Oct. 18, 1932. J. M. AUFIERO 1,883,458

HORN

Filed May 13, 1932

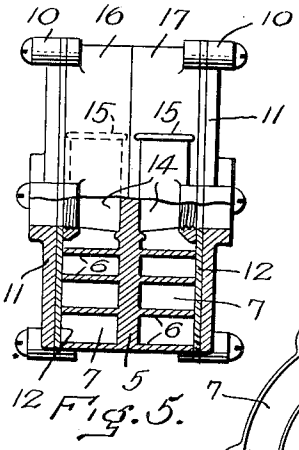


Fig. 5.

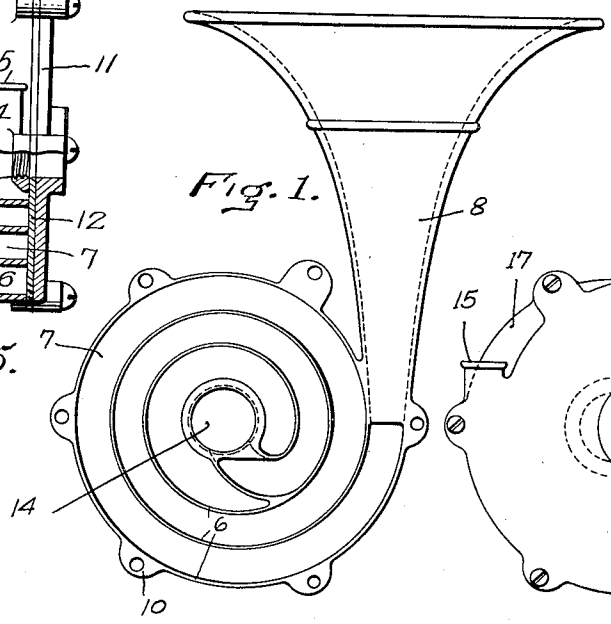


Fig. 1.

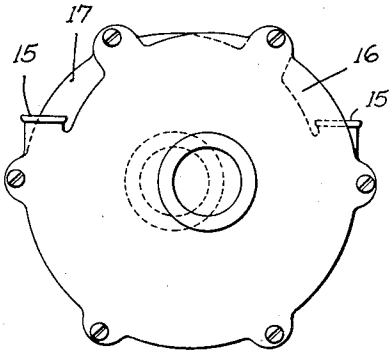


Fig. 4.

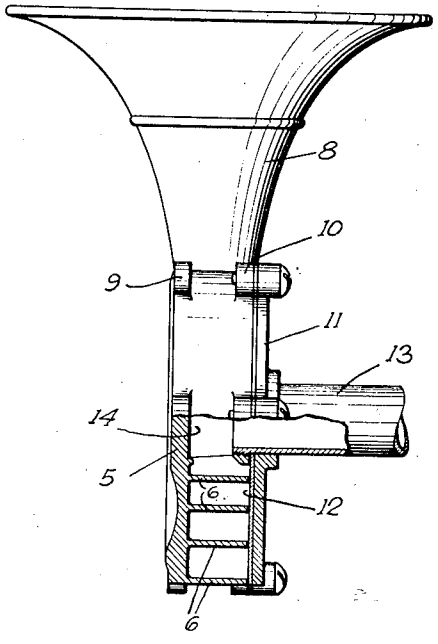


Fig. 2.

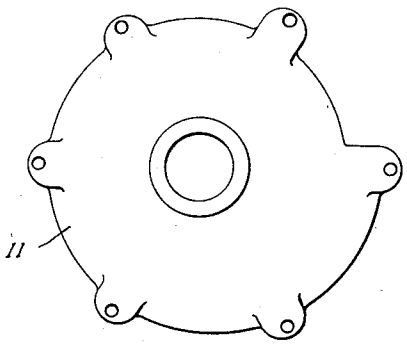


Fig. 3.

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UNITED STATES PATENT OFFICE

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Application filed May 13, 1932. Serial No. 611,059.

This invention relates to a sound projector capable of use in numerous different associations but primarily intended to be coupled to a sound producing apparatus such as a diaphragm unit, and by means of which the sound waves emanating therefrom will be efficiently propagated.

Further objects of the invention are those of providing a sound projector which may be manufactured at nominal cost; which will last indefinitely; which will have excellent acoustical qualities and will occupy a minimum amount of space.

