

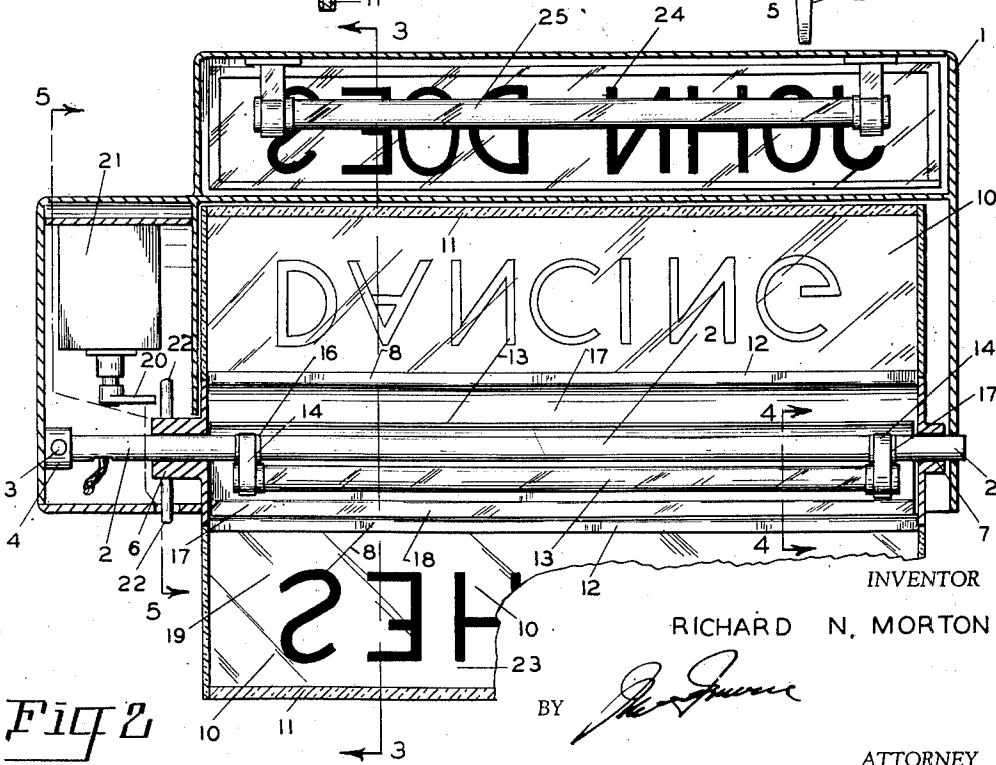
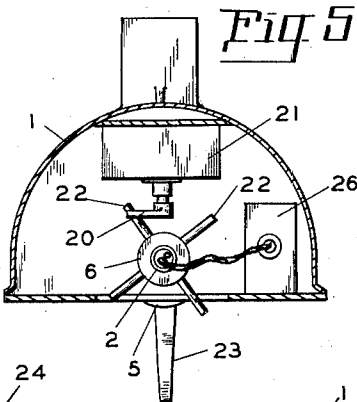
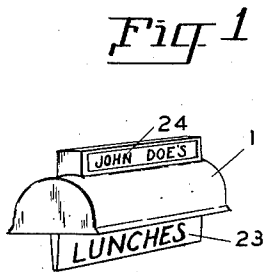
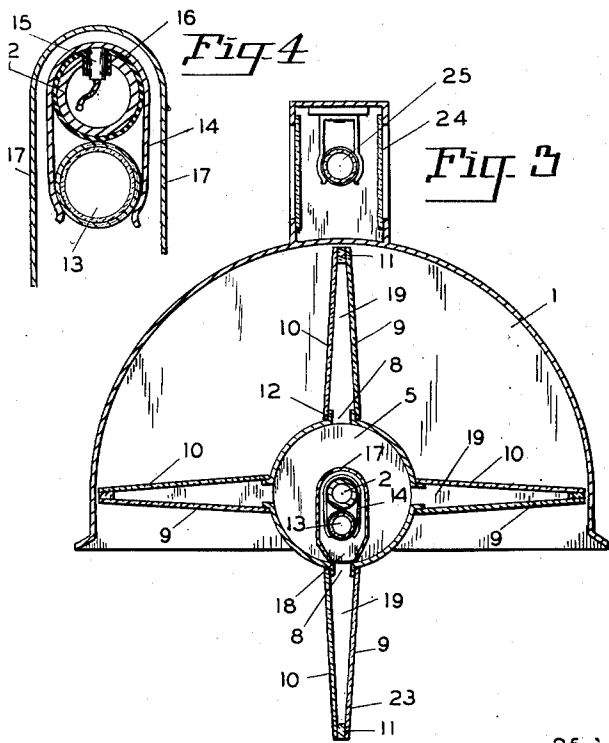
April 15, 1952

