Nov. 26, 1935. C. F. COONS 2,022,105

REVOLUBLE SIGN AND MEANS FOR OPERATING THE SAME

Filed July 16, 1934

Fig. 1

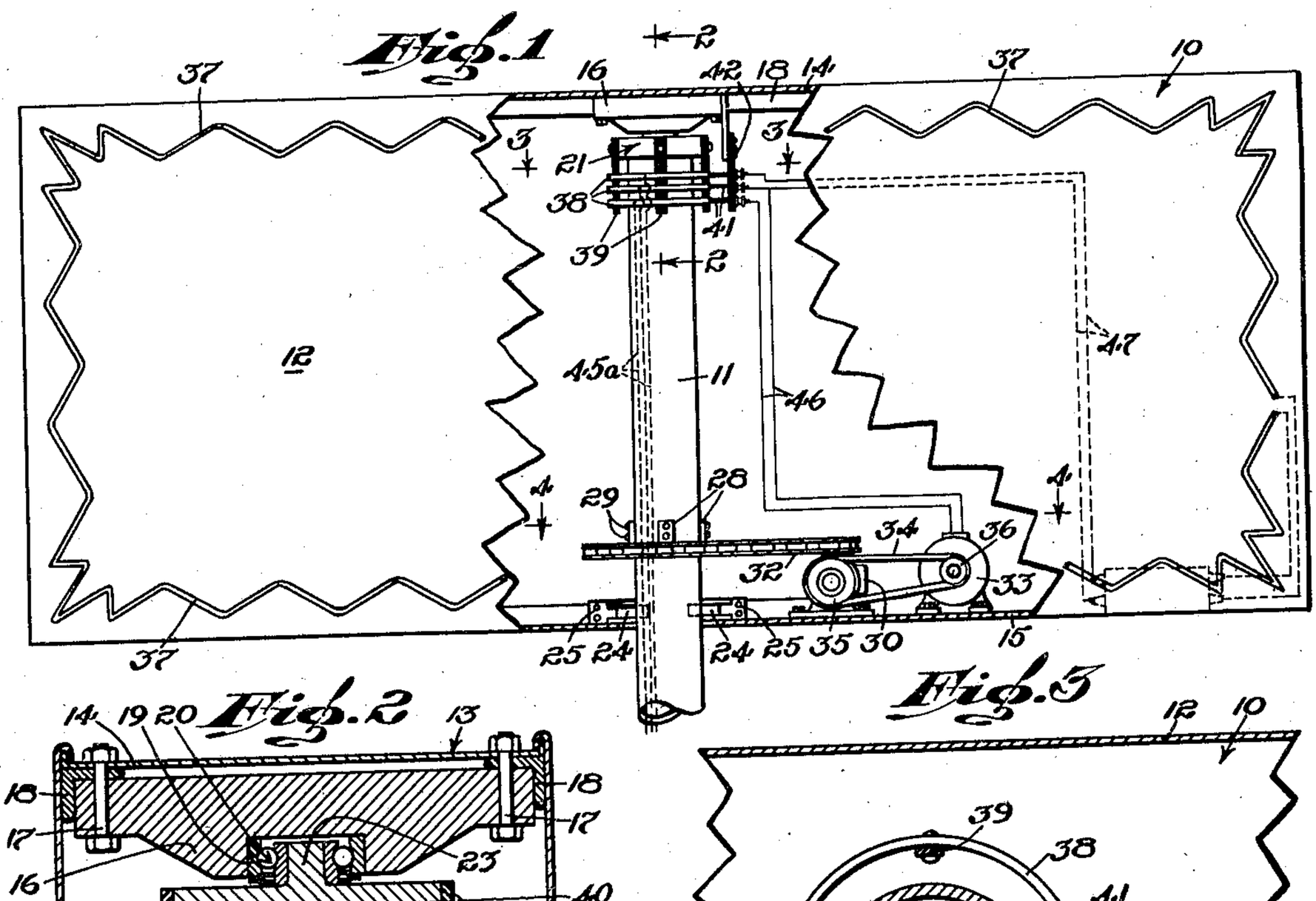


Fig. 2

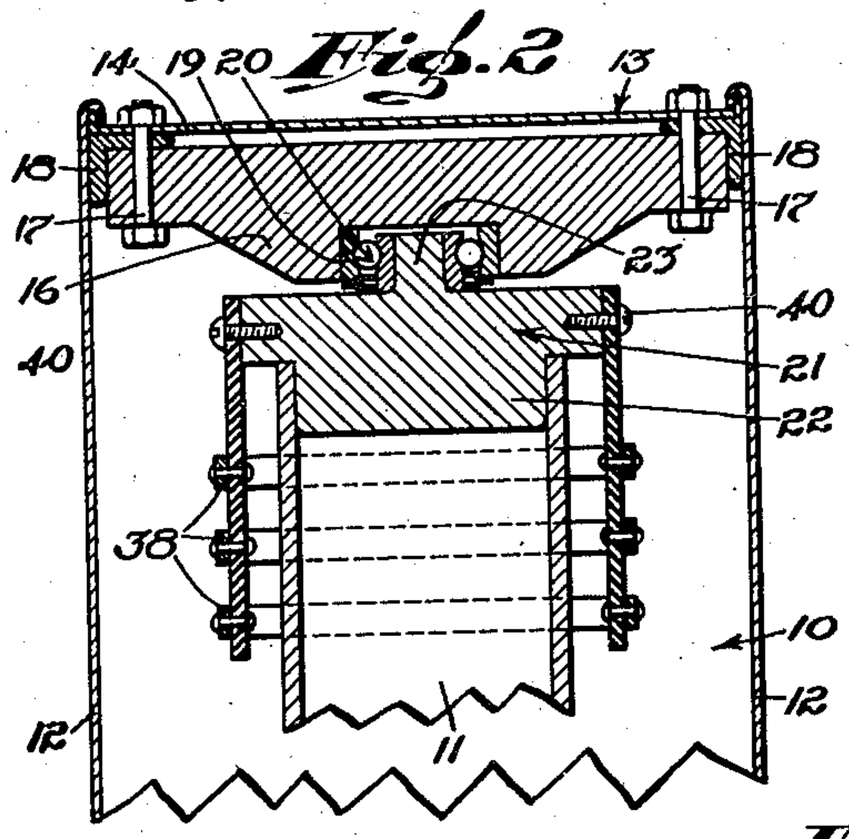


Fig. 3

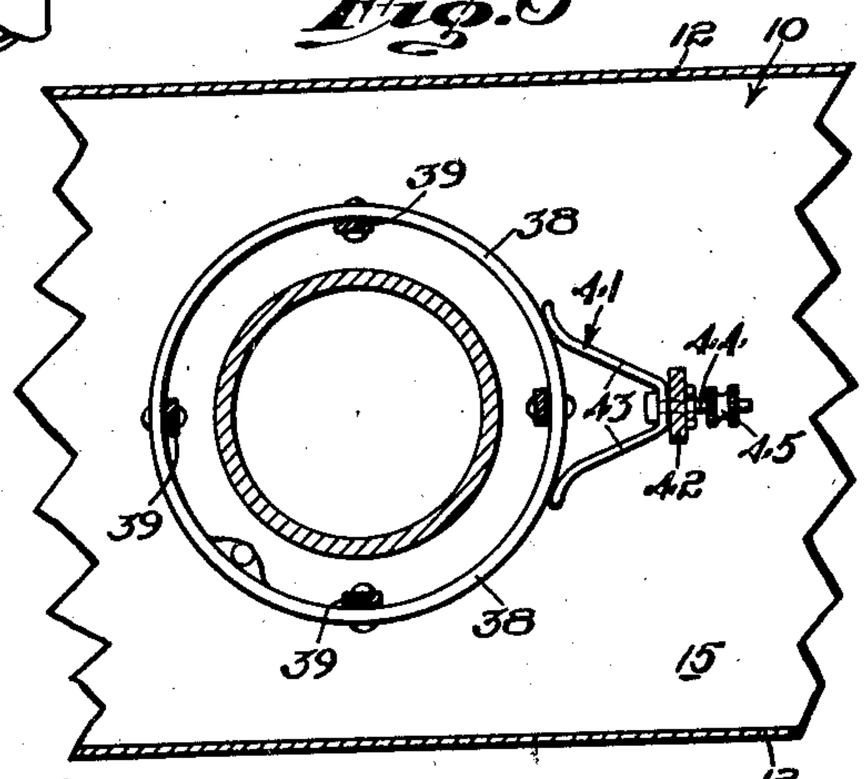
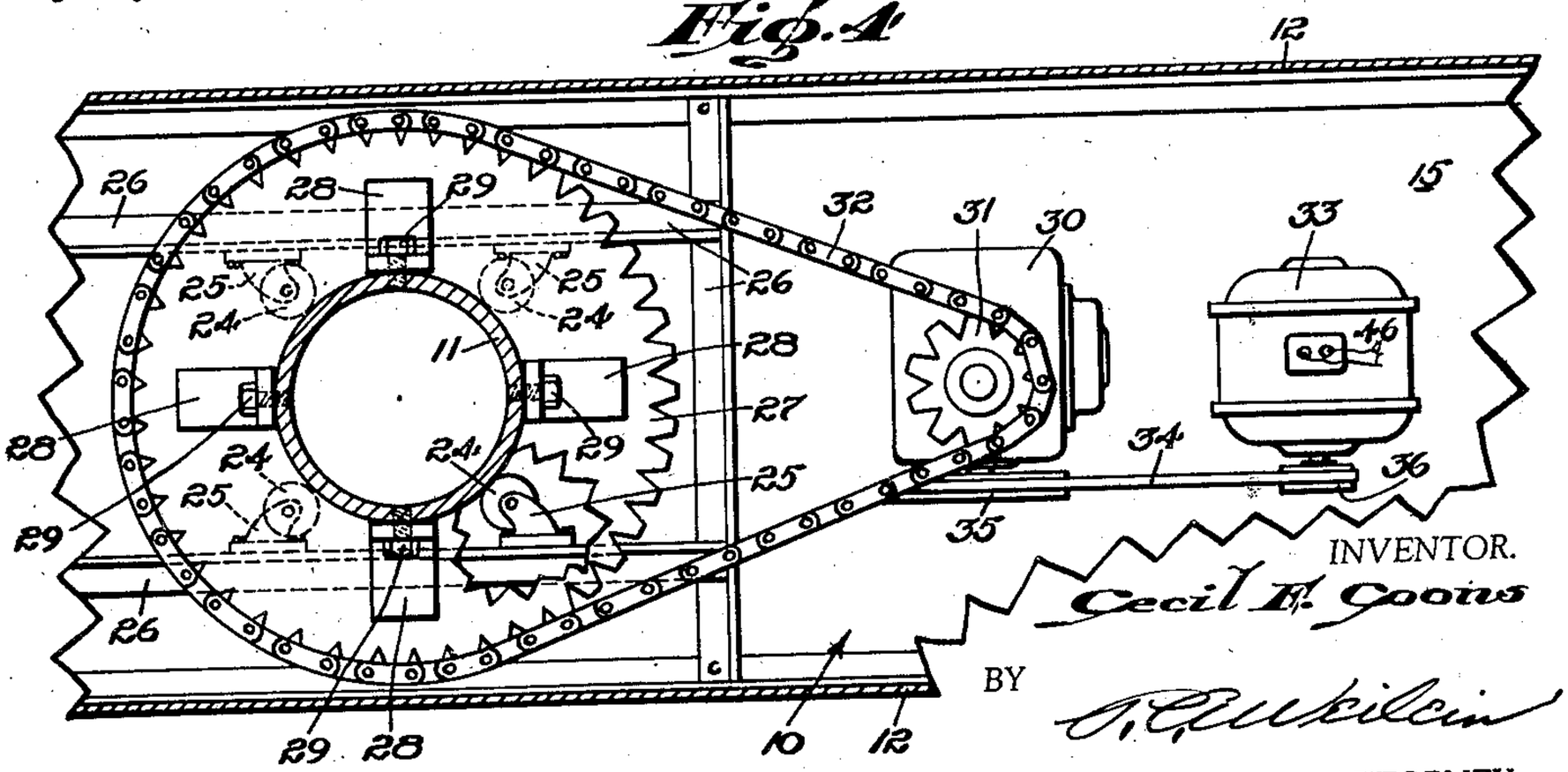


Fig. 4



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REVOLUBLE SIGN AND MEANS FOR OPERATING THE SAME

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5 Claims. (Cl. 40—33)

This invention relates to revoluble signs and particularly to the supporting and operating means therefor.

It is an object of applicant's invention, to provide a revoluble sign in which the power means therefor is carried by said sign and is operatively connected with a stationary supporting member, whereby to effect the rotation of said sign on its support.

