H. BEAUCOURT.

DEVICE FOR SOUNDING MOTOR CAR HORNS.

APPLICATION FILED JULY 18, 1908.

973,845. Patented Oct. 25, 1910.

FIG-1

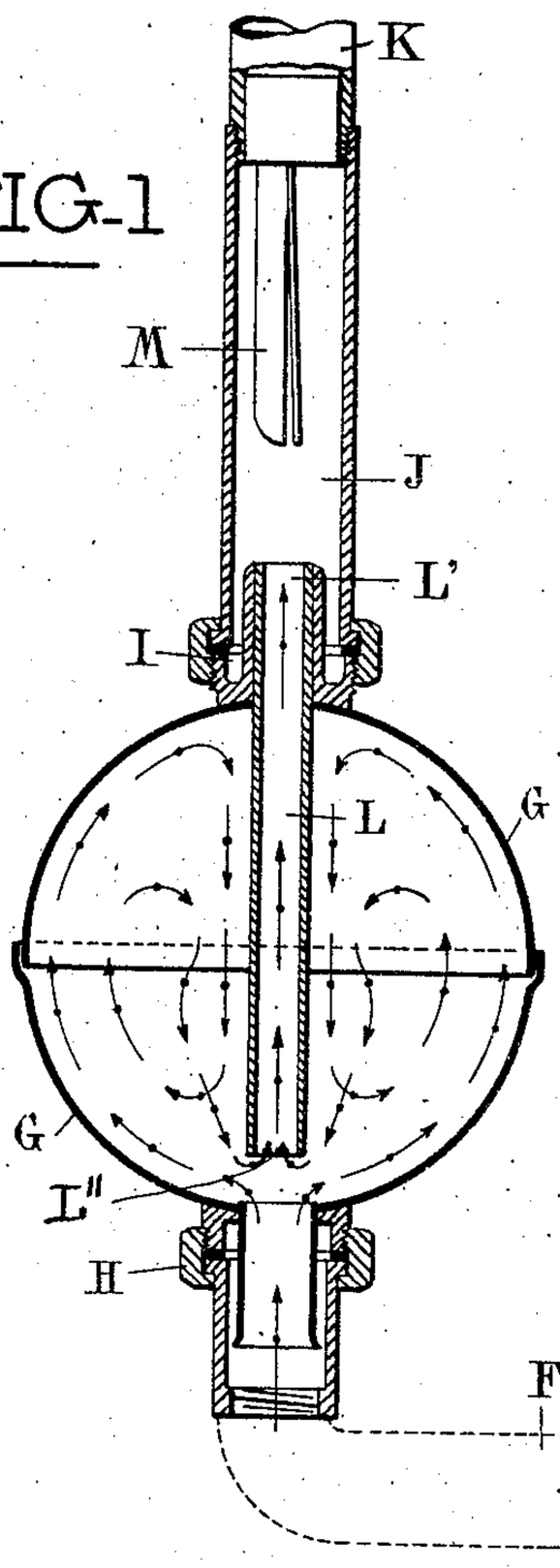


FIG-2

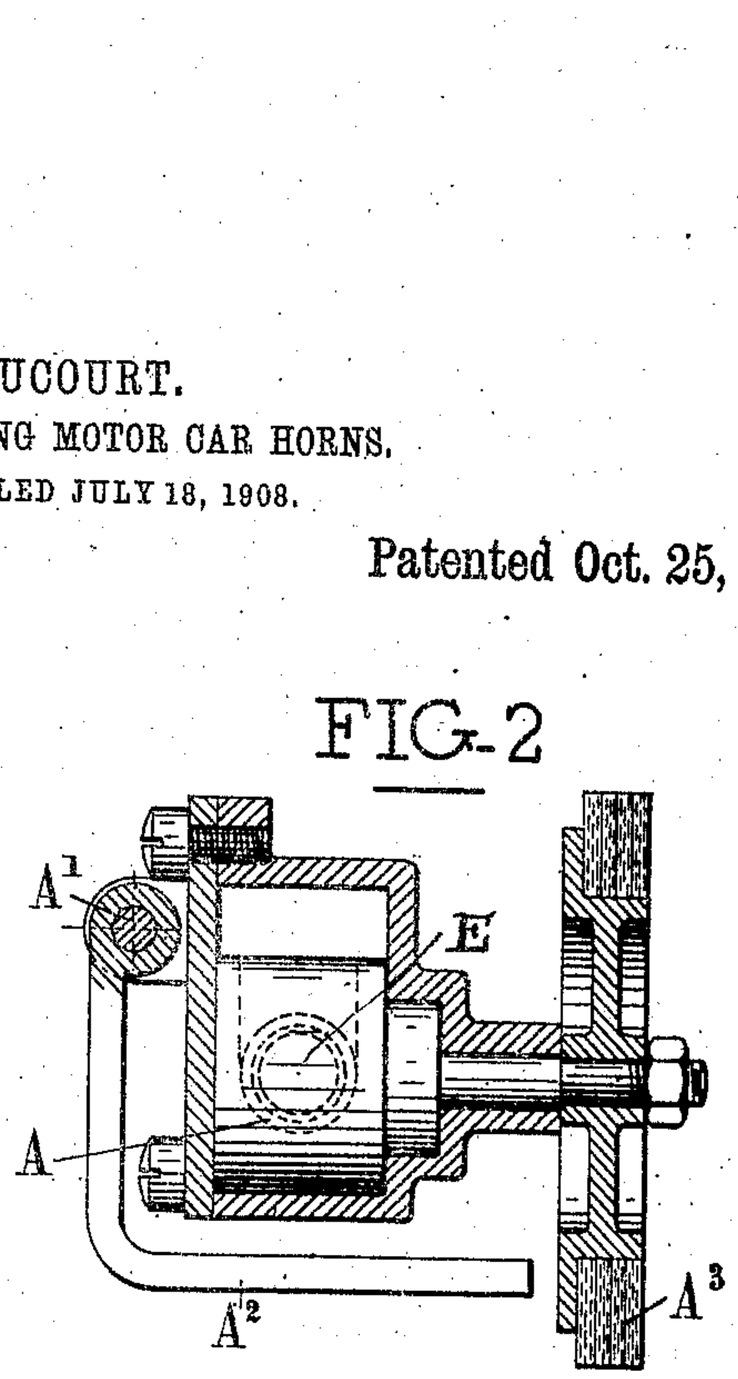


FIG-3

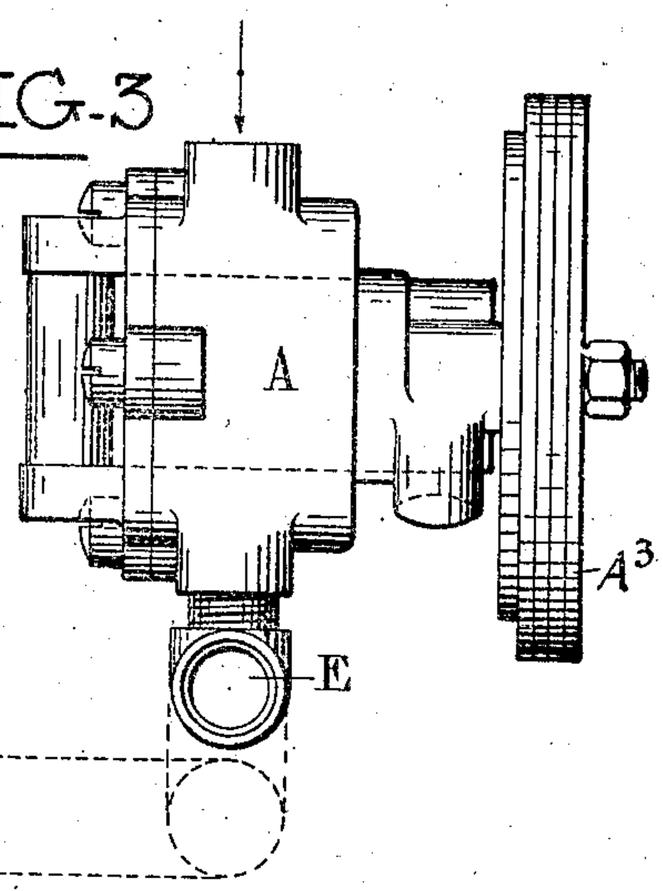
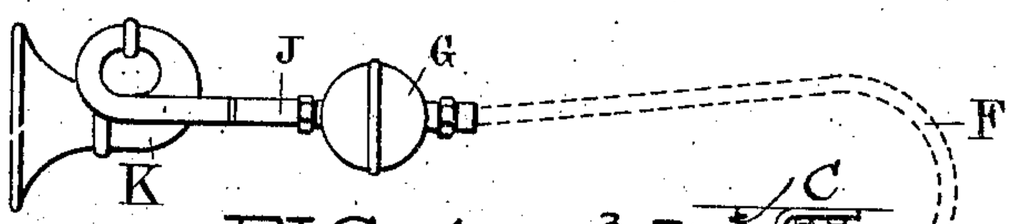
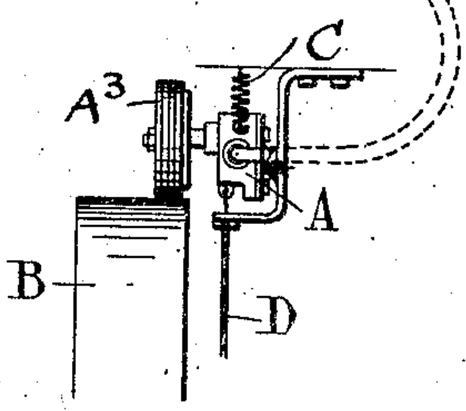


FIG-4





Witnesses:

Jean Germain

Guillaume Dioche

Inventor:

Hugues Beaucourt

UNITED STATES PATENT OFFICE.

HUGUES BEAUCOURT, OF LYON, FRANCE.

DEVICE FOR SOUNDING MOTOR-CAR HORNS.

973,845. Specification of Letters Patent. Patented Oct. 25, 1910.

Application filed July 18, 1908. Serial No. 444,236.