Among other objects are those of constructing a projector which will require for its production a modicum of skilled labor and machine work; which may readily be finished in any desired manner and which will cooperate with utmost efficiency with sound producing units whether they be of the motor driven, hand operated, magnetic, fluid or other types.

With these and other objects in mind, reference is had to the attached sheet of drawing, showing practical embodiments of the invention and in which:

Fig. 1 is a plan view of a portion of a projector;

Fig. 2 is a fragmentary, partly sectional side view thereof;

Fig. 3 is a bottom view of the projector;

Fig. 4 shows a multiplicity of projectors combined in a single unit; and

Fig. 5 is a view similar to Fig. 2, but showing the device as constructed in Fig. 4.

In these views the numeral 5 indicates a base preferably formed of cast iron and from which a flange or fin 6 extends upwardly in the form of a spiral, in this maner forming a similarly shaped passage 7 of any desired length. At the outer end of this passage is a projector or trumpet 8 which, as shown in Figs. 1 and 2, is cast integrally with the body 5.

A series of lugs 9 and 10 are also formed integral with the body 5, the first mentioned lug serving to permit mounting of the body upon a suitable support, while the last mentioned series permit of the coupling of a cover member 11 to the body 5 and adjacent the outer edge of the flange 6. Obviously a suitable gasket 12 may be arranged on the inner face of the cover to prevent rattling of the parts, and also to segregate adjacent points in different convolutions of the channel passage. The cover 11 is formed with a central opening through which a tube 13 may extend. This tube is merely included for the sake of illustration, it being obvious that it either extends from a sound producing unit, or is integral therewith, in which case the sound-producing unit would be disposed immediately adjacent to the parts shown in Fig. 1.

In any event, sound produced from such unit will enter through the cover opening and pass into the chamber 14. It will then traverse the convolutions of the passage 7 extending from such chamber and be propagated through the trumpet or projector 8. In this manner it will be understood that it is feasible to employ a cast projector which will correspondingly reduce the cost of the entire warning apparatus.

It is also obvious that if it is not desired to cast the trumpet 8 integral with the body 5, a flange might be provided, permitting of the attachment of such trumpet to the casting. This construction has been indicated at 15 in Figs. 4 and 5, it being moreover noted that in these figures a multiplicity of projectors 16 and 17 are embraced in a single unit. In that instance it is obvious—following the teachings of the present invention—that the base of the unit may have flanges extending from both of its faces and that this base accordingly becomes the central partition, the outer faces of the apparatus being closed by covers, as shown in Fig. 2. In this way it is practicable to employ two differently tuned sound producing units in a single casting to have an extremely unitary structure. Obviously, this last effect could be achieved in numerous different manners—or as particularly shown and described. In any event, however, the advantages hereinbefore enumerated will obviously be present.

Thus, among others, the several objects of the invention as specifically aforenoted, are achieved. Obviously, numerous changes and

rearrangements of the parts might be resorted to without departing from the spirit of the invention as defined by the claims.

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

1. As an article of manufacture, a sound projector comprising a cast base, an integral fin extending therefrom in the form of a spiral with the convolutions thereof spaced from each other to provide a passage, a cover disposed adjacent the outer edges of said fin and a trumpet portion forming a part of said base and having its bore in line with the outer end of the passage as defined by the outermost convolution of said fin.

2. As an article of manufacture, a sound projector comprising a cast base, an integral fin extending therefrom in the form of a spiral with the convolutions thereof spaced from each other to provide a passage, a cover formed with an opening for the passage of sound waves and the inner end of said fin being arranged in line with said opening to provide a sound receiving chamber.

3. As an article of manufacture, a single casting including sound projector passages and cover plates detachably secured to said casting to close the sides of said passages.

4. As an article of manufacture, a single casting including sound projector passages and cover plates detachably secured to said casting to close the sides of said passages, said cover plates being each formed with openings communicating with the inner ends of said passages.

5. As an article of manufacture, a sound projector comprising a base, a cover extending beyond said base, a spirally disposed fin interposed between said cover and base, one of said latter elements being formed with a substantially central opening, the inner end of said fin being disposed in line with the edge of said opening, whereby to provide a sound receiving chamber and a spiral passage extending therefrom and a trumpet portion connected to the outer end of said passage and extending angularly from said base.

In testimony whereof I affix my signature.

JOHN M. AUFIERO.