

July 1, 1958

A. M. RYAN

2,840,942

ANIMATED DISPLAY SIGN

Filed June 27, 1955

2 Sheets-Sheet 1

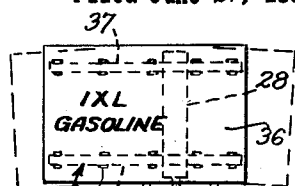


Fig. 1.

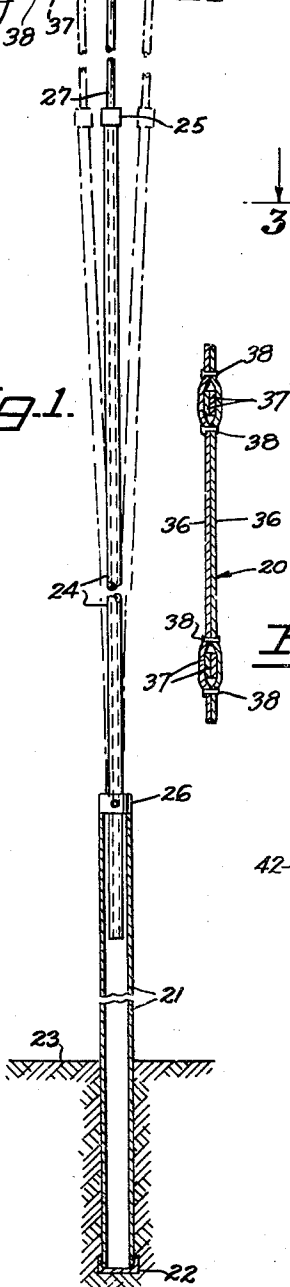
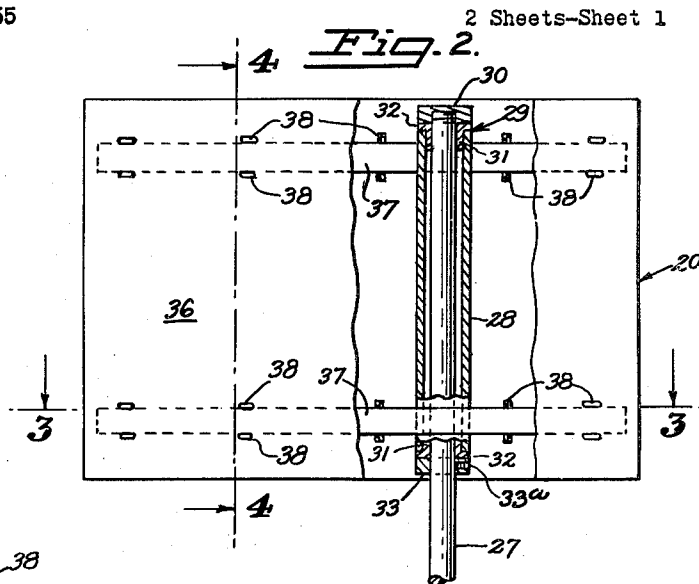


Fig. 2.

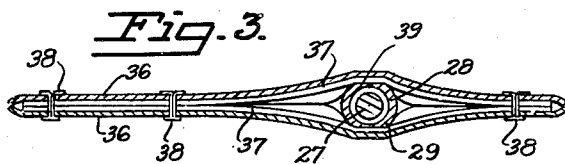
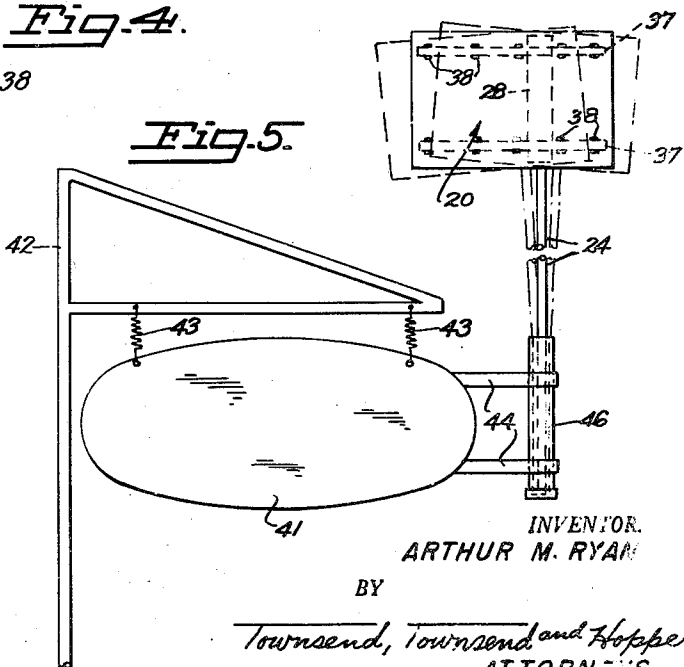


Fig. 3.

