

C. B. SAVORY.
 APPARATUS FOR RENDERING AUDIBLE MINOR SOUNDS.
 APPLICATION FILED JULY 9, 1909.

951,969.

Patented Mar. 15, 1910.

Fig.1.

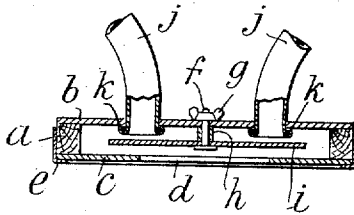


Fig.2.

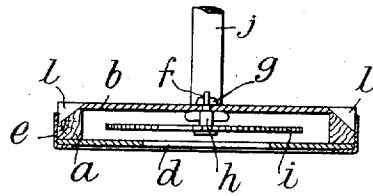


Fig.3.

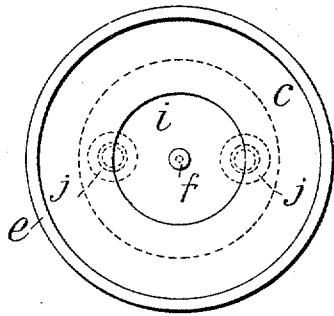
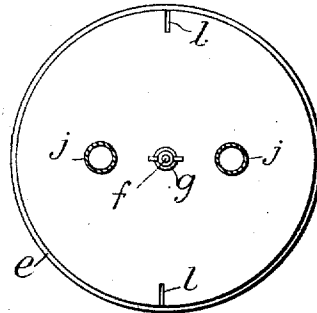


Fig.4.



WITNESSES:

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CHARLES BUTLER SAVORY, OF FLEET, ENGLAND.

APPARATUS FOR RENDERING AUDIBLE MINOR SOUNDS.

951,969.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Application filed July 9, 1909. Serial No. 506,804.

To all whom it may concern:

Be it known that I, CHARLES BUTLER SAVORY, a subject of His Majesty the King of Great Britain, residing at Fleet, in the county of Hants, England, have invented a certain new and useful Improved Apparatus for Rendering Audible Minor Sounds, of which the following is a specification.

This invention relates to an apparatus of the class adapted for use in intensifying or rendering audible minor sounds such as those in the human body, and which comprises a casing having a diaphragm and tubes connecting the casing with ear pieces for carrying the magnified sounds to the ear.

The object of this invention is to provide an improved apparatus of this class.

An apparatus according to the invention is illustrated in the accompanying drawing in which:—

Figure 1 is a sectional elevation of same, Fig. 2 is a section at right angles to Fig. 1, Fig. 3 is a plan of Fig. 1 looking upward, and Fig. 4 is a top plan of Fig. 1 with the tubes removed.

According to this invention the case consists of a light and preferably circular box *a* of wood or other suitable material. This box has a back plate *b* and a front plate *c* provided with an opening *d* the latter being preferably removably held to the body *a* by a flanged metal ring *e* which slides thereon or has a bayonet joint. Attached to the back plate by screw *f* and a wing nut *g* or in other suitable ways and separated from the inside surface of same by a sleeve or washer *h* is a diaphragm *i* of some suitable material, such as wood or mica or the like (though wood is preferred) the periphery of which does not touch the sides of the box, so that it is in fact suspended by the screw or the like as shown about centrally inside of the box and opposite the opening *d*. Hearing tubes *j j* connect with the back plate *b* and consequently with the space at the back of the diaphragm. They may be secured in place as shown by rolling their ends around a wire ring *k* as shown or in other ways.

The box is preferably formed of a thin disk of wood as shown as the back plate *b*, a similar disk having a central opening for the front plate *c* and a separating ring of wood for example for the body or side *a* the parts being connected together inside if necessary by metal angle pieces *l* driven into

the wood and which angle pieces may be arranged at two points only transversely to the grain of the wood.

In case of infectious disease the front plate may be removed and burned and a fresh one substituted.

The opening in the front plate may be varied if desired when it is not wished to destroy it after use by making such opening on the lines of an iris diaphragm. It will be seen that the sounds are conducted by the air around the suspended diaphragm and pass to the tubes, the effect being to break up the sounds and not to transmit them as in the case of diaphragms held by their rims.

It will be obvious that a single tube with a bifurcation or fork to form two ear pieces could be used if desired, or the tubes could unite in one and then bifurcate to the ear pieces.

What I claim is:—

1. An apparatus for rendering audible minor sounds comprising a thin flat diaphragm, a casing partly inclosing same, a front plate for the casing having an opening to disclose the diaphragm, a back plate for the casing, a screw carried by said back plate centrally of same, and connected to the diaphragm also centrally of same for suspending the diaphragm from the back plate centrally of the casing and so that there is a space around such diaphragm, and hearing tubes connected to the back plate.

2. An apparatus for rendering audible minor sounds consisting of a casing comprising a ring of wood, a back plate of wood, metal angle pieces connecting the back plate and ring at two points only, a thin front plate, a flanged metal ring for connecting the front plate to the ring, a diaphragm, a screw carried by said back plate centrally of same and connected to the diaphragm also centrally of same for suspending the diaphragm from the back plate centrally of the casing and so that there is a space around such diaphragm, and hearing tubes connected to the back plate.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES BUTLER SAVORY.

Witnesses:

H. D. JAMESON,

T. L. RANDS.