Feb. 11, 1930. M. C. SCHWAB 1,746,611

SIGN

Filed Sept. 6, 1928 2 Sheets-Sheet 1

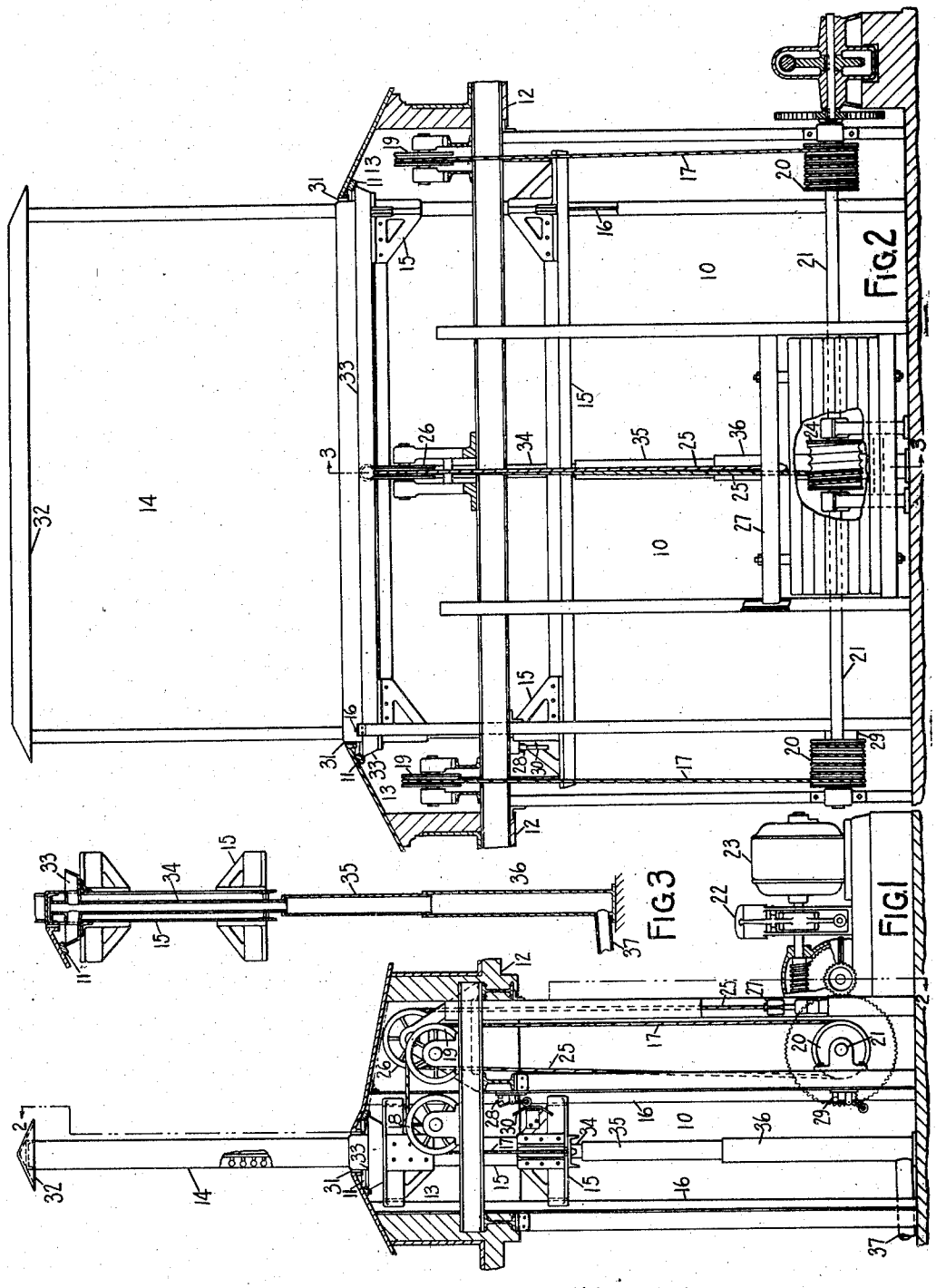


FIG. 2

FIG. 3

FIG. 1

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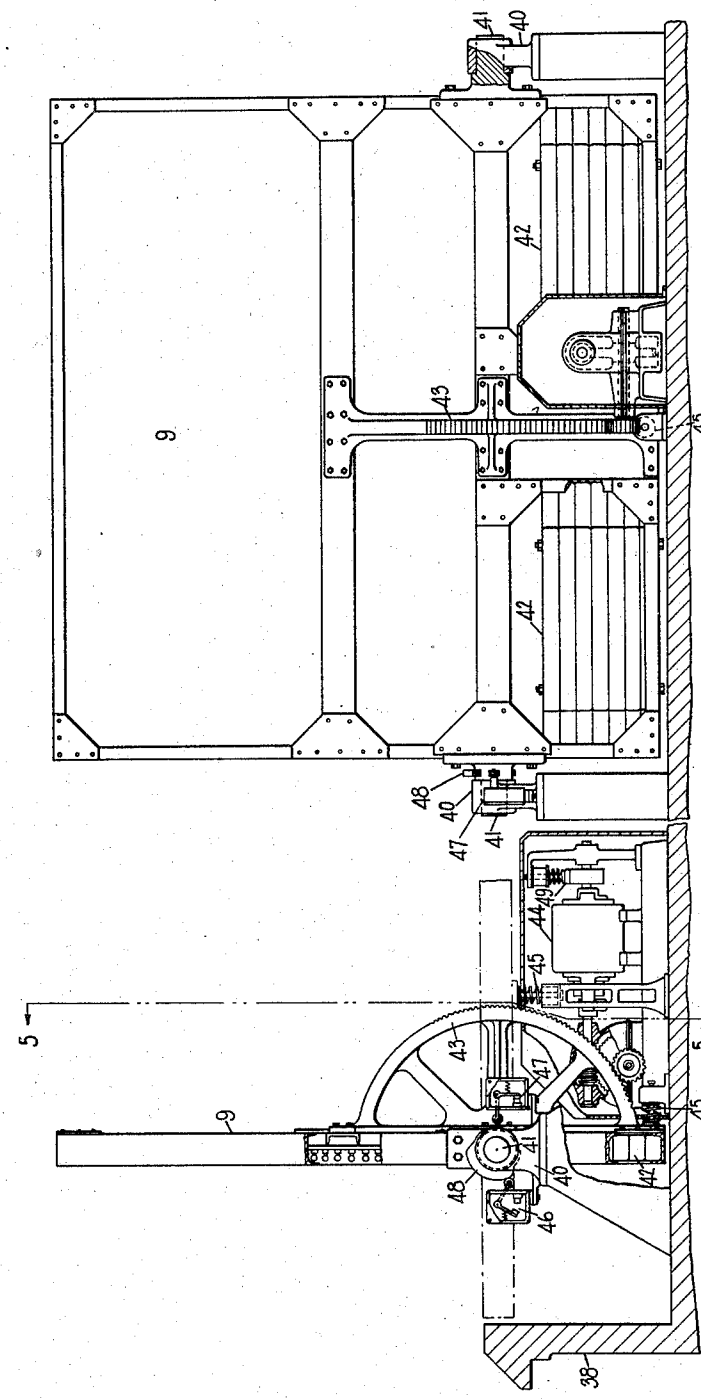


FIG.5

FIG.4

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Patented Feb. 11, 1930 1,746,611

UNITED STATES PATENT OFFICE

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SIGN

Application filed September 6, 1928. Serial No. 304,318.

This invention relates to improvements in the art of outdoor sign exhibiting.

The presence during the day of an unilluminated electric sign on a structure that may otherwise be attractive and well appearing is objectionable. During the evening, when the framework of the sign is invisible in the dark and the sign illuminations only are visible, the sign may be attractive and of great commercial importance.

In addition, large outdoor signs must be constructed to withstand, with a fair margin of safety, the pressure of the strongest gales, which requirement is attainable only by the provision of heavy and unsightly framework.

Furthermore, immovable outdoor signs are difficult and dangerous to service in repairing the sign and in replacing burnt-out bulbs. Accordingly, maintenance expenses are heavy. Due to the difficulty of servicing the sign, the display thereon is seldom, if ever, changed in part or in entirety. In some circumstances, this lack of flexibility of display for large outdoor signs seriously limits the advertising effect of the sign.

One feature of this invention is the provision of an outdoor sign that may at will be moved from a display position to a position where it cannot be seen by the customary observers.

A second feature of this invention is the provision of an outdoor sign that may be retracted or moved into a safe position when heavy gales are imminent.

A third feature of this invention is the provision of a large outdoor sign in which the display thereon may, with expediency and with little danger and expense, be partially or completely changed.

A fourth feature of this invention is the provision of a disappearing sign with means to prevent rain, dust, or other foreign material from entering the sign-secluding compartment both when the sign is in the displayed position and when it is in the retracted position.

Other features and advantages will become apparent from the specification, taken in connection with the accompanying drawings, wherein two embodiments of the invention are illustrated.

In the drawings:—

Figure 1 is a side elevation of the disappearing sign with certain parts in section;

Figure 2 is a section taken along the line 2—2 of Figure 1;

Figure 3 is a detail taken along the line 3—3 of Figure 2 showing the construction of the water-collecting trough and drain pipe;

Figure 4 is a side elevation of a modified form of disappearing sign with certain parts in section; and

Figure 5 is a rear elevation of the sign shown in Figure 4, taken along the line 5—5 thereof.

