Oct. 13, 1925. 1,557,430

L. R. CROW

ELECTRICAL DISPLAY APPLIANCE

Original Filed March 9, 1922

Fig. 1.

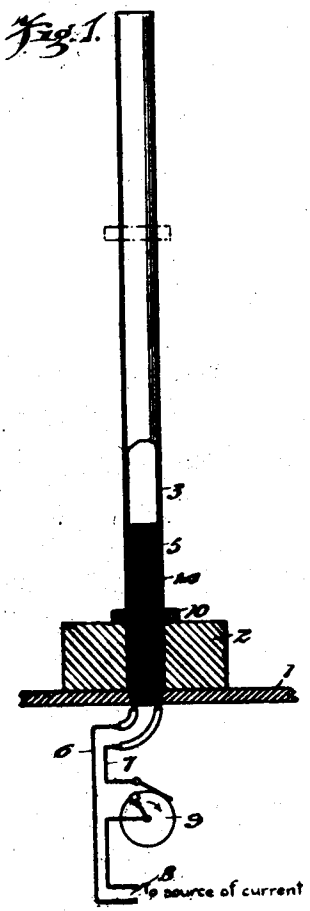


Fig. 2.

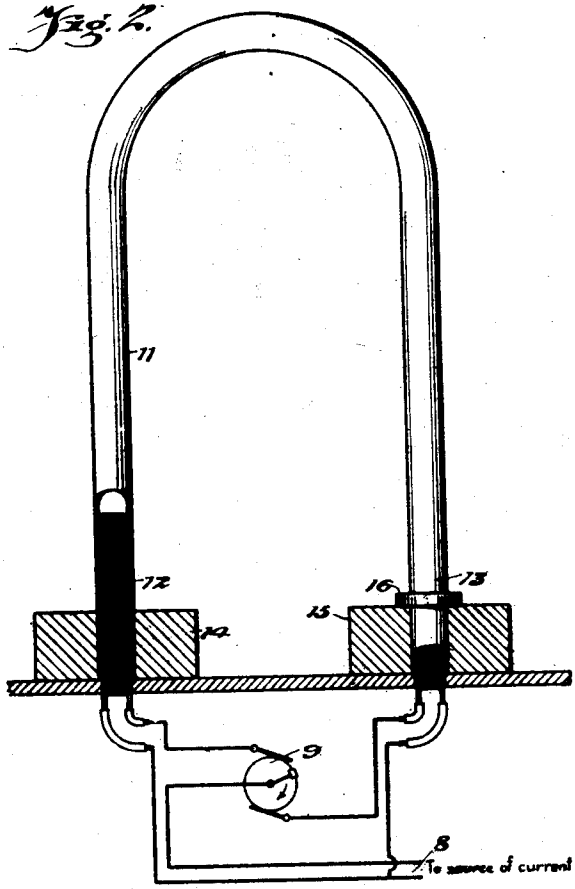
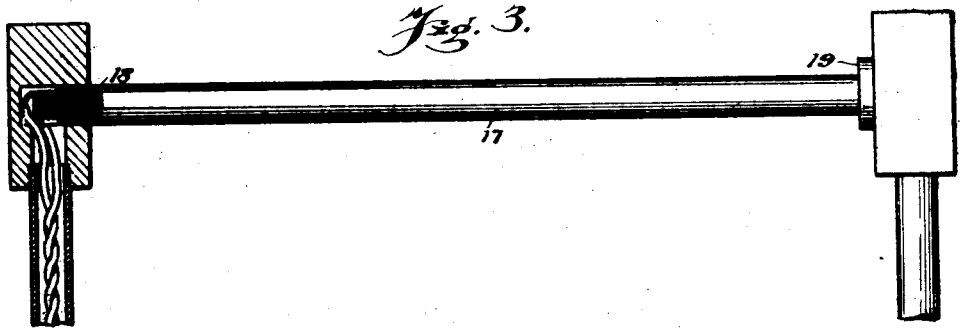


Fig. 3.



WITNESSES

L. W. Leibman

Robert J. Haleiger.

INVENTOR

Leonard R. Crow

BY Munn & Co.

ATTORNEYS

Patented Oct. 13, 1925. 1,557,430

UNITED STATES PATENT OFFICE.

LEONARD R. CROW, OF VINCENNES, INDIANA.

ELECTRICAL DISPLAY APPLIANCE.

Application filed March 9, 1922, Serial No. 542,437. Renewed April 9, 1925.