Fig. 4.

Fig. 5.



INVENTOR.
ARTHUR M. RYAN

BY

Townsend, Townsend and Hoppe
ATTORNEYS

July 1, 1958

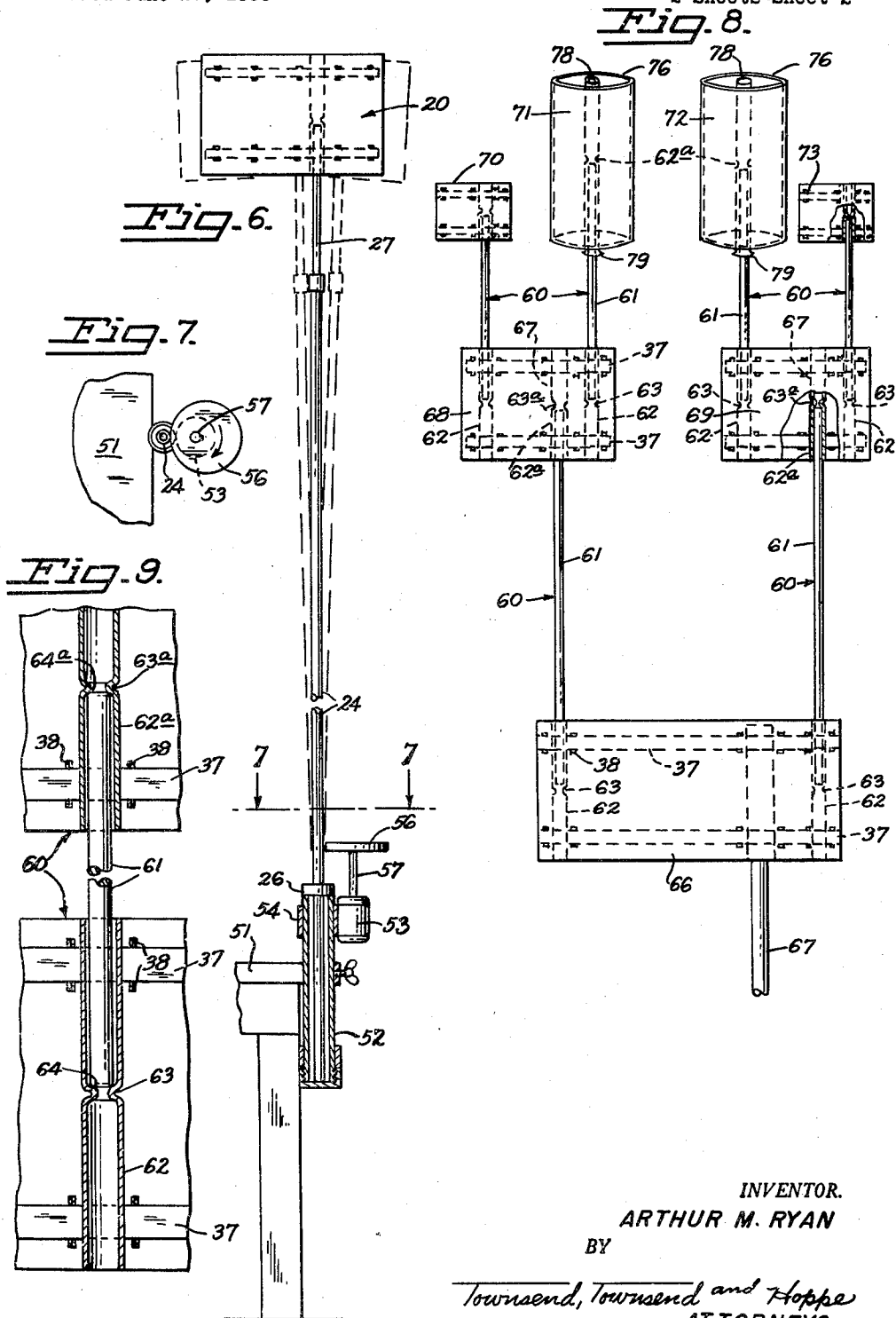
A. M. RYAN

2,840,942

ANIMATED DISPLAY SIGN

Filed June 27, 1955

2 Sheets-Sheet 2



INVENTOR.
ARTHUR M. RYAN
BY

Townsend, Townsend and Hoppe
ATTORNEYS

1
2,840,942

ANIMATED DISPLAY SIGN

Arthur M. Ryan, Burlingame, Calif.

Application June 27, 1955, Serial No. 518,073

4 Claims. (Cl. 40—139)

This invention relates to a new and improved animated display sign. More particularly the invention relates to a sign which may be supported elevated high in the air and which is so constructed and mounted that it receives a high degree of animation which attracts attention. A distinguishing feature is the absence of twirling, an undesirable feature of many signs of this general type, inasmuch as rapid twirling makes it difficult to read the message on the sign.

One of the features and advantages of the invention is the fact that its animation results from a combination of three different movements. In the first place, the sign is mounted on a supporting rod by means of a connection which permits rotation of the sign relative to the rod, but at the same time the rod is off center with respect to the sign so that a weather vane, as distinguished from a twirling motion, results from wind action on the sign. A second movement imparted to the sign results from the fact that it is mounted on a relatively long, flexible tube or rod which bends or flexes. A third movement results from the fact that the lower end of the tube or rod which supports the sign is received inside a larger diameter pipe fixed to the ground or other stationary support, the fit between the upper tube and lower tube being loose to permit tilting or rocking of the upper tube.

Another feature of the invention is the fact that it may be installed by unskilled labor without the use of special tools and equipment, and, further, the fact that it is not necessary for the installer to mount a ladder, despite the fact that the sign is displayed many feet above the ground.

An important advantage of the invention is the facility with which the advertising message of the sign may be replaced as occasion requires with a minimum of time and labor and without the necessity of scaling high ladders.

An additional feature of the invention is the facility with which it may be employed in conjunction with three-dimensional display devices.

A further feature of the invention is the fact that when installed in locations where there is no wind, a motor may be connected to the sign to impart animation.