R. N. MORTON
ROTATABLE DISPLAY SIGN

2,593,331

Filed Dec. 9, 1949

2 SHEETS—SHEET 1



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2 SHEETS—SHEET 2

Fig 1

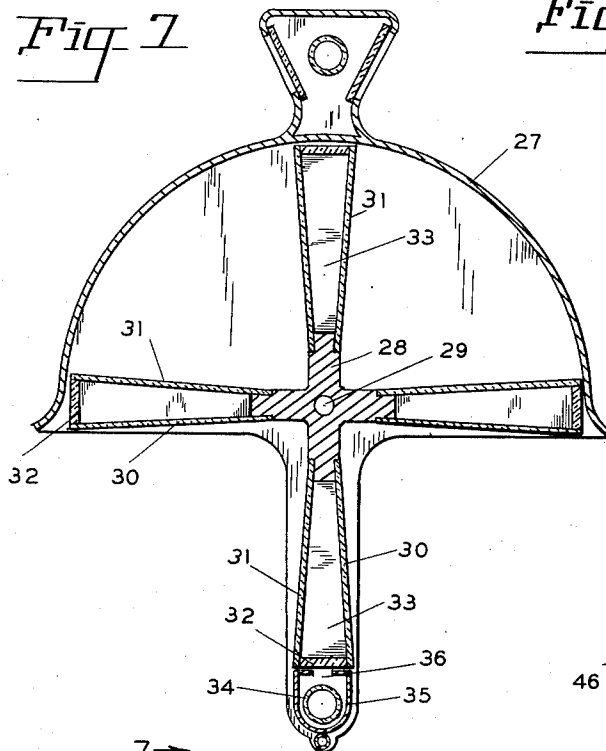


Fig 8

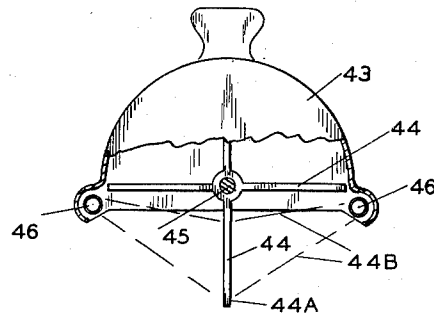
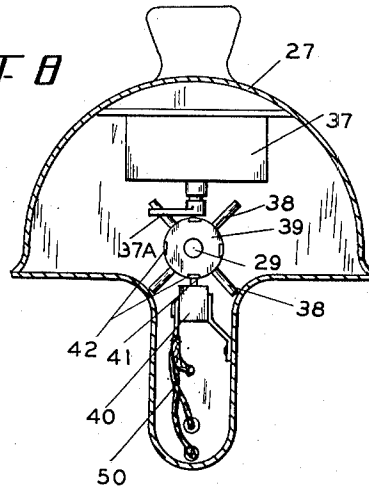


