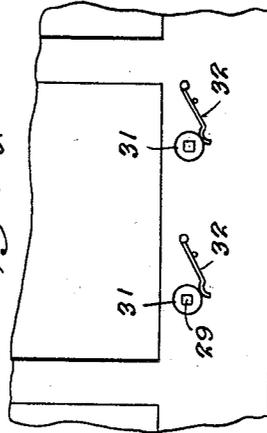


Fig. 5.

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# UNITED STATES PATENT OFFICE

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Application filed March 2, 1931. Serial No. 549,575.

This invention relates to improvements in display signs and has for the primary object, the provision of means, whereby the characters of a sign may be accentuated to attract attention thereto by changing the color thereof, thus providing a device which will be extremely simple in construction and cheap in maintenance and one which will be attractive so as to afford maximum display advantages.

Another object of this invention is the provision of an independent luminating means for each character and equipped with means whereby the colors of each character may be continually changed.

A further object of this invention is the provision of a pneumatic operating means for the color changing mechanisms and which is so constructed that the speed of operation of the color changing mechanisms may be varied to suit the taste of each individual user.

A further object of this invention is the provision of a sign of the above noted character which will be simple, durable and efficient and which may be manufactured and sold at a comparatively low cost.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in a certain novel arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a side elevation partly in section, illustrating a sign construction in accordance with my invention.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a detail sectional view illustrating the color changing means for the characters.

Figure 5 is a fragmentary sectional view illustrating the control for the pneumatic operating means.

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 5.

Figure 7 is a fragmentary elevation illus-

trating the means for holding the control means in any of its adjusted positions.

Figure 8 is a fragmentary sectional view illustrating a modified form of illuminating means for the characters.

Referring in detail to the drawings, the numeral 1 indicates an elongated casing having arranged therein vertically and horizontally disposed partitions 2 for the purpose of dividing the center of the casing into a plurality of compartments 3, and by referring to Figure 1 it will be noted that the compartments are arranged in pairs with one compartment of each pair arranged above the companion compartment. The pairs of compartments are in communication with each other by openings 4 formed in the horizontal partition. The side walls of the casing 1 are provided with windows 5 aligning with the compartments and closed by transparent panels 6 having applied thereto characters 7 in any suitable manner.

Each compartment has mounted on the bottom wall an electric lamp socket 8 to receive an electric lamp 9 for the purpose of illuminating the characters on the panels 6 of each respective compartment. The electric sockets 8 are electrically connected together by conductors 10 adapted to extend outwardly of the casing 1 to be attached in any ordinary manner with an electric source.

A vertically disposed supporting rod 11 is secured to each electric lamp socket 8 and has its upper portion bent angularly to form a vertically disposed bearing pintle 12 disposed above the electric lamp and is received in a bearing 13 of a color changing shield 14. The shield 14 is of cylindrical formation, the walls of which are constructed of a plurality of color panels 15 riveted or otherwise secured together as shown at 16. The shield is disposed about the electric lamp 9 and has secured in its upper end a wind wheel 14 the blades of which are so disposed that the passage of air therethrough will cause rotation of the shield 14 about the electric lamp bringing first one color strip or panel in alignment with the windows and then another panel so as to continuously change the light rays from the lamps to the panels thereby

affording a continuous changing of color to the characters during the operation of the device.

Each wind wheel 14' has mounted in the hub thereof a bearing 13 of tubular shape with one end open and the other end closed by an integral arcuate shaped wall forming a curved bearing surface for the end of the pintle 12 to engage thus permitting the shield to adjust itself to the lamp at all times during its rotation about the lamp. The pitch or angle of the blades of the different wind wheels may be varied for the purpose of causing one shield to rotate in one direction while the adjacent shield is rotated in an opposite direction.

An elongated chamber 18 is formed on the bottom of the casing 1 and is in communication with the lower compartment by openings 19 and the chamber 18 at one end communicates with a fan chamber 20 formed in a housing 21 carried by one end of the casing 1. An electrically driven fan 22 is mounted in the housing 21 with the blades thereof positioned in the fan chamber 20 so that during the rotation thereof air will be drawn into the housing 21 by way of the opening 23 and forced through the fan housing into the chamber 18. The air under pressure in the chamber 18 passes upwardly through the lower compartments through the shields 14 and through the blades of the wind shields 15 causing rotation of the shields about the electric lamps. The air passing upwardly in the lower compartments, enter the upper compartments and passes upwardly through the shields located in said upper compartments and through their respective wind wheels causing rotation of the upper shields about their respective electric lamp.

Each compartment has a conical shaped deflector 24 mounted on the bottom wall thereof and about the air openings of said compartments and extending into the lower end of the shield for the purpose of deflecting the air passing through the openings into the shield.

