

March 6, 1951

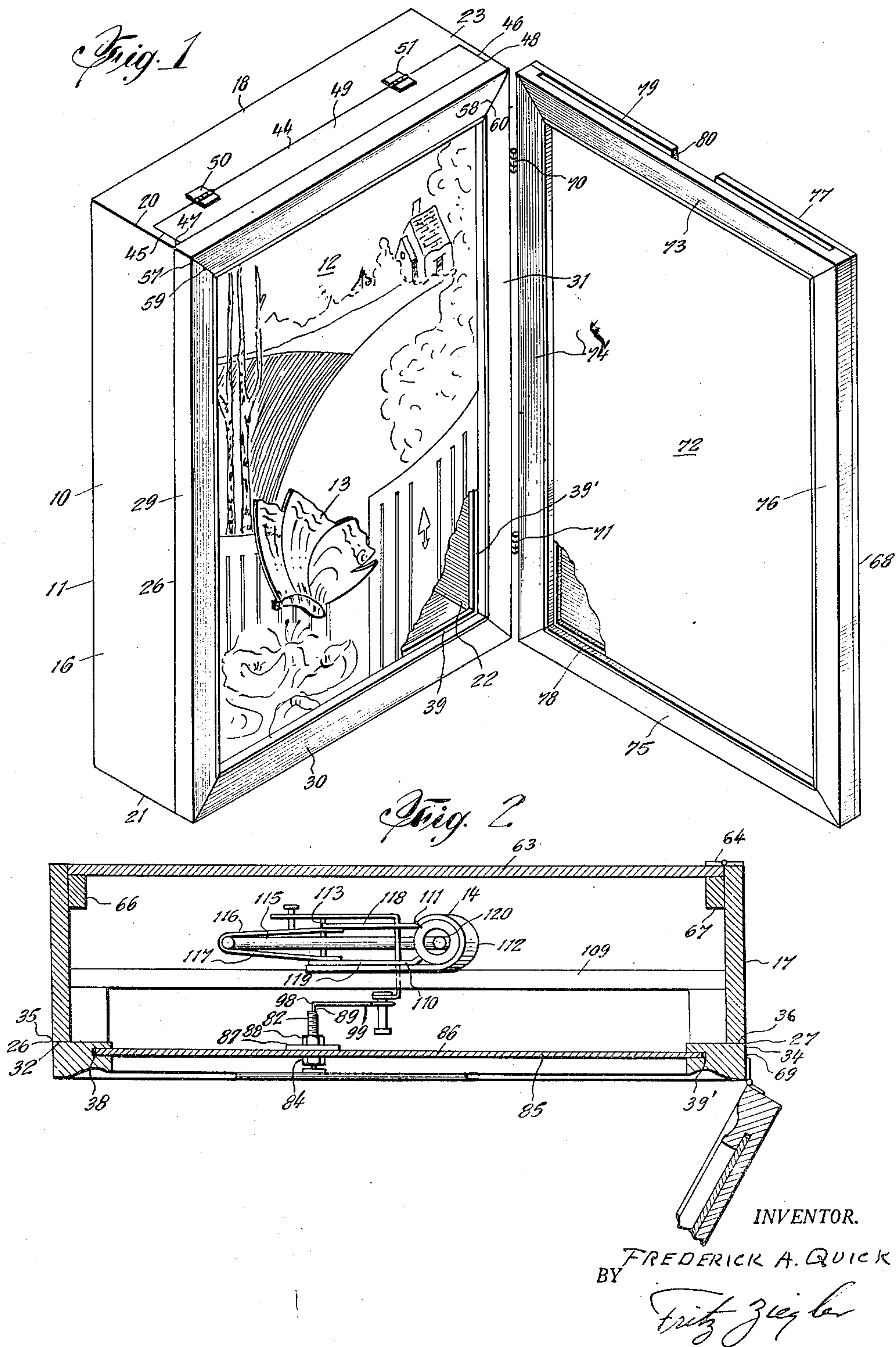
F. A. QUICK

2,544,105

OSCILLATING DISPLAY DEVICE

