C. C. LOTT.

VIBRATING SIGN.

APPLICATION FILED AUG. 3, 1915.

1,195,375. Patented Aug. 22, 1916.

Fig. 1.

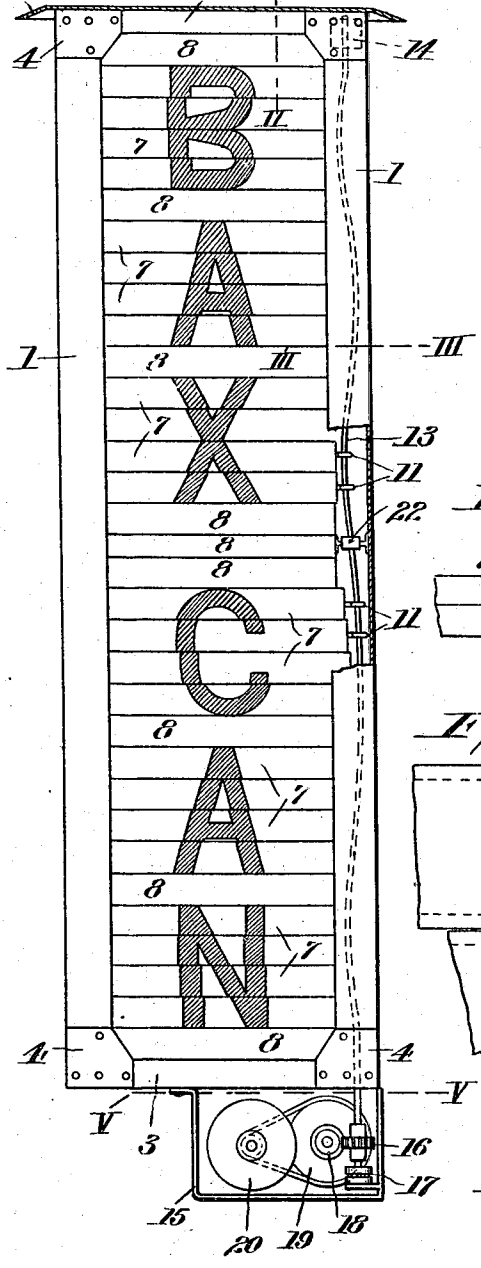


Fig. 2.

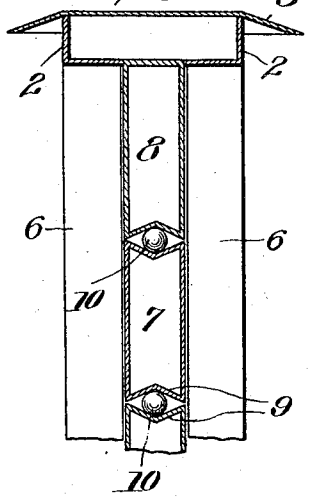


Fig. 3.

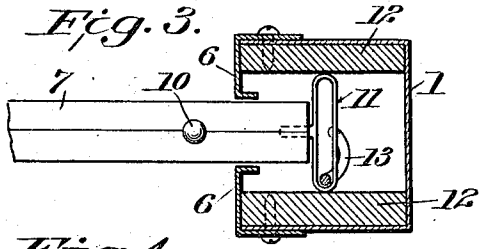


Fig. 4.

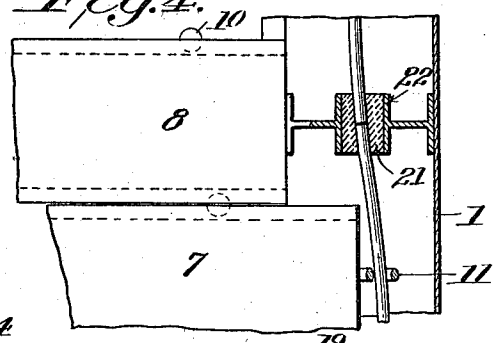
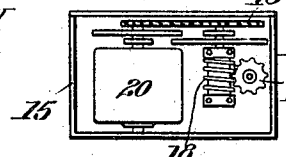


Fig. 5.



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VIBRATING SIGN.

1,195,375. Specification of Letters Patent. Patented Aug. 22, 1916.

Application filed August 3, 1915. Serial No. 43,356.

To all whom it may concern:

Be it known that I, CLARENCE C. LOTT, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Vibrating Signs, of which the following is a full, clear, and exact specification.

This invention relates to vibrating signs for use in daylight as well as at night, and it has for its object to provide a sign of this kind which is of improved and simplified construction, durable and may be operated at a minimum cost.

One of the principal objects of the invention is to provide improved means for producing an ever changing sinuous or wave-like appearance to the letters or other characters displayed on the sign, in order to attract attention from a considerable distance.

Another object is to reduce the friction due to the operation of the movable parts of the sign, thereby saving in the cost of operation because with the friction reduced less force or power is required to run the mechanism for producing the wave-like appearance.

Other objects will appear as the description proceeds.

The invention will be first hereinafter described in connection with the accompanying drawings, which constitute a part of this specification, and then more specifically defined in the claims at the end of the description.

