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M. HOROWITZ

2,132,297

DECORATIVE LIGHT AND CHIME DISPLAY

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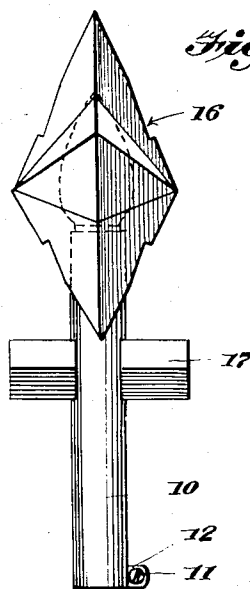
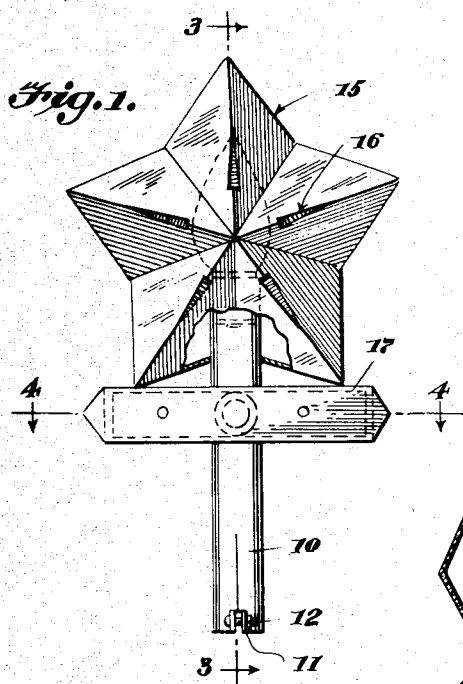


Fig. 3.

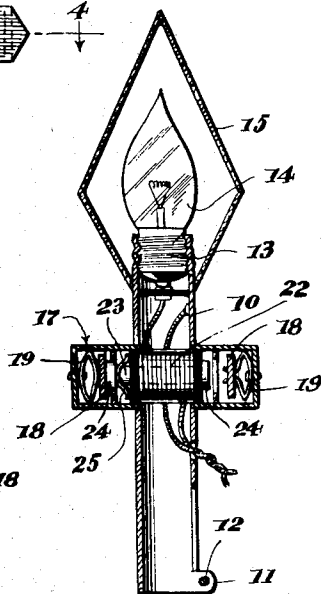


Fig. 4.

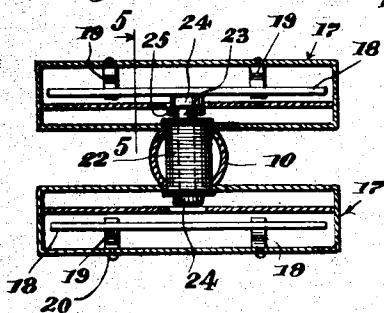


Fig. 5.

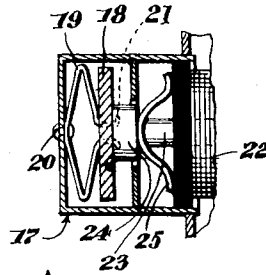


Fig. 6.

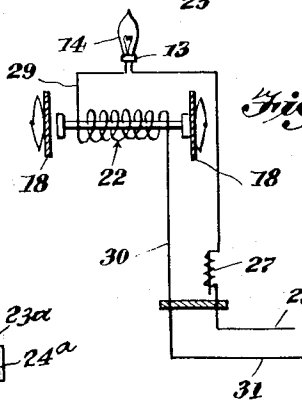


Fig. 7.