Fig 9

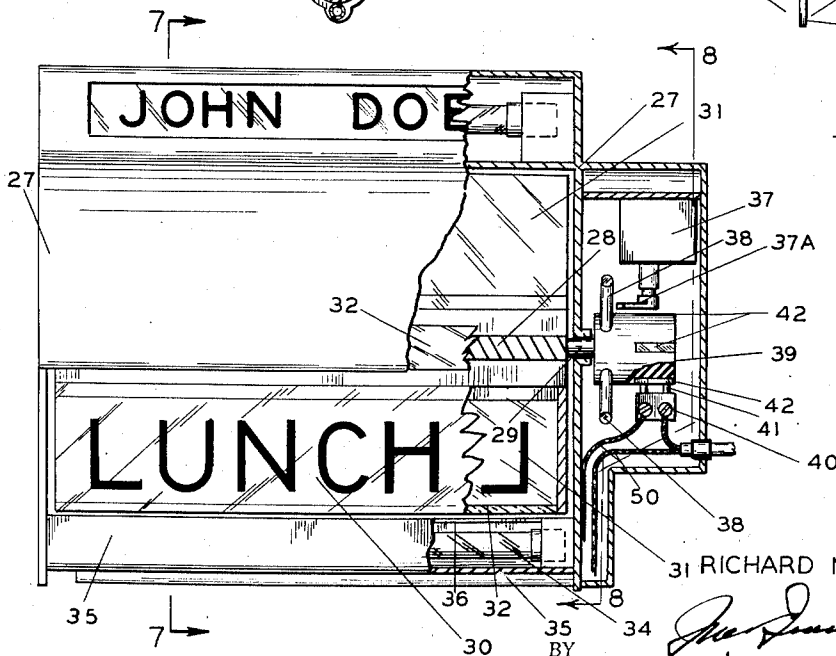


Fig 6

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ROTATABLE DISPLAY SIGN

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Application December 9, 1949, Serial No. 132,016

1 Claim. (Cl. 40-77)

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This invention relates to signs and is particularly adapted to signs wherein the script is periodically changed and illuminated.

The primary object of my invention is to periodically change the script of a sign, illuminating the script after the change has been completed. This is accomplished by mounting the signs on a rotor, means being provided for revolving the rotor a predetermined amount causing one sign to disappear while another is taking its place.

While the sign and script is being changed the sign remains dark, but on completing the positioning of the sign the same is illuminated. The means of rotating the sign permitting the rotor to stand still for a predetermined length of time, causing the sign brought into position to be displayed.

A further object of the invention is to provide a sign having a series of signs mounted to a rotor, said rotor being so positioned within the sign casing so that only one sign at a time can be read, but this sign can be read from both sides at the same time.

These and other incidental objects will be apparent in the drawings, specification and claim. Referring to the drawings:

Figure 1 is a perspective view of one of my new and improved rotary display signs.

Figure 2 is a longitudinal sectional view of the sign indicated in Figure 1.

Figure 3 is an end sectional view, taken on line 3-3 of Figure 2.

Figure 4 is an enlarged fragmentary detail sectional view taken on line 4-4 of Figure 2.

Figure 5 is an end sectional view taken on line 5-5 of Figure 2 indicating the method of rotating the rotor.

Figure 6 is another preferred form of embodiment of my invention. This view is a side view, partially broken away for convenience of illustration.

Figure 7 is an end sectional view taken on line 7-7 of Figure 6.

Figure 8 is an end sectional view taken on line 8-8 of Figure 6 illustrating the driving mechanism.

Figure 9 is still another preferred form of my invention. This is an end view of the sign partially broken away for convenience of illustration.

Referring more specifically to the drawings:

My new and improved sign consists of a housing 1, having a tubular shaft 2 fixedly secured therein by any suitable means, as for instance

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the set screw 3 located within the hub 4. Rotatably mounted on the shaft 2 is a drum 5. This drum has hubs 6 and 7 and revolves on the said shaft 2, best illustrated in Figure 2. Slots 8 run longitudinally of the drum 5 and have transparent signs 9 and 10 fixedly secured thereto. These signs are spaced apart by the spacer 11 and secured to the flanges 12 of the drum 5.

The signs are preferably of transparent material, having lettering located thereon in the usual manner for display purposes. I do not wish to be limited to the system of applying the lettering or even the signs, except that when a light is brought between the signs I desire to have the lettering read as a result of this light.

Supported by the tubular shaft 2 is a fluorescent tube 13. This tube is supported by the shaft 2 and provided with electrical energy in the usual manner, as for instance the clip 14 may have a terminal 15 extending into the tubular shaft as illustrated in Figure 4, said clip and tube being insulated apart by the insulating material 16, the clip 14 conveying electrical energy into the fluorescent tube 13.

Again I do not wish to be limited to any particular method of mounting this tubular light, as any suitable well known method may be employed, except that I wish to have this light encased in the U-shaped reflector 17. This reflector runs from one end of the sign to the other. The lower side of the reflector is open as indicated at 18, Figure 3, directing light from the tube 13 into the space 19 between the signs 9 and 10.

The cylinder or rotor 5 is revolved by any suitable driving mechanism, as for instance the crank arm 20 driven by a motor and speed reduction mechanism within the case 21, the detail of which is not here shown, the crank 20 engages the pins 22, which are fixedly mounted within the hub 6 of the drum of the rotor 5. As the crank 20 revolves slowly it engages one of the pins revolving the drum a quarter of a revolution moving the display signs into alignment with the opening 18 or reflector 17.

