P. B. HARTMAN.

AUTOMOBILE HORN.

APPLICATION FILED NOV. 28, 1919.

1,351,904.

Patented Sept. 7, 1920.

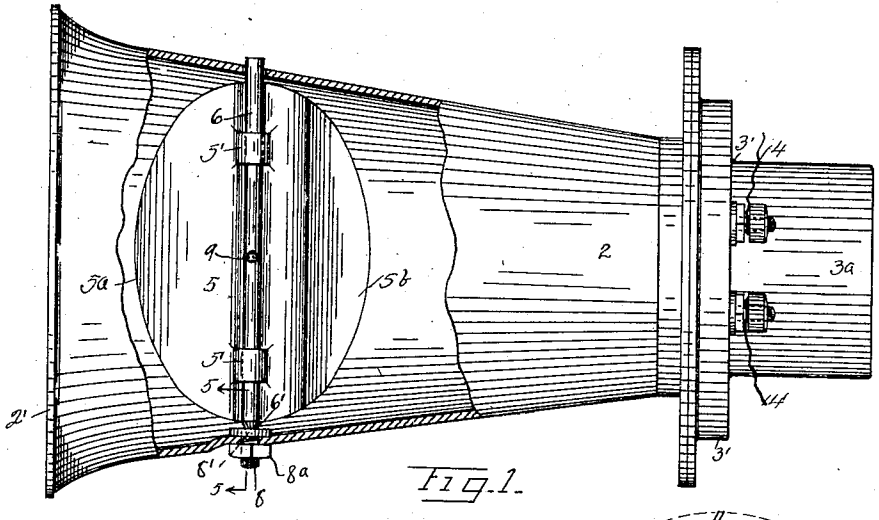


Fig. 1.

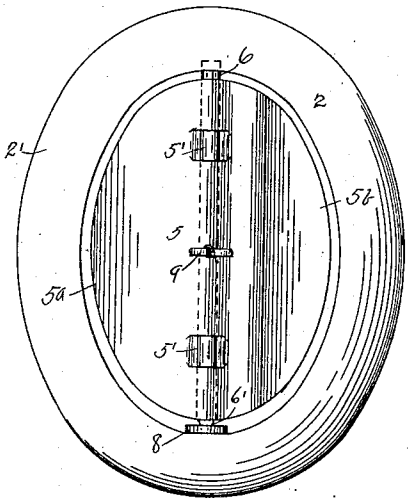


Fig. 2.

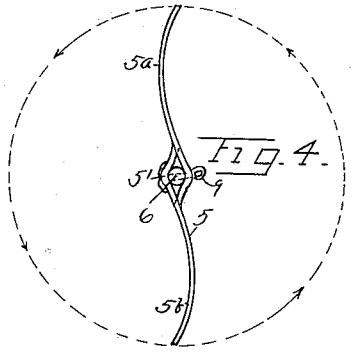


Fig. 4.

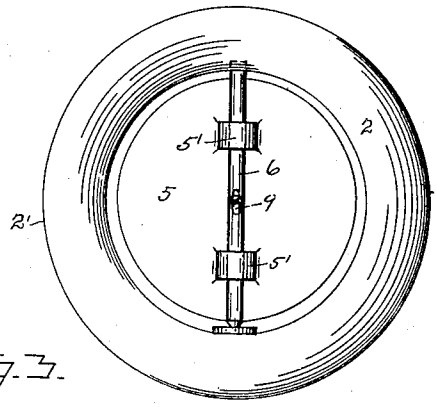


Fig. 3.

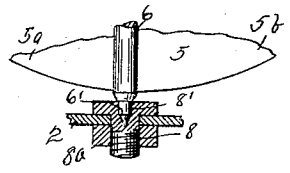


Fig. 5.

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AUTOMOBILE-HORN.

1,351,904. Specification of Letters Patent. Patented Sept. 7, 1920.

Application filed November 28, 1919. Serial No. 341,186.

To all whom it may concern:

Be it known that I, PETER B. HARTMAN, a citizen of the United States, residing at Watertown, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Automobile-Horns, of which the following is a specification.

This invention relates to improvements in automobile horns, and has for its particular object to provide novel, simple and effective means for preventing the humming or droning of the horns, due to the pressure of the atmosphere, which enters and fills the horns while the vehicles are in motion. And a further object is to provide means for increasing the sound or note of the signal blasts of the horns, so that the warnings may be heard more distinctly and for greater distances.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation of one type of automobile horn to which my device may be applied, certain parts being broken away to show the disposition and arrangement of my improvement.

