

E. MONTELEONE.
 AUTOMOBILE HORN.
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1,294,296.

Patented Feb. 11, 1919.

Fig. 1.

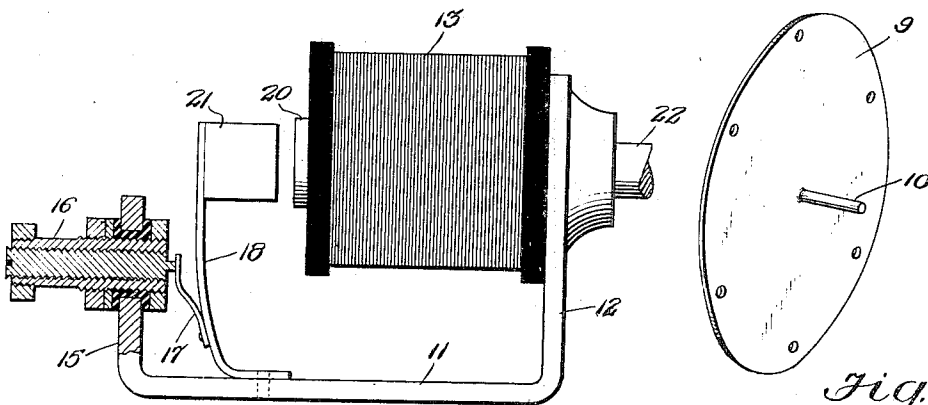
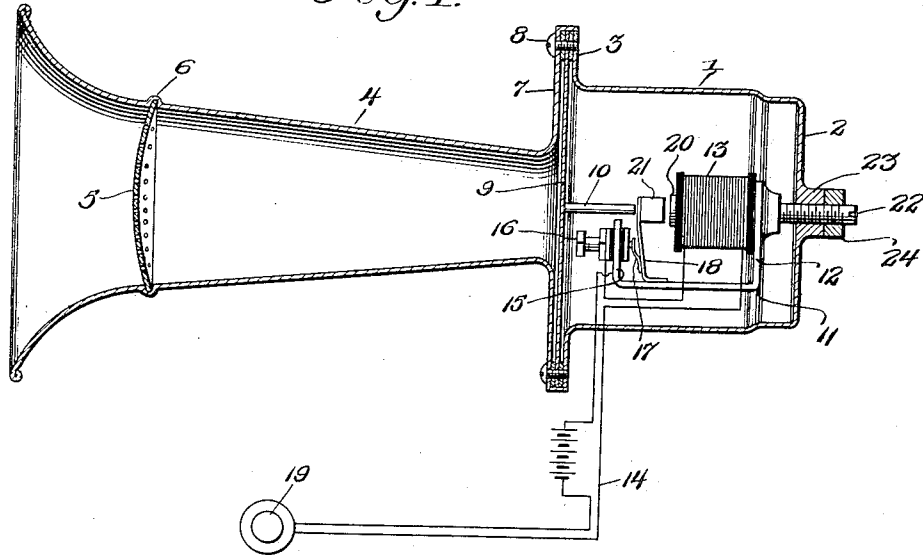


Fig. 2.

Fig. 3.

WITNESSES

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AUTOMOBILE-HORN.

1,294,296.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERNEST MONTELEONE, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Automobile-Horns, of which the following is a specification.

This invention relates to automobile horns, and similar signals and has for its principal object the provision of a diaphragm having a fixed or permanent anvil and an electro-magnet operating in the presence of said anvil and adapted, when the circuit is closed, to set up rapid and pulsating movements in said diaphragm.

Another object of the invention resides in the provision of a horn of this character which will include a diaphragm having a permanent anvil and an electro-magnet operatively associated with said anvil and provided with a hammer-like armature which is adapted to be forcibly brought into contact with the anvil to vibrate the diaphragm and in view of the described elements, I further provide a support for the magnet and said armature, together with means whereby the same can be adjusted in a longitudinal direction toward and away from the anvil whereby the effect of the hammer-like armature against the diaphragm can be changed to suit varying conditions of the instrument.

