Sept. 25, 1934. J. A. BERNING ET AL 1,974,597

ADJUSTABLE ROTARY SIGN

Filed Aug. 28, 1933

Fig. 1.

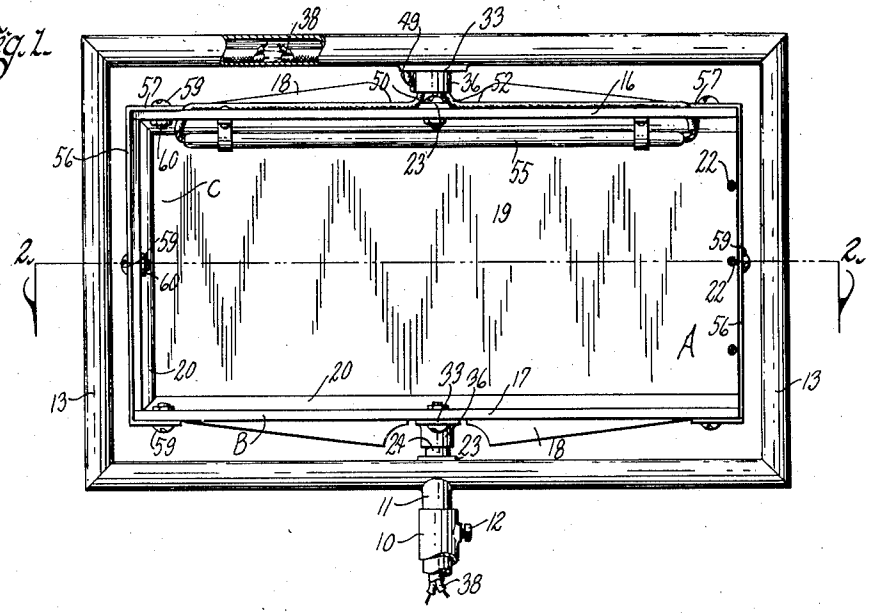


Fig. 2.

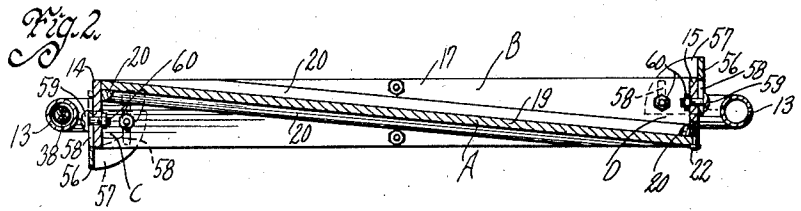


Fig. 3.

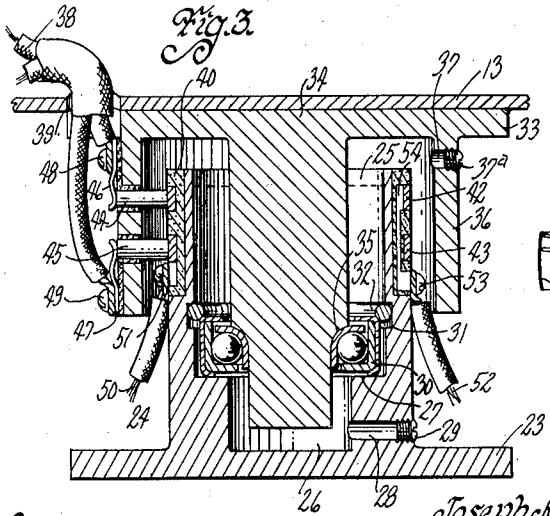
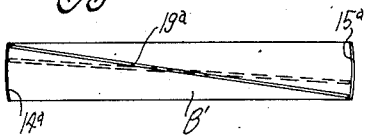


Fig. 4.



Witness
Edw. Seeley

Inventors
Joseph A. Berning & Charles V. Ashda
By Bair, Freeman & Sinclair
Attorneys

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ADJUSTABLE ROTARY SIGN

Joseph A. Berning and Charles V. Ashba,
Des Moines, Iowa

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7 Claims. (Cl. 40—39)

The object of our invention is to provide a rotary sign of comparatively simple and inexpensive and rugged construction.

