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MEANS FOR SOUND REPRODUCTION ADVERTISING IN VEHICLES

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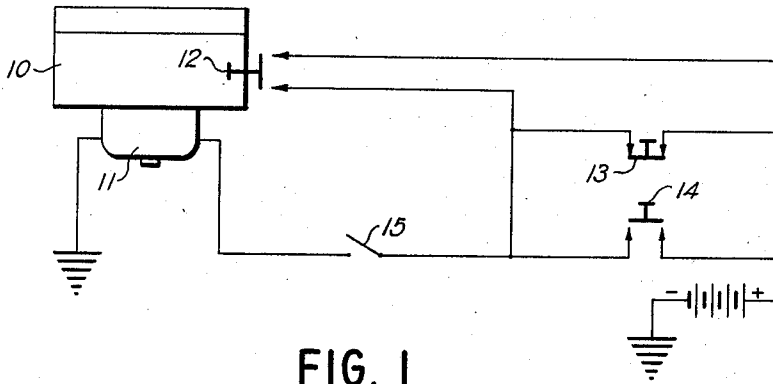


FIG. 1

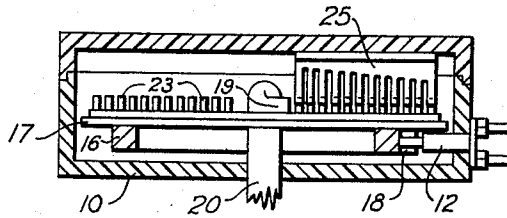


FIG. 2

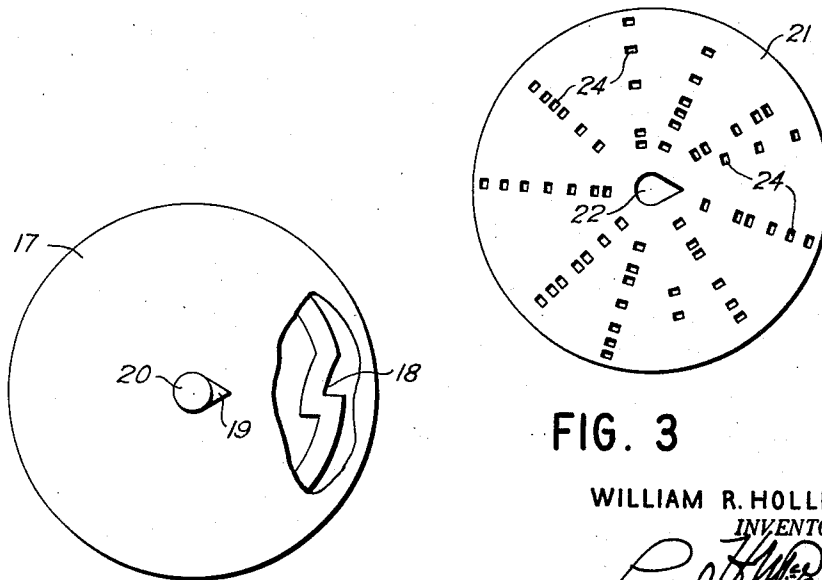


FIG. 3

FIG. 4

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**MEANS FOR SOUND REPRODUCTION
ADVERTISING IN VEHICLES**

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6 Claims. (Cl. 179-1)

My invention relates to an electrically operated sound reproducing instrument in an automobile, vehicle or other conveyance and a special circuit therefor energized by the source of power for the said vehicle or conveyance.

One object of my invention is to provide an electrically powered sound reproducing instrument that can be caused to reproduce predetermined sounds or tunes in the automobile, vehicle, conveyance or other device by means of a series of manually operated and automatic or semi-automatic switches.

Another object of my invention is to provide a method of advertising in an automobile, vehicle, conveyance or other device directly or through association by causing music or other sounds to be reproduced upon opening a door of said vehicle or conveyance or upon manually closing a switch.

Another object of my invention is to provide an electrical circuit in an automobile, vehicle or other conveyance whereby a sound reproducing instrument may be caused to operate automatically or manually or not to operate at all.

Referring to the drawings:

Fig. 1 is a schematic view of my invention showing a sound reproducing instrument, one arrangement of an electrical circuit therefor, switches, a source of power and a ground.

