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ELECTROMAGNETIC SIGNAL HOOTER
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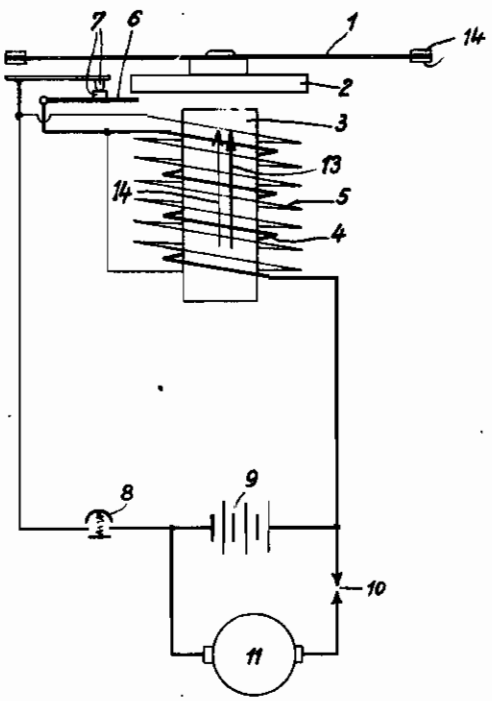

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ELECTROMAGNETIC SIGNAL HOOTER

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This invention relates to electromagnetic signal horns or hooters of the type used in motor vehicles.

It is an important object of the present invention to provide means in devices of the type referred to for ensuring an efficient spark quenching at the contacts of the interrupter.

Another object of the invention is to provide means for preventing the distortion of the sound of the horn produced in the conventional horns as a result of a too high operating voltage, which of course is due to the variations of the battery voltage arising from the different charging conditions of the same.

With these objects in view, I provide on the electromagnet an auxiliary winding which is connected across the contacts of the interrupter and consists of a smaller gauge wire than the main winding, the auxiliary winding being arranged so as to produce a unidirectional magnetising effect with that of the main winding.

The invention will be better understood by reference to the following detailed description in connection with the accompanying drawing, showing by way of example and purely schematically a diagram of connection of a signal horn device having the invention applied thereto.

It will be seen from the drawing that the horn comprises a diaphragm 1 connected to, and oscillated by, an armature 2 forming part of an electromagnet 3 including a main winding 4 and an auxiliary winding 5 being inductively intercoupled. The diaphragm at its rim is held between rings 14. The auxiliary winding 5 consists of a thinner wire than the main winding 4, for instance, of a wire having half the diameter of the main winding 4, and is arranged to cause a magnetisation in the direction of arrow 12, i. e., in the same direction as that of the main coil 4 which is indicated by arrow 13.

The armature 2 actuates a contact spring 6 of an interrupter whose contacts 7, 7 are connected in series with the main coil 4, whilst the auxiliary winding 5 is connected in parallel with the interrupter contacts 7, 7, whereby the potential produced at the terminals of the main coil 4 due to selfinduction is permitted to equalize. Owing to the spark extinguishing effect thereby attained the condenser which usually is connected across the interrupter contacts may be dispensed with.

Moreover, it has been found that by provision of the auxiliary coil 5 a pure sound is produced even if the operating voltage exceeds the nominal voltage of the horn. Thus, the purity of the tone produced by the horn becomes independent of the voltage variations of the source of current 9 of the horn. The current consumption of the auxiliary coil 5 is very small.

A push button serves for switching in the horn. The battery 9 for the horn may be charged from a generator 11, through an automatic switch 10.

The method and apparatus of the present invention have been described in detail with reference to a specific embodiment. It is to be understood, however, that the invention is not limited by such specific reference but is broader in scope and capable of other embodiments than that specifically described and illustrated in the drawing.

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