It is more particularly our purpose to provide a rotary sign so constructed that it will be turned by the wind and provided with pockets for catching the wind and with means for adjusting the size of these pockets to adapt the sign for installation in places where the amount of wind to which the sign is subjected varies.

Another object is to provide such a sign having a rigid frame and in which the sign is rotatable within the frame to prevent children from playing with it and being injured by it and also to protect the sign.

Still another object is to provide in such a sign a novel journaling means for the rotary member.

Another purpose is to provide a sign provided with simple means for transmitting electric current to the rotary sign, whereby the sign may be illuminated in any desirable way.

Still a further object is to provide a sign having means for removably mounting the portion which carries an advertisement.

With these and other objects in view, our invention consists in the construction, arrangement and combination of the various parts of our adjustable rotary sign, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in our claims, and illustrated in the accompanying drawing, in which:

Figure 1 is a front elevation of the sign embodying our invention.

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

Figure 3 is a vertical, sectional view through one of the journals of the sign, illustrating the means for rotatably mounting the sign and the means for conducting current through the sign; and

Figure 4 is a diagrammatic top view illustrating a slightly modified form of the rotating portion of the sign.

Our improved sign is designed to be mounted on an upright post 10, which can be set in concrete or connected with any suitable base.

Telescopically received in the upper end of the post 10 is an upright member 11, which can be rigidly fixed in place at the desired adjusted height by means of a set screw 12 projecting through the wall of the post 10 or by bolts or other suitable means. The member 11 is tubular and is connected with a rectangular frame 13 made of tubular members suitably connected at the corners.

Rotatably mounted in the frame 13 is the sign proper indicated generally by the reference character A. The sign A is preferably comprised of a rectangular frame having the spaced end members 14 and 15 and the top and bottom members 16 and 17. The members 18 indicated are simply decorations.

The frame just mentioned is of substantial depth as shown. Removably set in the frame composed of the members 14, 15, 16 and 17, which latter frame we have designated for convenience as the frame B, is what may be called a lettering board 19. This may be made of wood or any suitable material and is designed to be set in the frame B and to incline diagonally from one end to the other thereof in a vertical plane, as indicated best in Figure 2.

The lettering board 19 must be removable from the frame B. As shown, we have illustrated quarter rounds 20 fastened to the member 14 and to the top and bottom members 16 and 17. The quarter rounds are arranged in pairs on the upper face of the frame member 17 and on the under face of the member 16 to form grooves to receive the bottom and top edges of the board 19.

There is only one quarter round 20 secured to the end member 14 spaced inwardly from one edge thereof as shown in Figure 2 at the left-hand end of the frame B. The end of the board 19 there abuts against the frame member 14. The frame member 15 is cut away at one upright edge and the upright quarter round 20 at that end of the sign is placed adjacent the edge of the frame member 15. Screws 22 may be screwed into the frame member 15 for holding the board 19 in place as shown in Figure 2.

By removing the screws 22, the board 19 may be slipped out of the grooves formed by the upper and lower quarter rounds 20.

Any other suitable scheme may be provided for removably holding the board 19 in place.

By this arrangement, the board 19 may be removed and another bearing a different advertisement may be substituted if desired or the board may be removed for painting a new advertisement on it, after which the same board may be replaced.

We will now describe the journaling means by which the sign A is rotatably mounted in the frame 13. Secured to the upper surface of the lower part of the frame 13 about midway thereof is a base 23. Extending upwardly from the base 23 is a tubular socket 24 open at its upper end and closed at its lower end. The opening in the socket 24 indicated generally at 25 in Figure 3

has a lower portion 26 of reduced diameter, thus affording in the lower part of the socket an annular horizontal shoulder 27.