Filed Oct. 20, 1944

2 Sheets-Sheet 1



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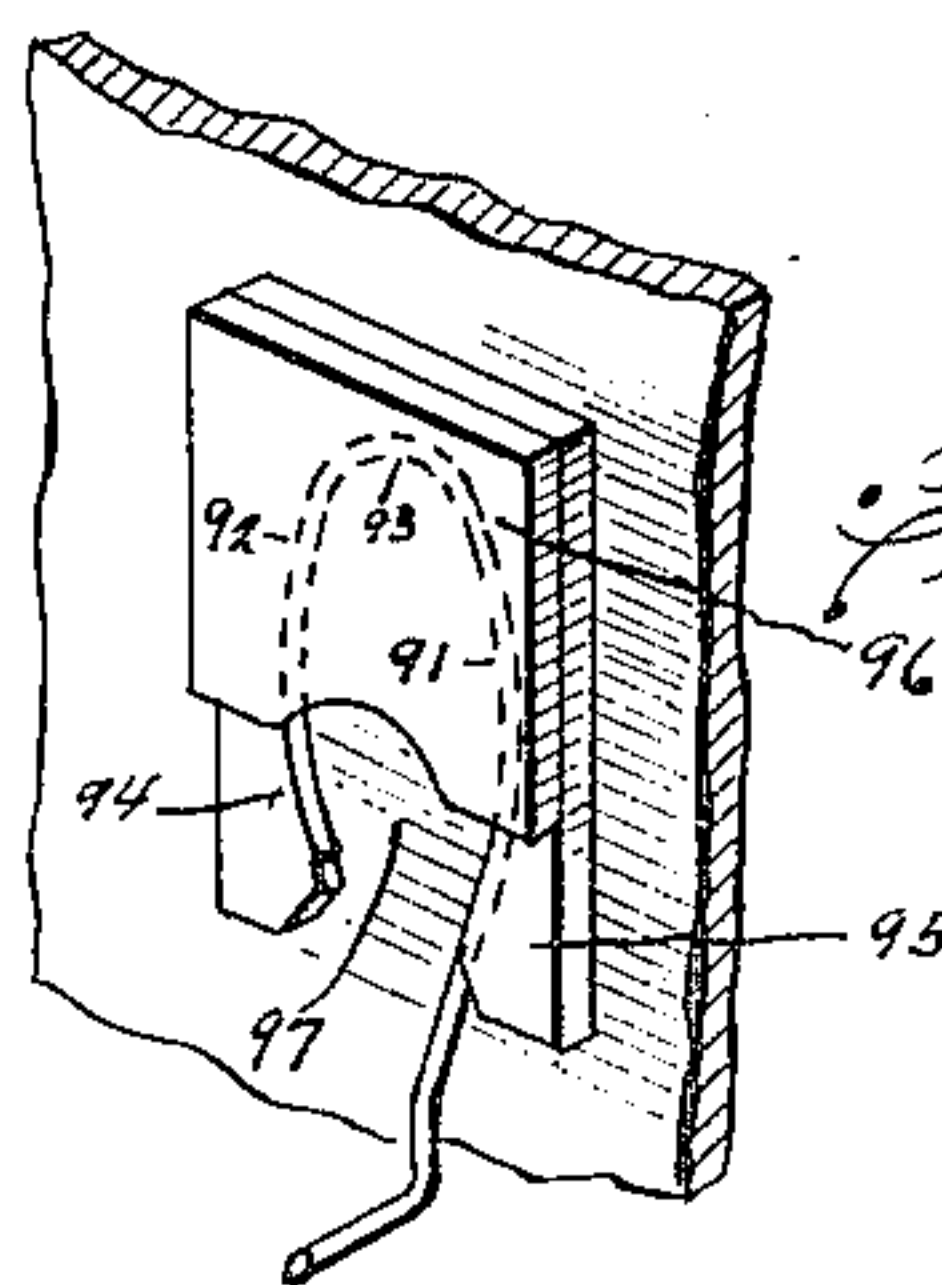
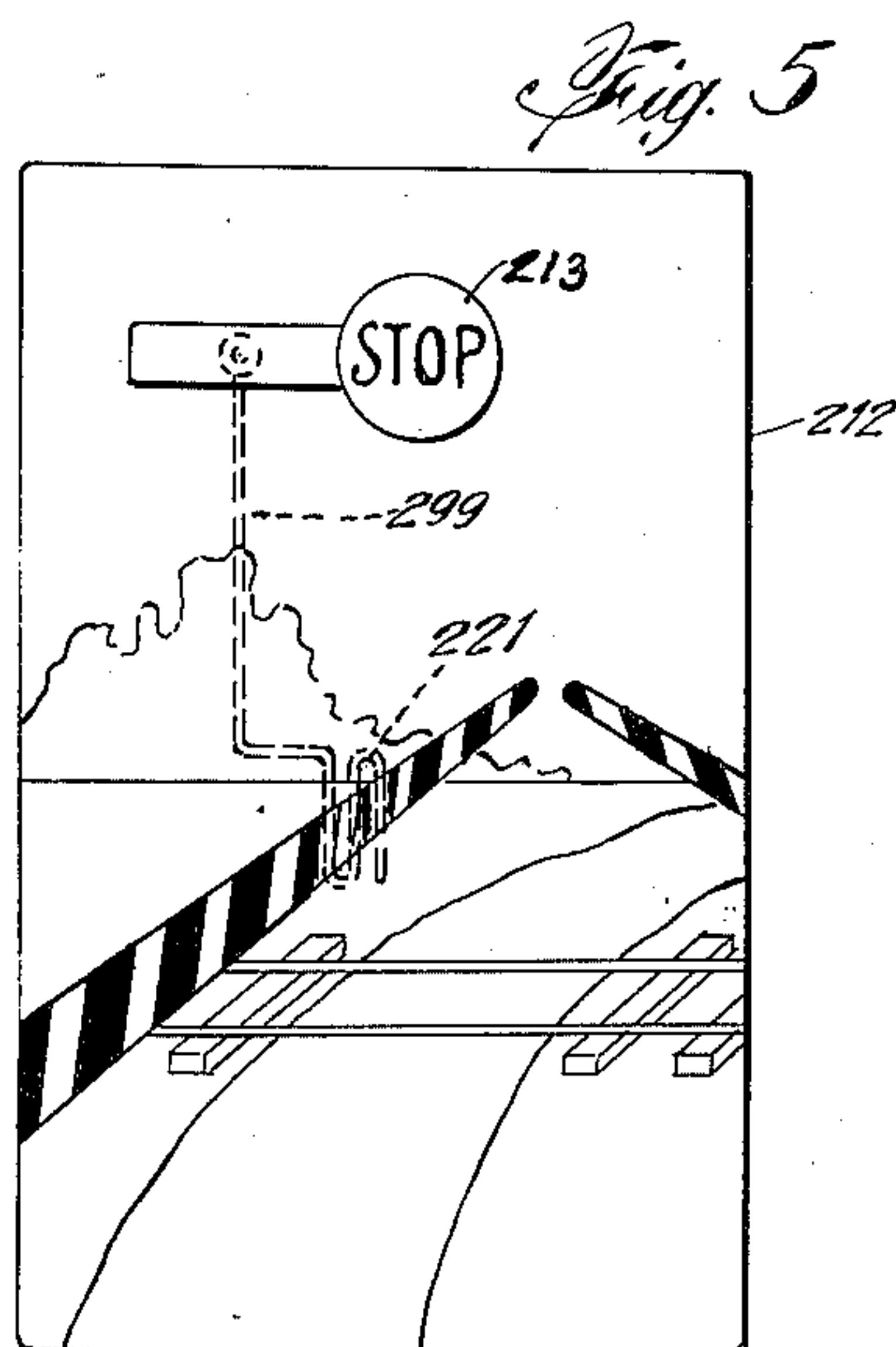
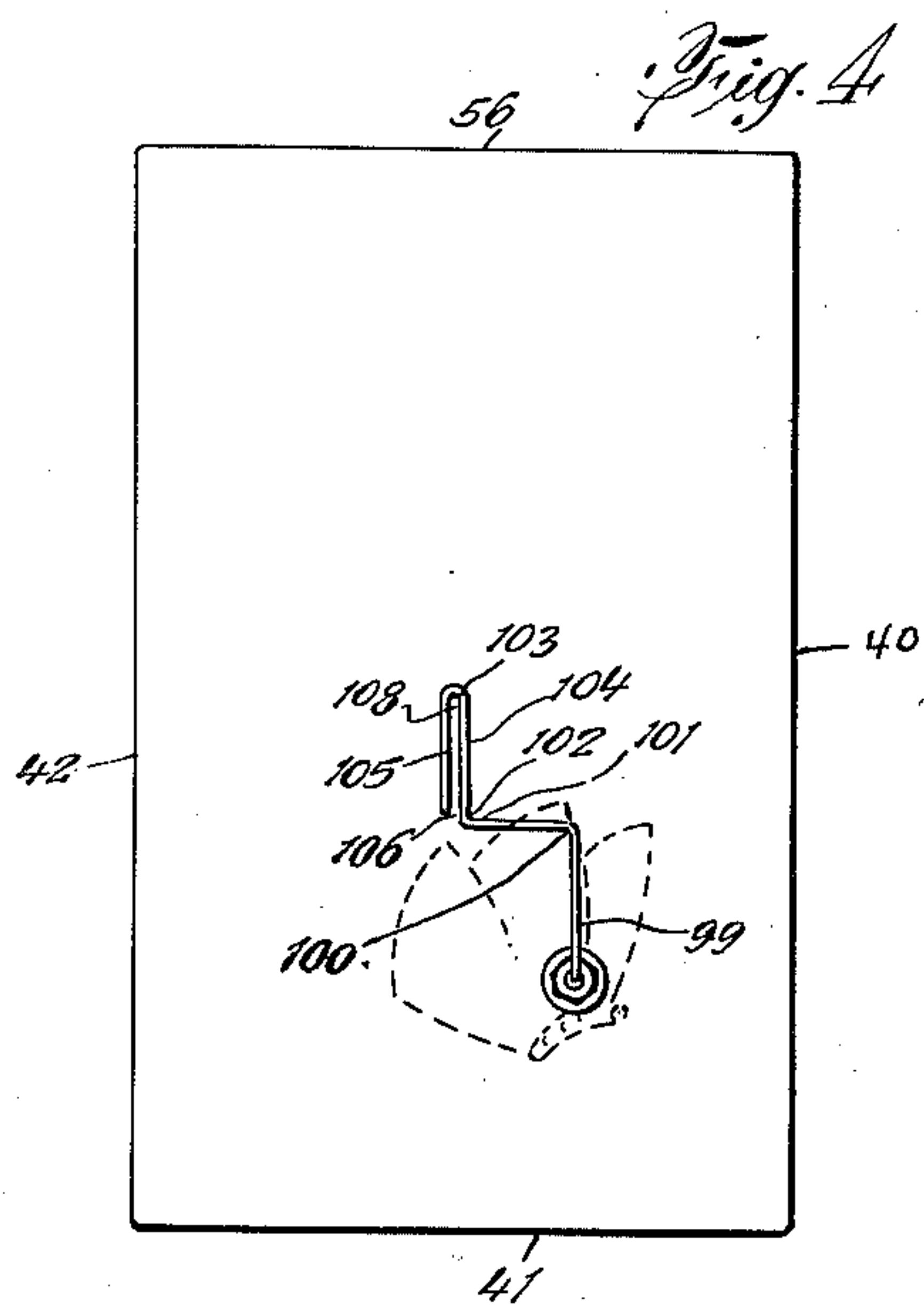