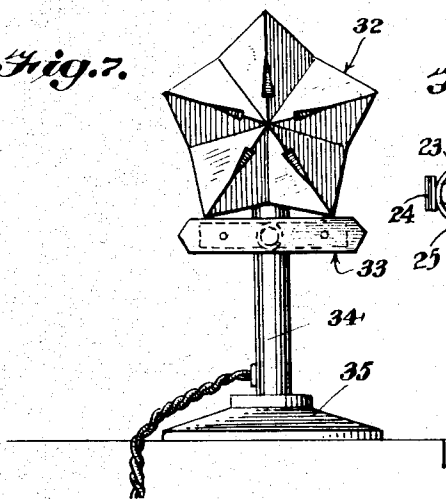
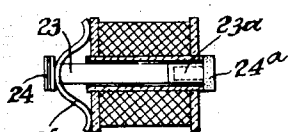


Fig. 3a.



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DECORATIVE LIGHT AND CHIME DISPLAY

Max Horowitz, Brooklyn, N. Y., assignor of
forty-five percent to Morris Friedman and
Irving Friedman, and ten percent to Edward
Spiegel, all of New York, N. Y.

Application July 20, 1936, Serial No. 91,580

2 Claims. (Cl. 177-7)

This invention relates to a decorative light and chime display, and more particularly to an electrical operating mechanism for lights and chimes, and has for one of its objects the production of a simple and efficient means for automatically controlling the lights and the sounding of the chimes.

A further object of this invention is the production of a simple and efficient means for operating, chimes, lights, signals and the like, wherein a solenoid is mounted and operated so as to cause its core or plunger to strike the chimes upon its energizing stroke, as well as upon its de-energizing stroke.

Another object of this invention is the production of a simple means in the nature of an efficient decorative light display in association with a sound effect for displaying colored or decorative lights and automatically sounding chimes or other sound elements, all mounted for convenient attachment to a tree or other support to be decorated.

Other objects and advantages of the present invention will appear throughout the following specification and claims.

In the drawing:—

Figure 1 is a front elevation of the display and sound element, certain parts being shown in section;

Figure 2 is a side elevation thereof;

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 1;

Figure 3^a is a sectional view upon an enlarged scale taken longitudinally through the solenoid;

Figure 4 is a transverse sectional view taken on line 4—4 of Figure 1;

Figure 5 is an enlarged sectional view taken on line 5—5 of Figure 4;

Figure 6 is a diagrammatic view of the electrical circuit employed for operating the light display and sound element;

Figure 7 is a front elevation of a modified form of a display and sound element.

By referring to the drawing by numerals, it will be seen that the light display and sound element comprises a standard 10 which is preferably of a tubular structure which is provided with a pair of laterally extending ears 11 at its lower end through which ears 11 extends a tightening screw 12 for the purpose of facilitating the tightening of the standard 10 over a support such as a tree limb or other suitable supporting medium. The standard 10 is provided at its upper end with an internally threaded lamp socket 13 in which is adapted to fit a lamp bulb 14 of the conventional type. A decorative head-piece 15 in the forma-

tion of a star, or other suitable decorative element, is fitted over the upper end of the standard 10 and this head-piece 15 may be provided with light slots 16—note particularly Figures 1 and 2.

The standard 10 carries upon its opposite sides below the decorative head-piece 15 a pair of spaced chime-supporting casings 17 which preferably extend transversely of the standard directly below the head-piece 15. A chime element 18 is supported longitudinally within each casing 17, each chime element 18 being supported upon a plurality of supporting springs 19. Each spring 19 is secured to the far side of the casing 17 by means of a suitable rivet or other securing means 20, and comprises a backwardly folded body having its ends also hooked in opposite directions as indicated at 21, to provide hook portions which extend through the chime element 18—note particularly Figure 5.

A solenoid 22 is mounted transversely of the standard 10 and has its opposite ends extending into the opposite chime casings 17, as shown clearly in Figure 3. The core or plunger 23 of the solenoid 21 is provided at one end with a head 24 and at its other end with an extension 23^a formed of non-magnetic material such as brass and carrying a head 24^a which may be leather or any other desired material as shown in Figure 3^a. These heads 24 are adapted to alternately strike the chime elements 18 mounted within the spaced chime casings 17—note Figures 3 and 4. A flat cushion spring 25 is carried by one end of the solenoid 22 in back of one head 24 to cause the core to be forced from an energized position to a de-energized position. The opposite heads 24 are adapted, as stated above, to alternately hammer or strike against the chime elements 18.