The upper end of the casing 1 is closed by a removable cover 25 including upper and lower sections 26 and 27 which are so connected and spaced from each other that the exhaust passages for the air escaping from the upper compartments may pass out to the atmosphere.

The upper section 26 has its edges disposed inwardly of the edges of the lower section 27 to prevent weather elements from entering the casing but still permitting free exhaust of the air from the casing. A screen 28 of any suitable material closes the lower section 27 for the purpose of preventing foreign matter from entering the compartments, should such matter gain entrance to the interior of the cover or between the sections 26 and 27 thereof.

Valve operating rods 29 are journaled in each compartment adjacent to the bottom walls thereof and extend outwardly of the casing and also across the openings and have secured thereto valve plates 30 for the purpose of opening and closing the openings, and also to permit the size of the openings to be varied. The outer ends of the rods may be shaped to receive an operating handle (not shown) whereby said operating rods may be rotated to vary the positions of the plates relative to the walls of the openings. Disks 31 are secured to the operating rods and are engaged by the free ends of leaf springs 32 for the purpose of holding the rods in any of their adjusted positions, thus it will be seen that means is provided whereby the passage of air through the compartments may be regulated consequently permitting the speed of rotation of the shields to be varied.

Referring to my modified form of invention as shown in Figure 8, the electric lamp sockets 8 and electric lamps 9 may have neon tubes 33 substituted in lieu thereof and over which the shields may operate.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope as claimed.

Having thus described my invention, what I claim is:

1. A sign comprising a casing, rows of compartments in said casing and the compartments of one row disposed above and in vertical alignment with the compartments of the other row and having communication with each other, illuminating means in each compartment, character panels for each compartment, color varying shields associated with the illuminating means and rotatably mounted, means forcing air through the compartments and shields, and means carried by the shields for causing rotation thereof by the air passing through said shields.

2. A sign comprising a casing, rows of compartments in said casing and the compartments of one row disposed above and in vertical alignment with the compartments of the other row and having communication with each other, illuminating means in each compartment, character panels for each compartment, color varying shields associated with illuminating means and rotatably mounted, means forcing air through the compartments and shields, and wind wheels secured to the shields for rotating the latter by the air passing through said shields.

3. A sign comprising a casing, rows of compartments in said casing and the compartments of one row disposed above and in vertical alignment with the compartments of the other row and having communication

with each other, illuminating means in each compartment, character panels for each compartment, color varying shields associated with illuminating means and rotatably mounted, means forcing air through the compartments and shields, wind wheels secured to the shields for rotating the latter by the air passing through said shields, and means for regulating the flow of air through said shields.

4. A sign comprising a casing, rows of compartments in said casing and the compartments of one row disposed above and in vertical alignment with the compartments of the other row and having communication with each other, illuminating means in each compartment, character panels for each compartment, color varying shields associated with illuminating means and rotatably mounted, means forcing air through the compartments and shields, wind wheels secured to the shields for rotating the latter by the air passing through said shields, means for regulating the flow of air through said shields, and deflectors for directing the air through the shields.

5. A sign comprising a casing, rows of compartments in said casing and the compartments of one row disposed above and in vertical alignment with the compartments of the other row and having communication with each other, illuminating means in each compartment, character panels for each compartment, color varying shields associated with illuminating means and rotatably mounted, means forcing air through the compartments and shields, wind wheels secured to the shields for rotating the latter by the air passing through said shields, means for regulating the flow of air through said shields, and deflectors for directing the air through the shields, and means for holding said regulating means in any of its adjusted positions.

6. A sign comprising a casing, a pair of compartments in the casing and having communication with each other, characters associated with the compartments, illuminating means in each compartment, a color varying shield associated with each illuminating means and rotatably mounted, means for rotating the shield by the passing of air through said shields, a conduit on the casing and in communication with one of the compartments, a housing on said casing, a fan chamber in the housing and in communication with the conduit, an electric fan having the blades thereof in the fan chamber for forcing air through the conduit and through the compartments and shields located therein.

7. A sign comprising a casing having communicating compartments, illuminating means for each compartment, air operated color varying means associated with the illuminating means, means forcing air through said compartments to actuate the color vary-

ing means, a removable cover for the casing and including spaced sections to permit the air to escape from the compartments, and a screen closing one of the sections.

8. The combination with an illuminating means, of a display medium enclosing said means, color varying means for the display means and enclosed by the latter, and compressed air supply operating the color varying means.

9. A sign comprising a face having a translucent portion, illuminating means to the rear of said translucent portion, and compressed air operated color varying means for said translucent portion associated with the illuminating means.

In testimony whereof I affix my signature.  
JOHN L. BERGGREN.

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