Still another feature of the invention is the fact that the supporting structure of the sign may be anchored in the ground or attached to poles, walls, the outer edges of existing signs, store counters, or the like, in order to attract attention.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings in which similar characters of reference represent corresponding parts in each of the several views.

In the drawings:

Fig. 1 is a side elevation of the device, partly broken away in section to reveal the construction.

Fig. 2 is an enlarged side elevation of the sign and the upper end of the supporting structure partly broken away in section to reveal the construction thereof;

Fig. 3 is a transverse section taken substantially along the line 3—3 of Fig. 2;

Fig. 4 is a section taken substantially along the line 4—4 of Fig. 2;

Fig. 5 is an elevation of a modified mounting for the sign;

2

Fig. 6 is a side elevational view partly broken away in section of still another modification;

Fig. 7 is a transverse section taken substantially along the line 7—7 of Fig. 6;

Fig. 8 is a side elevational view of a further modification of the invention; and

Fig. 9 is an enlarged fragmentary sectional view of a portion of the structure of Fig. 8.

The present invention provides a mounting for a sign 20 bearing an advertising message and particularly relates to the mounting structure for such a sign. The mounting structure consists of several elongated tube or rod sections which are telescopically fitted together so that the sign 20 is elevated a considerable height above its support. The lower end of the mounting structure comprises a pipe 21 which is provided with a cap 22 at its lower end, the lower end of the pipe 21 and cap 22 being buried in the ground 23, so as to afford stability to the sign. Pipe 21 may be, for example, 6 to 8 feet in length, so that its upper end is accessible to the installer of the sign without using a high ladder. A tube 24, having an external diameter considerably less than the internal diameter of the pipe 21, is mounted in the upper end of the pipe and is provided with a collar 26 secured to tube 24 by means of set screws (not shown), or other conventional means, so that the lower end of the tube 24 is positioned sufficiently inside the upper end of the pipe 21 to prevent dislodgment. As shown in Fig. 1, the loose fit permits a whipping movement of the sign as the lower end of tube 24 rocks back and forth in pipe 21. Tube 24 may be assembled in several sections jointed together in any convenient manner.