To all whom it may concern:

Be it known that I, HUGUES BEAUCOURT, a citizen of the French Republic, residing at Lyon, France, have invented a certain new and useful Device for Sounding Motor-Car Horns, of which the following is a specification.

This invention relates to a device for sounding motor car horns and the object is to render such horns or warning instruments powerfully resonant, whatever the pressure and volume of air discharged thereinto, this effect being produced by means of a special aerodynamic device hereinafter described.

A rotary pump adapted to oscillate on the axle carrying it is placed near the fly-wheel of the motor so that the friction pulley with which the motor shaft is provided does not come into contact with said fly-wheel until the controlling button on the steering wheel is depressed. This control may be effected by any suitable means, for example by traction exerted on a Bowden wire under which name is known a tractive wire incased in a flexible sheath non-compressible in a longitudinal direction.

By reason of the variation of speed of the motor the fly-wheel revolves at speeds which may vary from 200 to 1600 revolutions per minute; it follows that the quantity and pressure of the air furnished at these different speeds are essentially variable. Therefore, a horn designed to be sounded by a weak current and pressure would be blocked when the current or pressure increased; or if designed for very powerful pressure and supply would be silent when the blast and pressure were weak. The aerodynamic device which forms one of the objects of this invention, has the object of not only permitting the operation of the horn with a weak blast (that is to say with the motor slowed down) but also with very powerful blast (that is to say with the motor running at high speed).

According to this invention the air before its arrival at the horn is caused to pass into a reservoir the interior construction of which will be hereinafter described. This relay may have various shapes, but is preferably spherical. From the upper part thereof descends a central tube terminating at approximately a sixth of the distance between the entrance and outlet of the air. According to the known aerodynamic principle the air furnished has a tendency to follow the walls of the reservoir if the said walls, diverging from the air-inlet, make with the original direction of the air an angle of less than 180 degrees. By this action a counter-current is produced at the central layer, which gives rise, near the lower orifice of the central tube, to eddies the direction of rotation of which is opposed to the initial current. There is thus produced, at this part, a depression which sufficiently weakens and attenuates the violence of the blast to prevent the blocking of the horn reed, though the latter may be designed to be sounded by weak air currents.

The invention will be better understood by referring to the annexed drawing, in which—

Figure 1 is an axial section of the air reservoir or aerodynamic device. Fig. 2 is a longitudinal section of the pump which produces the compressed air. Fig. 3 is a plan-view of said pump, and Fig. 4 is an elevation on a reduced scale, of the device forming the object of this invention, applied to an automobile vehicle.

The pump A, which may be of any desired construction, is capable of rocking about a shaft A^1 carried by a bracket A^2 attached to the frame of the vehicle in such manner that the friction-wheel A^3 fitted to the end of the pump-shaft is normally held at a distance of a few millimeters from the fly-wheel B of the motor by means of a spring C, and can be driven by said fly wheel when the pump is brought into operative position in contact therewith, for example by traction exerted on the internal wire of the Bowden device D, by means of a button placed on the steering wheel.

When the friction-wheel A^3 is brought into contact with the fly-wheel B the pump A is operated and the compressed air which it produces passes out through a conduit E and is led by an ordinary flexible tube F to the aerodynamic device G. This apparatus comprises a reservoir G into which the compressed air enters from pipe F. In the annexed drawing this reservoir is of spherical shape and is provided with two unions H I, one of which (H) is connected to the flexible tube F supplying the compressed air from the pump, and the other (I) is connected to a tube J to which is fixed the horn or other warning instrument K.

The reservoir G contains a tube L the shape of which is immaterial, the end L^1 of

the tube L is fixed to the Union I, and the end L^{11} open and located at a certain distance from the orifice of the union H. The compressed air supplied by the tube F enters the reservoir G in the manner indicated by the arrows, and then, under the influence of the pressure, passes into the tube L and thence into the tube J which directs it to the reed M of the horn or warning instrument K.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. The combination with an audible warning instrument and means for providing compressed air of an intermediate reservoir comprising an air chamber having its entrance in communication with said air providing means, said air-chamber having a tubular member therein, with one end delivering into said audible warning instrument exteriorly of said air-chamber, the opposite end of said tubular member terminating near the entrance of said air-chamber substantially as described.

2. The combination of an audible warning instrument a pump for discharging compressed air, a reservoir intermediate the said instrument and pump, having its inlet in communication with said pump, and an air tube having its inlet end within the reservoir and in close proximity to the inlet thereof, and its discharge end in communication with the audible warning instrument exteriorly of said reservoir substantially as described.

3. A device of the character described, comprising an audible warning instrument, means for providing compressed air, and an air-chamber spherical in outline and having its entrance in communication with said compressed air providing means, said air-chamber having a tubular member therein, one end of said tubular member delivering into said audible warning instrument exteriorly of said air-chamber, the opposite end of said tubular member terminating adjacent to the inlet of said air-chamber.

In witness whereof I have signed this specification in the presence of two witnesses.

HUGUES BEAUCOURT.

Witnesses:

JEAN GERMAIN,

GUILLAUME PIOCHE.