Another object of the invention is to provide an electrically operated signal of the class specified which will be strong and durable, simple of construction, inexpensive to manufacture and one whose parts are mechanically designed whereby they are capable of being readily repaired and adjusted at the requisite times.

A still further object of the invention is to provide a signal which will include a vibrating diaphragm, an electro-magnet co-acting therewith, and means serving as a support for the magnet and adapted to be adjusted exteriorly of the signal as the occasion necessitates.

With the above and other objects in view which will appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangements of parts which will hereinafter be fully described and particularly pointed out in the claim.

In the accompanying drawings, has been illustrated, a single and preferred form of

the invention, it being, however, understood that no limitations are necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claim may be resorted to when desired.

Figure 1 is a vertical section through the signal showing parts in elevation.

Fig. 2 is a side view of the electro-magnet and the supporting frame therefor with parts in section.

Fig. 3 is a perspective view of the diaphragm and its fixed anvil.

The invention includes a shell or casing 1, which is provided with a crown 2, at one end and an annular flange 3, at its opposite end. Extending from said opposite end and across the same is a bell 4, of any suitable well known construction. However, the mentioned bell is preferably provided with a perforated disk-like guard 5, which is secured in an up-set portion 6, of said bell. Said guard serves primarily as a means for preventing instruments from being inserted toward the working mechanism of the signal and at the same time, operates to prevent heavy particles of foreign matter from accumulating around the diaphragm of the signal. The inner portion of said bell terminates in a flange 7, which is secured in the usual manner at 8, to the flange 3, of the shell 1. A diaphragm 9, is interposed between the flanges 3 and 7, and also secured in position by said fastenings 8. This diaphragm is provided at its center with a fixed anvil 10, which is preferably in the form of an attenuated stem of hard metal, preferably steel. It extends in a longitudinal direction toward the crown 2, of said shell.

Located in the shell, 1, is a substantially U shaped support or frame 11, whose branch 12, supports an electro-magnet 13, arranged in an electric circuit 14. The other branch 15, of said frame or support carries an adjustable contact element 16, which co-acts with a contact element 17, which is supported from an armature support 18 for the armature 21. The circuit is branched to these contacts whereby they constitute a make and break mechanism so that rapid pulsating movements will be set up in the armature 21, when the electric circuit, described, is closed. The electric circuit also includes a suitable push button or circuit closer 19, of any well known design.

The armature support 18, extends across the anvil 10, of the diaphragm and the armature is in line with the core 20, of the magnet.

- 5 The branch 12, of the magnet support or frame is provided with a screw-threaded shank 22, which is movable in a longitudinal direction through a screw threaded opening in a boss 23, on the crown 2. In this manner, it is evident that the entire supporting frame, including the electro-magnet 13, and said hammer-like armature can be moved bodily both toward and away from the anvil 10, so that extremely delicate adjustments can be made and pulsating movements of high frequency set up in the diaphragm. This arrangement has been found to be productive of sounds of high range and amplitude. In order that the hammer-like armature can be held in any desired position, after an adjustment of the threaded shank 22, in the boss 23, I employ a retaining means 24, which is preferably in form of a jam nut as illustrated, the same being intended for adjustment against the boss 23, hereinbefore referred to. In this way, the entire magnet frame, the magnet and the hammer, can be held in a relatively fixed position, while, when adjustments are de-

sired, it is evident that by simply loosening the nut 24, the position of the magnet can be changed to suit certain requirements.

What is claimed as new is:—

A device of the class described comprising a casing having a crown at one end provided with a screw threaded opening, a horn secured to said casing, a diaphragm located between said casing and horn, an anvil in the form of a stem having one end secured to the diaphragm and its other end free and projecting toward the crown, a U-shaped bracket, a screw threaded rod carried by one member of the bracket and passing through the opening in the crown, a lock nut engaging said rod for holding the bracket in adjusted position to the crown, a magnet carried by said bracket and provided with a core, a flexible support located on said bracket, a hammer like armature on said support adapted to contact with the free end of the anvil and located between said end and the core, a spring contact on said support, an adjustable contact on the second member of the bracket and located within the casing and an electric circuit including said adjustable contact and magnet.

In testimony whereof I affix my signature.

ERNEST MONTELEONE.