As these signs are moved, except when they align with the opening 18, there will be no light enter the same so that they are dark until reaching the vertical position as indicated by the sign 23. When the sign is in this position the light will be able to pass through the slot 18 of the reflector into the space 19 lighting the sign, the housing 1 of the sign covering the other three signs while the sign 23 is being displayed.

The sign is allowed to remain in the lighted position while the crank 20 makes a revolution

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and again contacting one of the pins. I do not wish to be limited to this mechanism, as other forms of intermittent drives can be employed for rotating the drum or rotor 5.

A stationary sign 24 is provided and is lighted by the fluorescent tube 25, receiving energy from wiring not shown in the drawings. A transformer 26 is provided in the sign for supplying this tube, as well as the fluorescent tube 13.

In the operation of the sign, as stated above, the crank 20 contacts one of the pins 22 associated with the hub 6, revolving the drum or rotor 5 a quarter of a revolution. The slot 8 of the signs 9 and 10 of the drum are moved out of alignment with the slot 18 of the reflector, darkening the said sign while being moved one revolution. The next sign coming into place remains darkened until the said slot 8 of the drum and the slot 18 of the reflector come into alignment permitting the light to reach the space 19 between the signs 9 and 10.

Referring to Figures 6, 7 and 8, this sign consists of a housing 27 having a shaft 29 running longitudinally of the sign and journaled within suitable bearings. Mounted to the shaft is a rotor 28 upon which is mounted the transparent sign plates 30 and 31. Located on the outer extremities of these plates is a transparent glass 32, which may be of various colors. A space 33 is provided between the signs 30 and 31, which receives light from the fluorescent tube 34, which is encased in the reflector 35. The upper side of the reflector being open at 36 so that the light is directed from the fluorescent tube into the transparent glass 32, into the space 33 lighting up the transparent sign 30 having lettering or script properly affixed thereon.

One of the features of this sign is that various colors can be brought to bear through the sign by the transparent plate 32, which may be of any desired color. The fluorescent tube 34 is only energized after each pair of signs are brought into alignment with the same. The energy to the fluorescent tube being supplied from the brush assembly 40, whose brushes 41 bear against the drum 39, which is preferably made of insulation and mounted to the shaft 29.

Metal segments 42 are spaced about the drum 39 and are adapted to bridge the brushes 41 completing an electric circuit through the fluorescent tube when the signs 30 and 31 are in alignment with the fluorescent tube and its reflector 35, therefore when the signs 30 and 31 pass from this position by the rotation of the rotor there will be no light given off by the fluorescent tube 34, therefore while the signs are being rotated they will not be illuminated.

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The rotor 28 and the shaft 29 are periodically revolved by the motive power 37, which drives the crank 37A which in turn contacts the pins 38 revolving the shaft and rotor together with the signs periodically. The sign 43, illustrated in Figure 9, consists of a series of sign plates 44 of solid material mounted to the shaft 45, which is rotated periodically by a drive not here shown, ninety degrees, bringing the sign to the position indicated by numeral 44A in line with the reflected light rays 44B directed towards the said sign 44 by the fluorescent tubes 46. This sign also has a timing device for controlling the lighting of the tubes 46 so that they will only be lighted when the sign comes to the position indicated by the sign 44A.

Although certain specific embodiments of the invention have been shown and described, it is obvious that many modifications thereof are possible. The invention, therefore, is not to be restricted except in so far as is necessitated by the prior art and by the spirit of the appended claim.

What I claim is:

A sign, comprising a semi-cylindrical casing open at the bottom, a horizontally disposed shaft mounted in the casing, a hollow hub supported on the horizontal shaft, the hub having a series of slots in its periphery, radial hollow transparent outwardly tapering signs mounted on the periphery of the hollow hub in communication with the slots, a hollow reflector mounted on and enclosing the shaft within the hollow hub, the hollow reflector being open at its bottom and extending to the inner surface of the hollow hub, a source of light within the hollow reflector below the shaft and in vertical alignment with the open bottom of said reflector, and means for rotating the hub, whereby when the hub is rotated and a hollow sign reaches a vertical position below the horizontal shaft and its open inner end registers with the bottom open end of the hollow reflector, the lamp will light up said sign.

RICHARD N. MORTON.

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