Another object of the invention is the provision of a sign revolubly mounted on the upper end of a stationary supporting standard, which extends into the sign, with driving means within said sign for effecting its rotation about said stationary support; to further provide such a sign which is pivotally suspended from the upper end of a stationary standard which extends into said sign, with means at the lower portion thereof for restraining it against lateral movement; to still further provide within said sign means fixedly mounted on the stationary member, with power means carried within the sign and operatively connected with said fixed means, whereby to effect the rotation of said sign about its stationary support; and to further provide cooperating bearing means on the sign and also on the end of its stationary support for revolubly mounting said sign and facilitating in the erection of said sign on the support.

Still another object, is to provide a revoluble sign and supporting structure which is economical to manufacture, easy to erect and which presents a neat appearing unit in which the supporting and driving units are hidden from view.

This invention possesses many other advantages and has other objects which may be made more easily apparent from a consideration of one embodiment thereof. For this purpose I have shown one form in the accompanying drawing which forms part of the present specification. I shall now proceed to describe this form in detail, which illustrates the general principles of my invention; but it is to be understood that this description is not to be taken in a limiting sense, since the scope of the invention is best defined in the appended claims.

In the drawing:

Figure 1 is a front elevation of a revoluble sign embodying my invention, with a portion broken away to show the means for supporting and operating the same.

Figure 2 is an enlarged fragmentary sectional view, showing the sign mounting means and taken as indicated by line 2—2 of Figure 1.

Figure 3 is an enlarged fragmentary sectional view taken as indicated by line 3—3 of Figure 1 and;

Figure 4 is an enlarged fragmentary sectional view showing the driving mechanism and taken as indicated by line 4—4 of Figure 1.

Referring more in particular to the drawing, Figures 1 and 2 show a sign 10 in the form of a closed box, mounted for rotation on the upper end of a stationary supporting member 11, which extends into said box through an opening in the bottom thereof. I prefer to make the box of sheet-metal, with spaced sides 12—12 for receiving the advertising matter, and a channel 13 between said sides, which forms the ends and also the top 14 and bottom 15 of said sign box.

The means for revolubly mounting the sign box on the stationary supporting member 11, is best shown in Figure 2. A head member 16 is secured to the top 14 of the sign box, as by bolts 17—17 passing through angle member 18—18 which form a part of the box structure. The under side of the head member 16 is provided with a recess 19 to receive the outer race of a suitable ball bearing structure, generally designated 20. Applicant finds it convenient and practical in many instances, to use a tubular supporting member for the sign box as illustrated in the drawing. A member 21 is supported on the upper end of the tubular supporting member 11 and has a reduced portion 22 thereon which extends down into said tube as clearly shown in Figure 2. A boss 23 on the member 21, extends upwardly into the inner race of the ball bearing structure. Thus it will be seen from the foregoing description, how the sign is permitted to rotate freely with respect to the stationary support upon which it is mounted.

The bottom of the sign box 10 is supported against lateral movement by the aid of rollers 24—24, which are carried thereby and bear against the tubular supporting member 11 as the sign is rotated around the same. As shown in Figure 4, the rollers 24—24 are supported in brackets 25—25 which are mounted on the frame 26 on the sign bottom.

Figures 1 and 4 show the mechanism for effecting the rotation of the sign around its stationary support. A large sprocket wheel 27 is stationarily mounted on the tubular supporting member 11 and within the sign box. It is held thereon by the aid of angle members 28—28, which are welded or otherwise suitably connected to the sprocket and secured to the support 11 as by bolts 29—29. Also supported within the sign box and on the bottom thereof, is provided a reduction unit 30

having a sprocket 31, which is connected with the stationary sprocket wheel 27 as by a chain 32. The power means for operating the reduction unit is an electric motor 33, with belt 34 engaging pulleys 35 and 36 on the reduction unit and motor respectively. Upon actuation of the driving means, it will be clear how the sign box is rotated about the stationary supporting member 11.

In the drawing the sign 10 is indicated as being of an illuminative nature and is provided with an ornamental luminous tube border 37. Figures 1, 2 and 3 best show the means of conducting electrical current to the revoluble sign for operating both the luminous element and the power means of the driving mechanism. It includes a number of collector rings 38—38 which encircle the stationary support and are supported by insulating arms 39—39 depending from the stationary member 21 on the upper end of the support 11. Figure 2 shows these arms secured to the member 21 by screws 40—40, with the collector rings riveted thereto. Brush members 41—41 for collecting current from the rings, are mounted one above the other on an insulating strip 42, which is secured to the revoluble head member 16 in a manner shown in Figure 1.