To all whom it may concern:

Be it known that I, LEONARD R. CROW, a citizen of the United States, and a resident of Vincennes, in the county of Knox and State of Indiana, have invented a new and Improved Electrical Display Appliance, of which the following is a full, clear, and exact description.

This invention relates to an electrical display appliance, and has for an object the provision of a simple, economical, efficient device which can be used to attract attention to any particular exhibition or display.

Another object resides in the provision of a movable object, operated by electricity, which may be located in a store window or other display location to attract attention.

A further object resides in the particular construction and arrangement of parts which are hereinafter described and claimed and shown in the accompanying drawings.

The invention is illustrated in the drawings, of which—

Figure 1 is a partial elevation of one form of the invention.

Fig. 2 is a similar view of a modified form.

Fig. 3 is a similar view of a still further modification.

The form of the invention shown in the drawings is a preferred form, although it is understood that modifications in the construction and arrangement of the parts and in the character of the materials used may be adopted without departing from the spirit of the invention.

The invention as shown in the drawings makes use of the magnetic characteristics of certain substances. This characteristic results in a repulsion between the substance and any changing magnetic field with which it may be associated. As shown in the figures, especially Fig. 1, I provide a support 1 of any suitable material, a base 2 of some non-magnetic material, such as wood, a vertically disposed tube 3 of any suitable non-magnetic or insulating material, such as glass, within which I dispose a solenoid 4 having a core 5 of laminated wires. This solenoid 4 is connected to circuit wires 6 and 7 leading to a source of current 8 and a circuit interrupter 9. Normally disposed to rest on top of the base 2 and embracing the tube 3 is a ring 10 of magnetic material, such as copper or aluminum. The normal disposition of this ring is such as to dispose it adjacent the magnet. Whenever the magnet is energized the magnet field will repel the ring and cause it to move upwardly to the position shown in dot-and-dash line in the figure. This repulsion is due to the repulsive action between the main field and the field induced in the ring. This action will continue as long as the circuit is opened and closed; for this purpose the interrupter 9 is provided. This interrupter may be run at any desired speed and may open and close the circuit in any manner and for any length of time. Whenever the circuit is broken, the ring 10 or movable element associated with the tube or support 3, will drop to the plug or base 2.

In Fig. 2 a similar idea is involved with the exception that the tube 11 is bent in the form of a U and has magnets 12 and 13 at the ends associated with blocks 14 and 15. The ring 16 in this case is repelled from one end and passes the high point of the U by reason of this repulsion and then drops by gravity to rest on the other block. The interrupter then closes the circuit to the other magnet and the ring is repelled again and moves in the reverse direction to its original position, the timing of the opening and closing of the circuits being arranged to cause the ring to travel up and over from one end of the tube to the other.

In Fig. 3 the tube 17 is disposed horizontally and has a magnet 18 at each end. The ring 19 in this case is repelled along the tube from one end to the other as the magnets are successively energized and de-energized.

The tubes or supports 3, 11 and 17 are preferably made of some material such as glass which can be silvered or painted so that the magnets within the support or tube cannot be seen.

By placing one of these forms of invention in a window or other display location, it excites considerable curiosity to see this ring travel back and forth without any apparent force impelling it. For this reason, therefore, to dispose this device adjacent some other matter to which attention is to be drawn will create the assemblage of a crowd, which is the object desired.

The invention in general, therefore, comprises an attracting element mounted movably on a support and adapted by the creation and destruction of a magnetic field in

association with the support and the element to be moved along the support so that its movement will attract attention, the movement being caused by magnetic action and without the necessity for any physical connection, creating the desired curiosity on the part of the people passing the location.

What I claim is:

1. A tubular display apparatus which comprises a non-magnetic support, a magnetic movable element embracing the tubular support, magnetic means disposed within the support to repel the element, and means for making and breaking a circuit to said magnetic means.

2. A display apparatus which comprises a non-magnetic support, a ring of magnetic material embracing the support and movable therealong, an electromagnet disposed at one end of the support, a source of current connected to said magnet, and a circuit interrupter in the connections, the magnetic ring normally disposed on the support adjacent the magnet.

3. A display apparatus which comprises a tube of non-magnetic material, a ring of magnetic material surrounding the tube and normally disposed at one end thereof, an electromagnet disposed at each end of the tube within the same, a source of current connected to the electro magnets, and a circuit interrupter connected in the circuit and adapted to alternately make and break the circuits of the electromagnets whereby the magnetic ring is repelled alternately from one end of the tube to the other.

LEONARD R. CROW.