In the accompanying drawings, wherein similar reference characters are used to designate corresponding parts throughout the several views: Figure 1 is an elevation of a sign constructed substantially in accordance with this invention, parts being broken away for the purpose of clearness of illustration. Fig. 2 is a vertical section on the line II—II of Fig. 1, the same being drawn to a larger scale and showing the antifriction bearings between the sides or edges of the slides. Fig. 3 is cross section on the line III—III of Fig. 1, also on an enlarged scale, and showing the construction of the side members of the frame and the mounting of the ends of the slides therein for reciprocation. Fig. 4 is an enlarged detailed vertical section through a portion of the side frame, showing a journal for two adjoining sections of the spiral shaft, and also one of the stationary or "dummy" slides between the letters on the sign, and Fig. 5 is a plan view of the motor and driving connections to the spiral shaft.

The sign comprises a frame having side members made of channel bars 1, top and bottom end cross pieces 2 and 3, and end connections or corner pieces 4. The top piece 2 is also provided with a hood 5 for protecting the body of the sign from rain or snow.

The body of the sign is composed of a plurality of slides 7 on which sections or portions of letters or other characters are painted or otherwise attached, and a certain number of stationary or "dummy" slides 8 arranged at the top and bottom of the sign and between the letters. The letters are preferably painted in white on a dark background, but any combination of colors calculated to give a striking and attractive appearance will answer. These slides are superimposed one upon another and have their ends extending into the channel bars 1 of the side portions of the frame, Figs. 1, 3 and 4. Angle bars 6 are attached to the edges of the channel bars 1 so as to reduce the openings or slots into which the slides extend to little more than the thickness of said slides. The edges of the slides which are presented to one another are grooved, as at 9, to receive ball bearings 10 for reducing friction between the slides as they are reciprocated one upon another. The stationary or "dummy" slides 8 are also fitted with the ball bearings in similar grooves, and as said stationary slides are rigidly fastened to the sides 1 of the frame, they serve to support the series of slides 7 immediately above them and relieve the weight of the slides composing one letter from those composing the next letter below.

The slides are reciprocated so that each one moves a little in advance of the next one in order to produce the sinuous or wave-like effect which is so attractive. This movement of the slides is accomplished by the use of a spiral shaft 13 arranged in the channel bar 1 at one side of the frame, said shaft extending through wire loops 11 attached to the ends of the slides, Figs. 1 and 3. Wood guides 12 are placed within the channel bar 1 to engage the ends of the loops 13 for insuring the proper reciprocation of the slides and preventing the faces of said slides coming in contact with the inner edge portions of the angle bars 6, so that the letters will not be scratched or marred.

The shaft 13 is suitably journaled at its upper end, as at 14, Fig. 1, while its lower end projects below the sign into a casing 15 where it is fitted with a worm gear 16 and a thrust bearing 17. The worm gear meshes with a worm 18 having suitable driving connections 19 with a motor 20 which may be a very low H. P. electric motor. The shaft may be made in sections joined or set in round Babbitt clamps 21, Fig. 4, rotating in rings 22.

The operation will be readily understood from the drawings and description. The motor 20 drives the spiral shaft 13 through the connections 19, worm 18 and worm gear 16, and the rotation of the said shaft reciprocates the letter bearing slides, giving the sinuous or wave-like effect to the sign.

It is obvious that detailed changes may be made in this device without departing from the spirit or sacrificing the advantages of this invention.

The sign may be suitably secured to the side of a building by brackets in the ordinary manner. The sign may, of course, have letters or other characters on both faces thereof, so as to be seen from opposite directions.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. A sign of the character described having a plurality of slides bearing characters, means for reciprocating said slides, and anti-friction bearings between the adjacent edges of the slides.

2. A sign of the character described having a plurality of slides bearing characters, a frame including side portions of channel form inclosing the ends of the slides, means in the channel for reciprocating the slides, and angle bars secured to the margins of the channel and extending in near to the faces of the slides.

3. A sign of the character described having a plurality of slides bearing characters, a frame including side portions of channel form inclosing the ends of the slides, loops attached to the slides and arranged in the channel, a spiral shaft engaging said loops for reciprocating the slides, and means for driving said shaft.

4. A sign of the character described having a plurality of slides bearing characters, a frame including side portions of channel form inclosing the ends of the slides, loops attached to the slides and arranged in the channel, a spiral shaft engaging said loops for reciprocating the slides, and a motor having driving connection with said shaft and supported on the frame of the sign.

5. A sign of the character described having a plurality of slides bearing characters, a frame including side portions of channel form inclosing the ends of the slides, loops attached to the slides and arranged in the channel, a shaft engaging said loops for reciprocating the slides, and guides in the channel for retaining the slides in proper alinement during reciprocation.

6. A sign of the character described having a plurality of slides bearing characters, a frame including side portions of channel form inclosing the ends of the slides, a spiral shaft engaging the slides for reciprocating the same in the channel, a cylindrical body formed around the shaft, and a collar fixed in the channel and fitted loosely around said cylindrical body to form a journal for the shaft at an intermediate point thereof.

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

CLARENCE C. LOTT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."