Fig. 2 is a sectional elevation view of one form of an electrically operated sound reproducing instrument, a music box, that can be used in the circuit. This view shows the case, the comb, a removable disc type music reproducer and selector, a turn table for said disc type music reproducer and selector, a cam operated circuit breaking switch and the cam which opens and closes said switch.

Fig. 3 is a plan view of a disc type music reproducer and selector, showing the stamped out slots from which the individual selectors are formed but not showing the individual selectors themselves.

Fig. 4 is a plan view of the turn table with a part thereof broken away showing the circuit breaking and closing cam situated underneath said turn table.

Referring further to the drawings:

10 is a sound reproducing instrument of predetermined sounds powered by an electric motor 11. 12 is a push button two-point make switch. 13 is a push button two-point break switch which is operated by the opening and closing of a door of the automobile, vehicle, conveyance or other device. 14 is a push button two-point make switch which is manually operated and which is employed to start the sound reproducing instrument playing at the will of a person in the vehicle or conveyance. 15 is a master switch which, if left open, completely breaks the circuit so that no combination of switches 13 or 14 with 12 can cause the sound reproducing instrument to play. If master switch 15 is closed, then the sound reproducing instrument can be caused to play through the closing of the circuit by means of the push button switches 13 or 14 in combination with the push button switch 12.

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The push button switch 12 situated on the electrically operated sound reproducing instrument 10 is opened and closed by means of a cam 16 fastened to the under surface of the turn table 17. The depressed portion 18 of the cam 16 is aligned with an eccentric shoulder 19 on the drive shaft 20 of the electric motor 11. The turn table 17 is positioned just below the eccentric shoulder 19 on the shaft 20. A removable sound reproducer and selector disc 21 is provided with a hole 22 in the center thereof which is complementary to the configuration of the shaft 20 and the eccentric shoulder 19 of the shaft 20. Individual sound selectors 23 are formed by punching slots 24 out of the music reproducer and selector disc 21. A comb 25 is positioned within the sound reproducing instrument so as to be plucked by the individual selectors 23 of the disc 21 as said disc and the turn table 17 are rotated by means of the electric motor 11. The alignment of the disc 21 with the eccentric shoulder 19 of the shaft 20, which shoulder in turn is aligned with the depressed portion 18 of the cam 16, results in the disc 21 always starting at the proper place and stopping in such a position that it is ready to commence the reproduced sound from the beginning thereof when it is again started.

The circuit when closed by manually depressing the push button switch 14 or by opening a door which enables the push button switch 13 to close causes the motor 11 to start turning the turn table 17 and the cam 16. When the cam 16 has turned past its depressed portion 18 with relation to the push button switch 12, the circuit is also completed by means of said push button switch 12 on the sound reproducing instrument 10. The subsequent breaking of the contacts made by the closing of either push button switch 13 or 14 does not result in the circuit to the motor being broken. The motor 11 continues to operate and the sound on the disc 21 continues to be reproduced until the cam 16 and the turn table 17 have come around to the depressed portion 18 of the cam 16 which results in the push button switch 12 being released, the circuit being broken and the sound reproducing instrument ceasing to operate at a position to start reproducing the sounds on the disc 21 from the cyclical or sequential beginning thereof when the circuit is again completed through either of the push button switches 13 or 14.

The sequence of push button switches 12, 13 and 14 with relation to each other and with relation to the circuit or the vehicle or conveyance in which they are placed is immaterial so long as described operations of activating the circuit through these switches is accomplished by any arrangement of said switches and the circuit with respect to each other.

The polarity of the circuit is also immaterial so long as a complete circuit is provided by the operation of the push button switches 12, 13 and/or 14 when the master switch 15 is closed.

It is understood that the particular disclosure of an electrically operated sound reproducing instrument described herein is only one of various embodiments of types of music or sound reproducing instruments that can be employed in my invention and that I am not limiting myself to this particular disclosure. A wire or tape recorder, record player, etc., could be used to as great or greater advantage to accomplish the objects of my invention.