Referring to Figures 1 to 3 of the drawings, a chamber 10 in the upper part of a building has an opening through its roof through which the sign 14 may be extended to display position, as shown, or retracted to concealed position. The chamber may have an enclosed extension 13 of suitable height built above the roof 12 to enable the sign to be properly exhibited. To accomplish this, sign 14 is mounted on a framework 15 which moves on vertical guides 16 appropriately secured within chamber 10 and extension 13. Ropes 17 secured to framework 15 pass over sheaves 18 and 19 and are wound upon drums 20 which are secured upon shaft 21. This shaft, in turn, is connected by appropriate gearing to a brake 22 and a motor 23. There is also secured upon shaft 21 a drum 24 upon which winds a rope 25 which passes over sheave 26 and is fastened to counterweight 27 for the sign and framework. The arrangement of sign ropes 17 upon drums 20 and of counterweight rope 25 upon drum 24 is such that when the motor operates to raise the sign, the counterweight is lowered, and vice versa. The motor is electrically controlled in any appropriate manner. Upper and lower limit switches 28 and 29 are provided which are mounted to operate at the upper and lower limits of travel of the sign. A cam 30 is so fastened to the framework 15 that the upper limit switch 28 opens when the sign is in the full displaying position, and that

the lower limit switch 29 opens when the sign is completely retracted within the well. The opening of either limit switch stops the motor and applies the brake. Inasmuch as the circuits necessary for so controlling the motor and the brake are well recognized and are no part of this invention, for the purpose of conciseness they have been omitted.

It is to be noted that there is an opening 31 in the top of the enclosed extension 13 through which the sign passes. When the sign is in the retracted position, shield 32, provided on the top of the sign, covers this opening and prevents entry of air, rain water, dust and other material into chamber 10. When the sign is in the displaying position, the necessary clearances between the sign and the edges of the opening allow rain water, dust and the like to pass through the opening. This is collected in a trough 33 secured to the sign framework 15 so that when the sign is in the displaying position the trough is immediately under the opening 31. Weather strips 11 are preferably provided to engage the edges of the trough to seal the opening against the passage of air between the chamber and the atmosphere. In this manner, water, dust and other material are kept out of the chamber, and circulation of air between the chamber and the atmosphere is prevented while the sign is being displayed. In order to dispose of any water accumulated in the trough, a drain pipe with telescoping sections 34, 35 and 36 is provided, of which the top section 34 is secured to the trough and the bottom section 36 is secured to the floor of the chamber. A suitable lead-off 37 is provided at the bottom of the drain pipe. The telescoping sections permit the sign to be raised and lowered while maintaining at all times connection of the drain pipe with the trough.

A sign constructed in the above manner is readily movable from the displaying position to the retracted position when for policy it is desired not to have the sign visible, or when it is desired to repair the sign or change the display thereon. It is far easier and safer to work upon the sign when it is lowered into chamber 10, where ladders may be secured to or leaned against the walls thereof, than when it is in the displaying position. Furthermore by this construction to prevent entry of rain water and other material, ample clearances between the sign and the opening in the structure are possible.

It is to be noted that opening 31 is completely sealed in both the display and retracted positions of the sign so that, not only are the elements prevented from entering the chamber, but the heating of the chamber in cold weather is greatly facilitated.

Referring to Figures 4 and 5 of the drawings, there is shown a sign 9 which rotates about a horizontal axis on the supports 40. It is evident from the dot-and-dash outline of Figure 4 that when the sign is rotated to a horizontal position, it is hidden behind the parapet 38.

In this construction, the sign 9 is provided with suitable trunnions 41 which fit into the bearing supports 40. Secured to the sign is the arcuate gear 43 by means of which the motor 44, through suitable gearing, moves the sign into the displaying or retracted position, as desired. There are provided limit switches 46 and 47, which are actuated by the cam 48 attached to one of the trunnions. A spring-operated electrically-releasable brake 49 is also provided which operates on a drum on the motor driving shaft. The motor, together with the brake, is electrically controlled in a well recognized manner which is no part of this invention and which, for simplicity, has been omitted. When the motor is operated to move the sign to the desired position, brake 49 is released, and the sign is rotated until the appropriate limit switch is opened by the engagement of cam 48 with the switch roller. The opening of the limit switch stops the motor and applies the brake. Buffers 45 are provided to aid in the retarding of the sign. The sign is counterweighted as at 42.

A sign constructed in the manner of Figures 4 and 5 is disappearing without requiring a chamber below the roof, which in some situations may be undesirable. It is also readily accessible for servicing and repairs.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. In combination, a structure, a chamber within said structure having an opening to the atmosphere, a sign movable through said opening to a displaying position outside said chamber and to a retracted position within said chamber, and means for sealing said opening in both the retracted and displaying positions of said sign.

2. In combination, a structure with a roof portion having an opening therein, a chamber below said roof portion, a sign movable through said opening to a displaying position over said roof portion and to a retracted position below said roof portion and within said chamber, and rain-collecting and disposing means positioned under said opening.

3. In combination, a structure with a roof portion having an opening therein, a chamber below said roof portion, a sign movable through said opening to a display position over said roof portion and to a retracted po-

sition below said roof portion and within said chamber, and means secured to said sign to prevent entry of rain water, dust and other foreign material into said chamber when the sign is in either the display or the retracted position.

In testimony whereof, I have signed my name to this specification.

MARTIN C. SCHWAB.