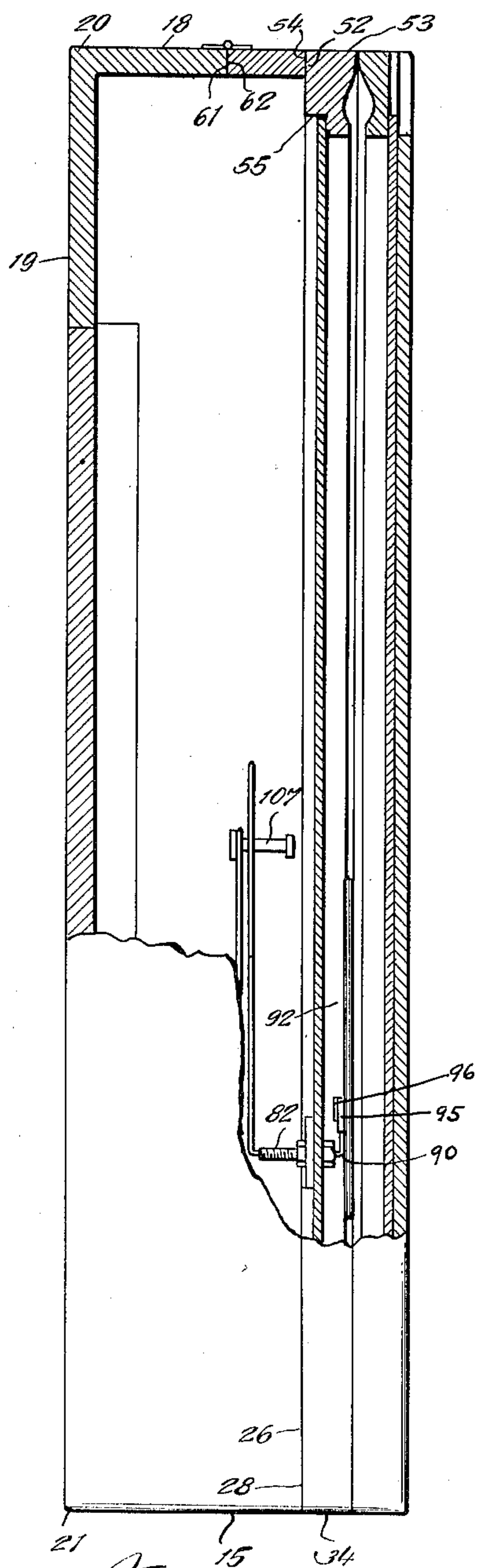
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2 Sheets-Sheet 2