A passage 28 leads from the bottom of the opening 26 to the outer surface of the socket 24 and is closed by a threaded plug 29. The passage 28 is for water and lubricant drainage. A thrust and radial bearing 30 of ordinary construction rests on the shoulder 27.

On the interior of the opening 25 spaced above the shoulder 27 is an annular groove 31 into which may be snapped a split resilient ring 32 for holding the bearing 30 in place.

Secured to the under side of the lower frame member 17 of the frame B is a plate 33, which has a central, downwardly projecting post 34, the lower end of which is reduced in diameter to provide a suitable shoulder 35 to bear against the bearing 30. Spaced outwardly from the post 34, the plate 33 is provided with a downwardly projecting annular skirt 36, which serves as a weather protector.

The frame B is thereby supported on the frame 13 for rotation.

In the skirt 36 is a hole 37 through which the snout of an oil can may be projected for supplying oil to the opening 25 in the socket 24, and which may be normally closed by a screw plug 37*a*.

A similar bearing structure is provided for the top of the frame B. In this case, the base 23 is fixed to the upper member 16 of the frame B and the plate or base 33 is secured to the upper horizontal member of the frame 13.

There is thus provided ample bearing for the rotary frame B with suitable lubrication and standard construction for the upper and lower bearings, except in particulars now to be mentioned.

Provision may be made for the illumination of our sign. Various schemes may be adopted, but we have illustrated here a particular method by which illumination may be afforded.

Electric current conducting wires 38 may be extended upwardly from the lower part of the post member 10 and into the hollow tubular frame 13 to the upper part thereof and out through the wall.

In Figure 3, we have shown the lead wires emerging through the hole 39. For transmitting current from the stationary frame 13 to the rotatable frame B, we provide the following means:

The upper end of the socket 24 at the top of the frame B is provided with a ring of insulation 40 in which are set spaced wiper rings 42—43. Slidably mounted in the skirt 36 are brushes 44—45 yieldingly pressed by the springs 46—47 against the respective rings 42—43. The lead wires 38 are connected by binding posts 48—49 with the respective springs 46—47. One conducting wire 50 is connected by a binding post 51 with the wiper ring 43 and the conducting wire 52 is connected by a binding post 53 and a conducting strip 54 with the wiper ring 42.

It will, of course, be understood that the strip 54 is insulated from the socket 24 and the ring 43.

The conducting wires 50—52 may be connected with a bulb or bulbs mounted at any suitable place on the frame B or the board 19 or may be connected with a neon tube 55 supported on the frame B or the board 19 and extending partly or entirely around that frame or the board.

We shall now refer to other features of our invention, to-wit the adjustable wind pockets.

It will be seen that when the board 19 is set diagonally in the frame B, as illustrated in Figures 1 and 2, the upright member 14 and the top and bottom frame members 16 and 17 form a pocket on one side of the board 19 as indicated at C in Figure 2. Likewise the frame member 15 and the frame members 16 and 17 form a pocket indicated at D at the right-hand end of Figure 2.

We have found that by the provision of this pocket when the sign is set up and subjected to the ordinary wind currents, it will rotate.

We have also found that very little wind is required for this purpose where proper bearings are provided and that also while there is some variation in the speed at which the sign rotates, it seems to have much greater resistance to the rotation as the speed increases.

We have also found that we can regulate what might be called the normal speeds of rotation considerably by regulating the size of the pockets.

Sometimes signs are placed in locations where they are subject to less wind than in other places and it is then desirable to have a larger pocket. We have disclosed two ways in which the size of the pockets may be adjusted.

In Figure 4, we have shown a frame B′ corresponding generally to the frame B, in which the upright members 14*a* and 15*a* have their inner surfaces concave from side edge to side edge. This permits the lettering board 19*a* to be adjusted in its diagonal mounting of the frame to a variety of positions. We have shown it in one position in full lines and in another position in dotted lines. It is seen that it is adjusted on the vertical axis of the sign and with relation to the frame B′.