At the upper end of the tube 24 there is a smaller diameter rod 27 which is of a flexible nature. The rod 27 is provided with a second collar 25 secured thereto by means of set screws (not shown), so that the lower end of rod 27 is maintained in position in the top of tube 24. The upper end of rod 27 fits inside a bearing tube 28 in the sign 20. Each end of the bearing tube 28 is provided with a collar 29 having a neck 31 fitting inside the tube 28 and an external shoulder 32. A collar 33 is tapped to receive a set screw 33a which bears against the rod 27 and secures the bearing tube 28 and rod 27 in such position as to permit rotation of the one relative to the other, but to prevent axial movement. The upper end of bearing tube 28 is capped with a cap 30 threaded on the end of rod 27 to protect the bearing assembly against atmospheric conditions.

Sign 20 consists of two cardboard sheets 36 or a single piece of cardboard bent into substantially parallel sheets 36. Positioned transversely to the axis of the bearing tube 28 are two upper and two lower strips 37 of relatively inflexible material, such as sheet metal. The cardboard 36 is secured to the strips 37 by means of staples 38 which pass through the sheets 36 in close proximity to the longitudinal edges of the strips 37. Bearing tube 28 is provided with four flattened external surfaces 39, two diametrically opposed at the top to receive top strips 37 and two diametrically opposed at the bottom to receive bottom strips 37 so as to prevent rotation of the sign 20 relative to the bearing tube 28. It should be pointed out that the bearing tube 28 is eccentric to the center line of the sign 20 which results in a weather vane rather than a whirling movement of the sign.

The animation of the sign 20 shown in Fig. 1 is the result of the action of the wind blowing thereon. There are three simultaneous motions imparted to the sign. The first is a weather vane action, as the direction of the wind or wind velocity changes, which results in a rotation of bearing tube 28 relative to the rod 27. The second movement is a flexing of the rod 27 and tube 24 by reason of their resilient and flexible nature. The third move-

3

ment results from the fact that the fit between the lower end of the tube 24 and the pipe 21 is sufficiently loose to permit a tilting of the tube 24 which causes a rocking movement of the sign.

Turning now to the modification shown in Fig. 5, it is seen that the sign which is the subject of this invention may be adapted to installation on existing structures. An existing sign 41 mounted from a standard 42 by means of spring hinges 43 is illustrated in Fig. 5. Attached to the sign 41 are a pair of horizontally projecting brackets 44 which engage bottom tube 46, which corresponds in function and position to the pipe 21 shown in Fig. 1, but is of lesser length. In other respects, the sign illustrated in Fig. 5 is substantially identical with that shown in Fig. 1.

In Fig. 6 is shown a modification suitable for a location where there is no wind, such as the interior of a store, or the like. The sign mounting may be attached to a store counter 51 or similar stationary location. The bottom tube 52 is suitably anchored thereto and the upper end of the tube 52 is supplied with a motor 53 fastened thereto by means of strap 54. The upper end of the motor shaft 57 is provided with an eccentric 56 which bears against tube 24. Thus as the motor revolves, the eccentric causes flexure of the tube 24, producing a whipping action generally similar to that pointed out in connection with Fig. 1.

Figs. 8 and 9 illustrate still a further modified form of the invention. In particular, these drawings illustrate a modified form of rotatable bearing assembly by which the display signs may be rotatably supported. Fig. 9 illustrates the details and construction of a rod bearing assembly and Fig. 8 illustrates how a plurality of the assemblies may be effectively utilized to support a plurality of display signs of different dimensions and shapes, and at different heights relative to one another.

Referring now more specifically to Fig. 9, the supporting rod and tubular bearing assembly therein illustrated generally at 60 comprises a flexible, vertical sign supporting rod 61 which may be considered generally equivalent in structure and function to flexible rod 27 in Figs. 1 and 6, for example. The lower end of rod 61 is rotatably supported within a crimped bearing sleeve or tube 62 and the upper end of rod 61, in turn, rotatably supports a similarly crimped bearing tube 62^a. More specifically, bearing tube 62 comprises a length of tubular material formed with an annular crimp 63 defining an interiorly projecting circular bearing seat or ledge 64 of smaller diameter than the rod 61 which it rotatably supports. The upper bearing tube 62^a may be of identical construction to lower crimped tube 62 and is also formed with an annular crimp 63 defining an interior bearing ledge or seat 64^a.