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OSCILLATING DISPLAY DEVICE

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1 Claim. (Cl. 40—52)

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This invention relates generally to display devices, more particularly to the type adapted to attract attention by means of a moving object.

This type of device is used to make displays in stores and store windows in which a casing is designed to house removable placards, said casing having a motor adapted to give a reciprocal movement to an object associated with the placard.

It has heretofore been generally customary to make display devices of the type that are used for display purposes wherein a movable object is utilized to catch the eye of a substantially permanent fixture. No provision was made for interchanging the placard containing the movable object so that the position of the movable object could be changed on the new placard in accordance with the particular background used. In other words, if it became desirable to replace a placard having a moving object in the lower left corner of the sign designed to harmonize with the particular background of that placard to a placard having a movable object on the upper left corner it would be necessary to adjust the position of the motor to accommodate the angular movement change of the arm attached to the movable object in relation to the motor arm.

This involved obvious disadvantages as the arm of the motor could not always be easily adjusted to accommodate the angle of the arm of the movable object without affecting the efficiency of operation of the motor as the motors used in connection with these display devices operate most efficiently in a single position.

It is therefore among the objects of the present invention to provide variously positioned movable objects on a placard without the necessity of adjusting the motor mounting or its arm to properly coact with the arm attached to the movable objects.

Another object lies in the provision of a display device which can utilize a plurality of placards having movable objects without the necessity of making mechanical adjustments in associating the placard with the display device.

Another specific object of the invention lies in the provision of an arm for movable display objects which is easily mounted on the placard with the least number of parts.

Another object of the device lies in the provision of a display device in which a plurality of openings make for easy removal and insertion of the placards without the necessity of materially dismantling the device for removal of placards

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or assembling the device for insertion of new placards.

Another object of the invention lies in the provision of a device which is attractive and while it is portable has a permanent appearance.

These objects and other incidental ends and advantages will more fully appear in the progress of this disclosure and be pointed out in the appended claim.