Fig. 2 is a front end view of the same.

Fig. 3 is a similar view of the common round horn, to which my silencer is applied.

Fig. 4 is an end view of the fan or damper.

Fig. 5 is an enlarged sectional view, taken on line 5—5 of Fig. 1.

In the drawing, 2 represents the body of an electric horn, which is oval in cross-section. The body 2 is usually mounted on a hollow base, within the flange 3′ of which is disposed the usual diaphragm (not shown), whose vibrations produce the warning sounds or notes of the horn. The reduced portion 3^a of the base contains the electric parts common to horns of this class, which are supplied with electric current by wires 4 and 4′. The construction and arrangement of these electric parts are well-known, and need not be particularly shown or described in this case. My silencing device may be applied to the common air-operated horns with the same facility and produce the same results as when applied to the electric horns.

Automobile horns, as a rule are disposed either on the outside of the cars, or else they are placed beneath the hoods, and the relatively broad bell-shaped mouths of the horns invariably face forwardly, so that when the cars are moving in that direction, the full force of the atmosphere enters the bodies of the horns and produces disagreeable and annoying humming or droning noises, which affect the nerves of the drivers, as well as the other occupants of the cars. The primary object of my invention is to overcome this trouble and annoyance in a novel and simple manner. A detailed description of my improvement follows:

5 is a damper or fan, which is preferably made of sheet metal, and conforms to and loosely fits the interior of the body 2, so as to insure its free rotation under the pressure of the atmosphere, as well as to allow ample clearance for the escape of the usual warning sounds or blasts of the horn when the latter is used as a signal. The fan 5 is rigidly mounted on a vertically disposed spindle or shaft 6, which passes through a plurality of integral loops 5′, which are struck out of the longitudinal center of the fan by suitable dies. The lower end of the spindle is reduced and substantially pointed, as at 6′, and this point pivots in a socket 8′ of the head of a bolt 8, which is disposed on the inner bottom side of the horn 2, the threaded portion of said bolt passing through a perforation in the horn, and receiving a nut 8^a, for holding said parts rigidly in place. The point 6′ of the spindle bottoms in the socket 8′ and supports the weight of the fan, which retains its proper position by gravity. The upper end of the spindle 6 passes out through and plays in a corresponding perforation in the top side of the body 2. The fan 5 preferably comprises similar concavo-convex leaves 5^a and 5^b, disposed on the opposite sides of the spindle 6, which cause the fan to always rotate in the same direction, as shown by the arrows in Fig. 4, and this dishing of the said leaves insures the positive rotation of the fan. The fan 5 is preferably placed near the bell-mouth 2′ of the horn, where it receives the full force of the wind when the automobile is driven ahead, and as long as the vehicle is in motion the fan is driven at the different speeds corresponding to the speeds of the vehicle.

In assembling my silencer, the bolt 8 is first placed in position and the nut 8^a tight-

ened up (see Figs. 1 and 5). The fan 5 is next inserted in the mouth of the body 2 directly over the bolt 8. The spindle 6 is then inserted downwardly through the upper perforation and passes through the several loops 5′ until its pointed lower end enters the socket 8′. The fan is then rigidly secured to the spindle by means of a cotter-pin 9, which is passed through corresponding perforations in the middle of the fan and spindle, after which the points of the pin are spread and clenched in the usual manner, as shown. As soon as the car starts forwardly, the pressure of the atmosphere starts the fan to rotate, and its whirling interrupts and breaks up the steady and direct pressure of the air and prevents it from reaching and vibrating the diaphragm of the horn, and effectually silences the horn, except when the driver switches on the electric current for sounding the usual danger signal or warning. The rotation of the fan while the horn is being sounded electrically, instead of muffling the said sounds, tends to increase the normal tone or note of the horn, so that the warning signal may be heard plainly for a greater distance than if the fan were not present.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

In means for silencing automobile horns, the combination with the hollow body of the horn, the top and bottom walls thereof being correspondingly perforated near the mouth of said body, of a bolt rigidly secured to the bottom wall of the body and having a socket facing the perforation in the top wall, a spindle having its lower end pivoted in said socket, its upper end passing loosely through said top perforation, and a damper supported by said spindle and rotatable therewith by the force of the atmospheric pressure induced by the movement of the automobile, for preventing humming and droning of the horn, said damper being smaller than the bore of said body for preventing the muffling of the signal notes of the horn.

In testimony whereof I affix my signature.

PETER B. HARTMAN.