It will be understood that any suitable means may be provided for fastening the lettering board 19*a* in place; for instance quarter rounds, such as those already described may be used, and the quarter rounds on one side may be removed for removing the board.

The board may be thus adjusted for varying the size of the pockets for adapting the sign to the location in which it is to be used.

In Figures 1 and 2, we have shown another way for controlling the size of the pockets. We have shown mounted on the end members 14 and 15 the upright extension strips or plates 56, which are arranged on the outside of the upright frame members and have at their upper and lower ends the horizontal wings 57. The plates 56 and wings 57 are provided with horizontal elongated slots 58. Bolts 59 and nuts 60 may be extended through the members 14 and 15 and through the members 16 and 17 and through the slots 58 and tightened for adjusting the pocket extension strips 67 to any desired position. The construction of these extension pockets may be varied in many ways for adapting the sign to locations where the wind to which it is subjected may vary.

It will be seen from the foregoing that many changes may be made in the construction and arrangement of the different parts of our improved sign, and it is our purpose to cover by our claims any modifications in structure or in the use of materials, which may be included within their scope and within the scope of our invention.

We claim as our invention:

1. In a sign of the kind described, a frame mounted for rotation on a vertical axis, said frame being of substantial depth, a lettering board mounted in said frame and inclined diagonally from end to end thereof in a vertical plane, whereby pockets are formed on the opposite side of the

board at the ends of the frame, and means for varying the sizes of the pockets.

2. In a sign, a lettering board mounted for rotating on a vertical axis, means for forming pockets on the opposite side of the board at its ends, and means for varying the sizes of such pockets.

3. In a device of the class described, a frame mounted for rotation on a vertical axis and having top, bottom and spaced end members, said frame being of substantial width, and pocket extension members mounted on the end members of said frame for adjustment for varying the size of the pockets.

4. In a sign, a fixed frame, a frame mounted for rotation within the fixed frame having substantial depth, a lettering board mounted in said second frame and inclined diagonally from end to end thereof in a vertical plane, whereby pockets are formed at the opposite ends of the frame, said board being adapted to be mounted at varying angles for thus varying the sizes of said pockets.

5. In a sign, a fixed frame, a frame mounted for rotation within the fixed frame having substantial depth, a lettering board mounted in said second frame and inclined diagonally from end to end thereof in a vertical plane, whereby pockets are formed at the opposite ends of the frame, and members adjustably mounted on the ends of said second frame for varying the size of said pockets.

6. In a structure of the kind described, an upright supporting member, a member adjustable telescopically with relation to said supporting member, means for securing said members in different positions of their adjustment, a fixed frame on said second member, a rotatable sign, means for journaling the rotatable sign on the fixed frame at the upper and lower parts of the rotatable sign, comprising in each case a base mounted in one case on the fixed frame and in the other case on the rotatable sign, each base having a socket formed with a shoulder near its lower part resting on said bearing, a plate spaced above each socket and secured respectively to the rotatable frame and to the fixed frame, a post extending downwardly from each plate having an annular shoulder resting upon its bearing, and a skirt extending downwardly from each plate and receiving the upper end of the socket.

7. In a structure of the kind described, an upright supporting member, a member adjustable telescopically with relation to said supporting member, means for securing said members in different positions of their adjustment, a fixed frame on said second member, a rotatable sign, means for journaling the rotatable sign on the fixed frame at the upper and lower parts of the rotatable sign, comprising in each case a base mounted in one case on the fixed frame and in the other case on the rotatable sign, each base having a socket formed with a shoulder near its lower part resting on said bearing, a plate spaced above each socket and secured respectively to the rotatable frame and to the fixed frame, a post extending downwardly from each plate having an annular shoulder resting upon its bearing, a skirt extending downwardly from each plate and receiving the upper end of the socket, means for transmitting electric current from the fixed frame to the rotatable sign and comprising insulated wiper rings on one of the sockets and spring-pressed slidable brushes mounted on the adjacent skirt and insulated therefrom.

CHARLES V. ASHBA.
JOSEPH A. BERNING.