Having thus described my invention what I claim is:

1. In a sound reproducing system for an automobile, vehicle, conveyance or other device: an electric circuit; a sound reproducer of predetermined sounds in series in said circuit; camming means motivated by said sound reproducer; a switch on said sound reproducer and in said circuit in series with said sound reproducer, said switch controlling and controlled by said camming means; a

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door-operated switch adapted to start said sound reproducer and a manual switch adapted to start said sound reproducer, each of said switches in parallel in said circuit with the other and with said cam switch and in series in said circuit with said sound reproducer, either of said switches being adapted to cooperate with said camming means and said cam switch to control said sound reproducer to at least one complete message cycle of operation and to stop said sound reproducer at the beginning of a new message cycle; and a master switch in said circuit in series with said sound reproducer, cam switch, door-operated switch and manual switch, adapted to inactivate said circuit, sound reproducer, camming means and all switches in said circuit.

2. In a sound reproducing system for an automobile, vehicle, conveyance or other device: an electric circuit; a sound reproducer of predetermined sounds in series in said circuit; camming means motivated by said sound reproducer; a switch on said sound reproducer and in said circuit in series with said sound reproducer, said switch controlling and controlled by said camming means; and a door-operated switch adapted to start said sound reproducer and a manual switch adapted to start said sound reproducer, each of said switches in parallel in said circuit with the other and with said cam switch and in series in said circuit with said sound reproducer, either of said switches being adapted to cooperate with said camming means and said cam switch to control said sound reproducer to at least one complete message cycle of operation and to stop said sound reproducer at the beginning of a new message cycle.

3. In a sound reproducing system for an automobile, vehicle, conveyance or other device: an electric circuit; a sound reproducer of predetermined sounds in series in said circuit; camming means motivated by said sound reproducer; a switch on said sound reproducer and in said circuit in series with said sound reproducer, said switch controlling and controlled by said camming means; a door-operated switch adapted to start said sound reproducer in parallel in said circuit with said cam switch and in series in said circuit with said sound reproducer, said switch being adapted to cooperate with said camming means and said cam switch to control said sound reproducer to at least one complete message cycle of operation and to stop said sound reproducer at the beginning of a new message cycle; and a master switch in said circuit in series with said sound reproducer, cam switch and door-operated switch, adapted to inactivate said circuit, sound reproducer, camming means and all switches in said circuit.

4. In a sound reproducing system for an automobile, vehicle, conveyance or other device: an electric circuit; a sound reproducer of predetermined sounds in series in said circuit; camming means motivated by said sound reproducer; a switch on said sound reproducer and in said circuit in series with said sound reproducer, said

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switch controlling and controlled by said camming means; and a door-operated switch adapted to start said sound reproducer in parallel in said circuit with said cam switch and in series in said circuit with said sound reproducer, said switch being adapted to cooperate with said camming means and said cam switch to control said sound reproducer to at least one complete message cycle of operation and to stop said sound reproducer at the beginning of a new message cycle.

5. In a sound reproducing system for an automobile, vehicle, conveyance or other device: an electric circuit; a sound reproducer of predetermined sounds in series in said circuit; camming means motivated by said sound reproducer; a switch on said sound reproducer and in said circuit in series with said sound reproducer, said switch controlling and controlled by said camming means; a manual switch adapted to start said sound reproducer in parallel in said circuit with said cam switch and in series in said circuit with said sound reproducer, said switch being adapted to cooperate with said camming means and cam switch to control said sound reproducer to at least one complete message cycle of operation and to stop said sound reproducer at the beginning of a new message cycle; and a master switch in said circuit in series with said sound reproducer, cam switch and manual switch, adapted to inactivate said circuit, sound reproducer, camming means and all switches in said circuit.

6. In a sound reproducing system for an automobile, vehicle, conveyance or other device: an electric circuit; a sound reproducer of predetermined sounds in series in said circuit; camming means motivated by said sound reproducer; a switch on said sound reproducer and in said circuit in series with said sound reproducer, said switch controlling and controlled by said camming means; and a manual switch adapted to start said sound reproducer in parallel in said circuit with said cam switch and in series in said circuit with said sound reproducer, said switch being adapted to cooperate with said camming means and cam switch to control said sound reproducer to at least one complete message cycle of operation and to stop said sound reproducer at the beginning of a new message cycle.

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