In carrying out this invention, it will be noted that the light bulb 14 is electrically connected through its socket 13, as shown in the diagram in Figure 6 to a wire 26, which wire 26 leads to a flasher plug 27 of the conventional type or any suitable make-and-break device, this flasher plug 27 being connected to a wire 28 of the supply line. The opposite side of the socket 13 is connected to a wire 29 which leads to the field winding of the solenoid 22, the field winding of the solenoid 22 being in turn connected to a wire 30 which leads to the opposite side 31 of the supply line. By noting Figure 6, it will be seen that when the flasher plug 27 is plugged into a standard electric outlet, the resistor in the flasher plug becomes heated thereby heating the thermostatic metal and thus causing this thermostatic metal to bind and make contact with a stationary con-

tact. This will short-circuit the resistance, thereby causing the bulb 14 to light up and cause the solenoid 22 to be energized. The plunger or core 23 of the solenoid 22 will be drawn in
 5 against the tension of the spring 25 thereby causing the heads 24* to contact or strike the chime mounted in front of the same for producing a musical tone. When the thermostat in the flasher plug 27 has cooled sufficiently the thermo-
 10 stat will return to its normal position, breaking the contact with the lamp 14 and solenoid 22 putting the resistor back into circuit. When the solenoid becomes de-energized due to the opening of the circuit, the plunger is caused to jump
 15 back due to the tension of the spring 25, and thus cause the opposite head 24 to strike the opposite chime 18 directly in back of the opposite end of the solenoid 22, thereby also creating a musical tone. This action is repeated periodically due to the continuous operation of the
 20 thermostatic plug and the continuous ringing of the chimes simulating the ringing of church bells or chimes. As stated above, it should be understood that any suitable make-and-break device may be substituted for the flasher plug,
 25 although it has been found preferable to use the conventional flasher plug which is especially designed for such purpose.

In Figure 7, there is shown a modified form of
 30 the invention wherein I have shown a decorative head-piece 32 carrying the transversely extending chime supported casings 33 directly below the head-piece 32, these casings and head-piece being supported in a manner similar to that as described with respect to Figure 1 upon a standard
 35 34, which standard 34 is carried by a base 35.

It should be understood that the device may be modified as to design and material, and certain detail changes might be employed mechanically and electrically without departing from the
 40 spirit of the invention.

Having described the invention, what I claim as new is:—

1. A device of the class described comprising

a hollow standard having opposed side openings in its walls, chime supporting casings extending from opposite sides of said standard and arranged in opposed and spaced relation to each other about said openings and having confronting
 5 inner ends, a chime element within each casing, a solenoid mounted in said standard and extending transversely thereof between the inner ends of said casings, a plunger carried by said
 10 solenoid, a striker head carried by each end of said plunger, the striker heads being adapted to alternately strike said chime elements, electrical means for energizing said solenoid for moving
 15 said plunger in one direction, and a spring engaging one of said striker heads for automatically moving the plunger in the opposite direction for striking the other chime element when said solenoid is de-energized.

2. A device of the class described comprising a hollow standard formed with opposed side openings, transversely extending chime-supporting
 20 casings carried by said standard at opposite sides thereof and arranged in opposed spaced relation to each other about said openings, a chime element within each casing, a solenoid mounted in
 25 said standard transversely thereof with its end portions extending through the openings and into said casings, a plunger extending through said solenoid with its end portions extending from opposite ends thereof into the casings, a
 30 striker head carried by each end of said plunger, the striker heads being adapted to alternately strike said chime elements, electrical means for energizing said solenoid for moving said plunger in one direction, and a spring engaging one of
 35 said striker heads for automatically moving the plunger in the opposite direction for striking the other chime element when said solenoid is de-energized.

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