In the accompanying drawings, forming a part of this specification, and in which like numerals designate corresponding parts throughout the several views:

Figure 1 is a front perspective view of a preferred embodiment of the invention substantially as same would appear when on display, parts of the placards being broken away to show the manner in which the placard is held in place.

Figure 2 is an enlarged fragmentary transverse sectional view of Figure 1 with a portion of the door omitted.

Figure 3 is a side elevational view partly in section of the device shown in Figure 1 with the door in closed position.

Figure 4 is a rear elevational view on a reduced scale of the placard shown in Figure 1 associated with the display device illustrating the arm associated with the movable object.

Figure 5 is a front elevational view on a reduced scale of the placard portion of the display device illustrating the second embodiment of the invention.

Figure 6 is a perspective view of the movable object actuating means and showing a fragment of the movable object.

Turning now to the first embodiment of the invention as illustrated in Figures 1 to 4 and 6, the display device is generally indicated by reference character 10 and comprises broadly a casing 11, a placard 12 including a movable object 13 and a motor 14.

The casing 11 may be made in any size or shape desirable to accommodate the selected size or shape of the placard to be associated therewith but the preferred shape is generally rectangular. The casing 11 is preferably constructed of wood and comprises a bottom panel 15, side panels 16 and 17, a top panel 18 and a rear wall 19. The side panels 16 and 17 are joined to the bottom 15 and the top panel 18 by dovetail joints (not shown) along each of the edges 20, 21, 22 and 23.

Joined to the longitudinal edges 26, 27 and 28 of side panels 16 and 17 and bottom 15 are molding pieces 29, 30 and 31, the inner surfaces 32 of molding 29, 34 of molding 31 and the inner

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surface of molding 30 (not shown) being attached to the outer surfaces 35, 36 and other surfaces (not shown) of the edges 26, 27 and 28 in any suitable manner, for example, by driving nails through the abutting edges. The molding thus provides a front facing or framework for the casing and finishes off the edges 26, 27 and 28.

The moldings 29, 30 and 31 are provided with longitudinal grooves or channels 38, 39 and 39' to permit the insertion of the edges 40, 41 and 42 of placard 12 therein. To enable the insertion and removal of the placard and at the same time to retain the picture frame appearance, the top panel 18 is cut longitudinally along the edge 44, transversely along the edges 45 and 46 and then laterally along the edges 47 and 48. The auxiliary panel 49 thus formed is hingedly connected to the main panel 18 by hinges 50 and 51. The inner edge 52 of a molding piece 53 is then attached to the outer edge 54 of the auxiliary panel. This molding corresponds to the molding piece 30 except for the fact that it is not channeled. In lieu thereof a recess 55 is provided to frictionally engage the outer edge 56 of the placard 12. The opening thus formed is retained in alignment in closed position in relation to the adjoining molding by the seating of the edges 57 and 58 of molding 53 on the edges 59 and 60 of molding 29 and 31, outer edges 61 and 62 of top panel 18 and auxiliary panel 49 abutting against each other.

In order to provide access to the interior of the casing through the rear thereof the rear wall 19 is provided with a swinging door 63 which is attached to the side panel 17 by means of hinges 64 and another hinge (not shown) and is prevented from swinging inwardly by means of stops 66 and 67 which are preferably in the form of elongated wood strips. Access through the rear of the casing is desirable in order to associate the movable object mechanism of the placard with the motor and to remove the placard from the casing.

The casing is also provided with a front door 68 which is swingably connected to the outer edge 69 of the molding 31 thereof by means of hinges 70 and 71. This door also serves as a holder for a placard 72 which is part of the general display scheme to which specific attention is to be directed, it being appropriately lettered to convey the desired advertisement. This door consists generally of moldings 73, 74, 75 and 76 which are joined to a rear panel 77 in any well known method as by nails or screws. Each of the moldings 74, 75 and 76 are provided with a longitudinal channel or groove 78 whereas molding 73 is provided with a slot 79. The slot 79 serves as an opening through which the placard 72 may be inserted to be engaged by the grooves 78 of the remaining three moldings. It is then quite obvious that a frame like appearance is given to the placard 72. An arcuate opening 80 is provided in the rear panel 77 so that the operator's fingers may be inserted therein to effectuate the easy removal of the placard 72 from the door 68.