Referring now particularly to Fig. 8, the display sign structure therein disclosed comprises a primary display sign indicated at 66 rotatably supported on a vertical rod 67 for weather vane movement. For purposes of convenient explanation, sign 66 and its supporting standard 67 may be considered as equivalent to sign 20 and vertical support 27 heretofore shown and described with reference to Figs. 1 and 6. Supported above and by primary sign 66 are a plurality of secondary display sign units such as indicated at 68, 69, 70, 71, 72 and 73, and each of which is supported for flexible and rotatable weather vane movement by one of the flexible rod and bearing tube assemblies 60 shown in detail in Fig. 9. Thus, for example, sign 68 is supported on an associated flexible rod 61, the lower end of which is telescoped within a crimped bearing tube 62. The upper end of rod 61 carries a corresponding crimped bearing tube 62^a to which the sign pieces 68 are stapled or otherwise attached in the manner previously described. Secondary sign 69 is similarly supported to primary sign 66. It is observed that the upper and lower crimped bearing tubes 62 and 62^a associated with the flexible rod 61 in each instance provides two bearing

4

surfaces 64 and 64^a, respectively, about which each sign 68 and 69 can rotate in weather vane fashion.

It is further observed that each of the secondary signs 68 and 69 support above them two additional signs 70—71 and 72—73, respectively. Each of these latter mentioned signs is flexibly and rotatably supported by identical flexible rod and bearing assemblies 60, each comprising a rod 61 and upper and lower crimped bearing tubes 62 and 62^a. Signs 70 and 73 are shown as being made of flat sheet material stapled or otherwise secured to a respectively associated bearing tube 62^a. Signs 71 and 72, on the other hand, are shown as supporting a three-dimensional display representation of a product such as a tubular body 76 configured and decorated, as by lithographing, to represent a canned food product.

The closed ends of each of the tubular sign displays 76 may be apertured with registering holes 78 to receive a bearing tube 63^a. The lower end of each bearing tube 62^a may be flanged outwardly as indicated at 79 to provide an abutment shoulder or ledge on which the bottom end of the tubular sign may rest.

Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be practiced within the spirit of the invention and scope of the appended claims.

I claim:

1. An assembly for supporting a sign display for animated movement comprising: a flexible vertical rod member; means for anchoring the base of said rod member to a primary support; an upper bearing sleeve telescopically rotatably mounted on the upper end of said rod member; a circumferential crimp formed in the body of said sleeve defining an interiorly projecting annular bearing seat having a smaller diameter than said rod rotatably supported on the top end of said rod member; and means for securing a display sign to said upper bearing sleeve for flexing movement with, and rotatable movement relative to, said rod member.

2. The combination of claim 1 and wherein said means for anchoring the base of said rod member to a primary support includes a lower bearing sleeve telescopically and rotatably mounted on the base end of said rod member; a circumferential crimp formed in the body of said sleeve defining an annular bearing seat of smaller diameter than the base of said rod member rotatably engaging and supporting the base end of said rod member.

3. An advertising display comprising a sign, an elongated, flexible support of substantial length for said sign, a bearing on said sign offset horizontally from the vertical central axis of said sign, said bearing rotatably mounted adjacent the upper end of said support, and a fixed tubular socket of substantially larger diameter than the lower extremities of said support and receiving the lower end of said flexible support, said lower end of said flexible support fitting loosely and pivotally in said socket whereby said flexible support may rock and rotate in said socket.

4. An advertising display according to claim 3 and wherein there is provided means operable to engage the lower end of said flexible support to rotate, rock and flex said support and sign carried thereby.

References Cited in the file of this patent

UNITED STATES PATENTS

1,342,538	Gibson	June 8, 1920
1,497,200	Tripp et al.	June 10, 1924
1,511,521	Reynolds	Oct. 14, 1924
1,628,432	Ruegger	May 10, 1927
1,842,645	Apfelbaum	Jan. 26, 1932
1,953,272	Smith	Apr. 3, 1934