

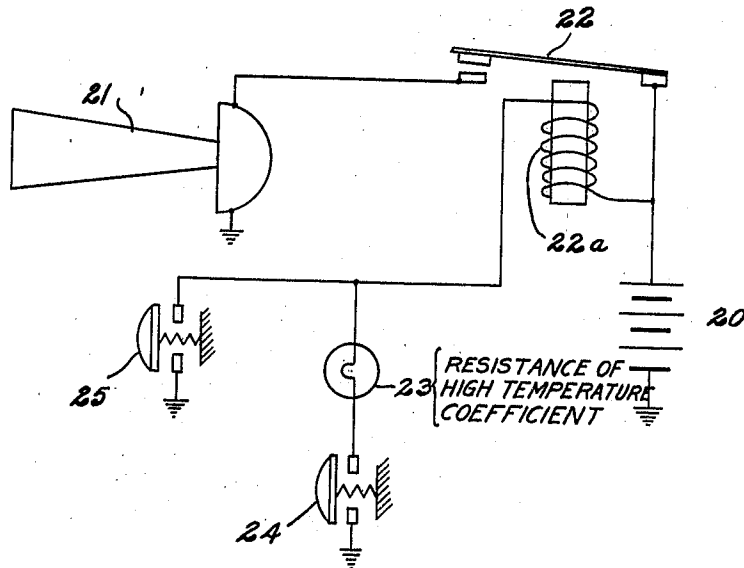
Feb. 1, 1944.

A. D. BAKER

2,340,502

HORN CONTROL SYSTEM

Filed May 2, 1940



INVENTOR
Albert D. Baker
BY
Spencer Hardman & Felt
his ATTORNEY

UNITED STATES PATENT OFFICE

2,340,502

HORN CONTROL SYSTEM

Albert D. Baker, Lansing, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Application May 2, 1940, Serial No. 333,004

2 Claims. (Cl. 177-7)

This invention relates to systems for control for electrically operated sound signal horns for automobiles and has for its object the provision of means for obtaining a short blast for city driving regardless of how long the driver may press the horn button switch. To accomplish this object, in the circuit of the magnet coil of the horn control relay, I place a resistance element such as an incandescent lamp, having a high temperature-coefficient of resistance. For a brief interval while the resistance is relatively cold, enough current will pass while the horn button is closed to cause the relay to close. The temperature of the resistance quickly rises, due to the electric current flowing through it, and the current flowing through the relay coil is quickly reduced to a value insufficient to cause the relay to remain closed.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing wherein a preferred embodiment of the present invention is clearly shown.

The figure of the drawing is a wiring diagram of the invention.

A battery 20 supplies current to a horn 21 through contacts 22b and 22c of a relay 22 whose magnet coil 22a is in series with an electric lamp 23 or other resistance having a high temperature-coefficient of resistance. While the lamp 23 is relatively cold, sufficient current will pass through the coil 22a upon the closing of horn-button switch 24 to effect the closing of relay 22. The horn 21 will sound for a brief interval during which the lamp temperature increases and its resistance increases and the flow of current diminishes to a value insufficient to hold the contacts of the relay 22 closed. Then the horn 21 will cease operation. When the switch 24 opens, the lamp 23 quickly cools and its resistance lowers. The button 24 may be pressed again to obtain another short blast. Each time button 24 is pressed and no matter how long it is pressed, the horn 21 will operate only for a brief instant. This manner of signalling is desirable for city driving. The shortest possible interval between succession soundings of the horn is limited by the time required for the lamp 23 to cool sufficient to pass enough current to operate the relay 22. Therefore the driver cannot cause the short blasts from the horn to occur in such rapid succession as to become annoying.

For country driving, the horn 21 may be sound-

ed as long as desired by pressing a second horn-button switch 25 not in series with lamp 23.

While the embodiments of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

I claim:

1. A warning signal system comprising a current source, an electric signal device, a pair of contacts normally biased into open circuit relation and operable to control the connection between the source and signal device; and a circuit paralleling the contacts and the signal device and operable to control the status of the contacts and including a manually operable switch, an electromagnet having a winding and operable when energized to cause the contacts to close, and a thermal element in series with the manually operable switch having a relatively high temperature coefficient of resistance for reducing the current flow to the electromagnet winding in order to weaken the effect thereof so that the contacts will return to open circuit relation, said thermal element operating to determine the end limit of duration of operation of the signal device.

2. A warning signal system comprising a current source, an electric signal device, a pair of contacts normally biased into open circuit relation and operable to control the connection between the source and signal device; and a circuit paralleling the contacts and the signal device and operable to control the status of the contacts and including a manually operable switch, an electromagnet having a winding and operable when energized to cause the contacts to close, and a thermal element in series with the manually operated switch and magnet winding and having a relatively high temperature coefficient of resistance for reducing the current flow to the electromagnet winding a predetermined period after the manually operated switch is closed in order to weaken the effect thereof so that the contacts will return to open circuit relation, said thermal element operating to determine the end limit of duration of operation of the signal device, and a second manually operable switch in series with the electromagnet winding and in parallel with the thermal element and first mentioned manually operable switch for connecting the electromagnet winding with the current source independently of the first mentioned switch and thermal element.

ALBERT D. BAKER.