The placard 12 may have thereon a background with which is harmonized a movable object 13. The movable object mechanism comprises a threaded sleeve 82 which is inserted into an opening (not shown) in the placard at any predetermined place desired in order to position the movable object in relation to the background of the placard scenery. A nut 84 engages the sleeve 82 which penetrates the opening in the placard and registers against the outer face 85 of said placard. On the opposite end of the

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sleeve which penetrates the rear face 86 of the placard 12 is placed a washer 87 which abuts against the rear face and is held in place by means of a nut 88.

Through sleeve 82 is inserted a wire 89 which is bent at a 90° angle at the point 90 slightly beyond the nut 84. The remaining portion 91 and 92 of the wire is bent at approximately a 180° angle at the point 93 and at approximately a 45° angle at the point 94. Laminated card boards 95 and 96 are attached to the rear surface of the movable object by staples or any other well known method. Board 95 is provided with a longitudinal opening 97 (only partially shown) extending substantially the entire length and conforming generally to the shape of the wire portions 91 and 92 into which they are designed to be fitted and register with the edges of the opening thus formed. The board 96 is designed to cover the opening 97 so that the wire can not be removed except through the opening 97. It can thus be seen that the movable object will react with the movement of the wire portions 91 and 92.

The opposite end of the wire 89 is then bent on an angle of 90° at the point 98 which is a slight distance beyond the edge of the sleeve 82 and is bent in a longitudinal direction parallel to the placard. An arm 99 is thus formed which is again bent on a 90° angle at the point 100 in a lateral direction from the arm 99 to form arm 101. The wire is again bent at right angles at the point 102. The remaining portion of the wire is bent on an angle of approximately 180° at the point 103 to form parallel arms 104 and 105 leaving an open space between the outer edge 106 of the wire and the arm 104 extending to the bend 103. It is within the confines of this space that the arm 107 of the motor 14 imparts a reciprocal motion by moving substantially along the vertical axis thereof from a central point as best shown in Figure 3 in relation to the arm 107 to the arms 104 and 105. The inner edge 108 of the bent portion 103 serves as a stop for the arm 107 of the motor. The movement of the arm 107 within the confines of the arms 104 and 105 causes the movable object to oscillate.

The motor found to be best utilized for this display device is secured to a transverse supporting board 109 and comprises generally a base 110, a solenoid 111, a frame 112, an axle 113, including an armature carrier 115, arms 116, 117, 118 and 119 and an armature 120.

Turning now to the second embodiment of the invention illustrated in Figure 5 for the purpose of avoiding needless repetition, parts corresponding to those of the first embodiment are given the same reference characters with the addition of the prefix 2. The second embodiment differs from the first embodiment in the position of the movable object 213 and the shape and position of the arms controlling the movable object.

In this embodiment it is desired to have the movable object positioned on the upper left corner of the placard 212 and yet to utilize the motor shown in connection with embodiment one without adjustment thereof so that the arm 107 of the motor engages the movable object arm at the same central point as in the first embodiment. The arm 299 is longer than the corresponding arm 99 and the wire in addition is bent at the point 221 so that the opening wherein the motor arm imparts a reciprocal motion is entered through the bottom. In this manner the same reaction of the movable object is obtained

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without affecting the efficiency of the motor and reacts on the same central point of the movable object arm.

Thus it may be seen that the display device can utilize a variety of placards to attract attention to the advertisement desired without materially altering the motive power and with little if any adjustment of the mechanism controlling the movable object.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

I claim:

In a display device, a support, a motor fixedly mounted thereon, an oscillated member actuated by the motor, a placard supported vertically in front of the motor, a swinging member pivoted on the placard, said member having a part extending forwardly of the placard and carrying a display object to be animated, said member having a rear portion having an open-ended loop fitting over the oscillated member to establish a

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driving connection between said oscillated member and the swinging member on which the loop is formed and to permit the placard to be lifted away from the support as a unit with the swinging member and the object carried by it, without disturbing the motor or requiring a change in the position of the same upon the support.

FREDERICK A. QUICK.

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