The construction of the brushes 41—41 are best shown in Figure 3. They are formed from resilient strips bent into a V-shape, so that the two arms 43—43 have a tendency to spring toward each other, thereby assuring a good electrical contact with the collector rings at all times. The brushes are held on the insulating strip 42 by bolts 44—44, which serve also as the brush terminals. Thumb nuts 45—45 are provided on the bolts 44 for holding the electrical wires thereon. Leads 45*a* from any suitable electrical source, are connected with the stationary collector rings and circuits 46 and 47 for operating the motor 33 and luminous tube element 37, are taken from the brush terminals, all of which is clearly shown in the Figure 1 of the drawing.

The practicability of applicant's invention from a commercial standpoint will be apparent. The sign box with its cooperating mounting members 16 and 21 together with the supporting rollers 24—24 and driving mechanism, can all be assembled in the shop before it is taken on the job. This unit can then be mounted on the stationary supporting member 11, by lowering it thereover until the depending portion 22 of the member 21 enters the top of said tubular support. Applicant's invention can be adapted to locations where space will not permit the erection of the structural framework required for revoluble signs now in use, where the supporting means is revoluble and must accordingly be supported for rotation. With the use of applicant's stationary supporting standard, the necessity for this structural framework is overcome.

I claim:

1. In a device of the character described, in combination, a sign comprising a box structure having advertising matter on the faces thereof, a fixed supporting standard extending into said sign, a bearing member on the upper end of said support, a cooperating bearing member carried on the upper portion of the sign which is seated on said first bearing member, whereby said sign is revolubly suspended from the upper end of the fixed supporting standard, bearing means at the lower portion of said sign for supporting it against lateral movement, a fixed sprocket mounted on the supporting standard, power means carried within the sign and revoluble therewith and a chain connecting said power means with said fixed sprocket whereby to effect the rotation of said sign and its power means about the fixed supporting standard.

2. In a device of the character described, in combination, a sign comprising a closed box structure, a fixed tubular supporting standard extending into said sign, a bearing member on the upper end of said support, a cooperating bearing member at the upper portion of the sign which is seated on said first bearing member, whereby said sign is revolubly suspended from the upper end of the fixed supporting standard, bearing means carried on the lower portion of the sign which is adapted to bear against the tubular support for supporting the sign against lateral movement as it rotates about said support, a fixed sprocket concentrically mounted on the tubular support, power means carried within the sign and revoluble therewith and a chain connecting said power means with said fixed sprocket whereby to effect the rotation of the sign on its support.

3. In a device of the character described, in combination, a sign structure, a fixed support therefor, a bearing member at the upper end of said support, a cooperating bearing member on the upper portion of the sign which is seated on said first bearing member, whereby said sign is revolubly suspended from the upper end of said fixed support, bearing means at the lower portion of said sign for supporting it against lateral movement, a fixed sprocket mounted on the support, power means carried on the sign and revoluble therewith, and a chain connecting said power means with said fixed sprocket, whereby to effect the rotation of said sign and its power means about the fixed support.

4. In a device of the character described, in combination, a sign structure, a fixed support therefor, cooperative bearing means between the upper end of said support and said sign structure for revolubly supporting the weight of said sign structure, further cooperative bearing means between the fixed support and sign structure for supporting said sign laterally, a fixed sprocket mounted on said support, power means carried on the sign and revoluble therewith, and a chain connecting said power means with said fixed sprocket, whereby to effect the rotation of said sign and its power means about said fixed support.

5. In a device of the character described, in combination, a sign structure having thereon elements to be illuminated, a fixed support for said sign structure, cooperative bearing means between the upper ends of said sign structure and said support for revolubly suspending said sign structure, further cooperative bearing means between the sign support and lower end of said sign for restraining the sign against lateral movement, a fixed member on said support, power means carried by the sign with operating connections to said fixed member whereby to effect the rotation of said sign with its power means about said support, and cooperative electric contact means between said support and said sign for supplying electric current to the elements to be illuminated during the rotation of said sign.

CECIL F. COONS.