

April 12, 1932.

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1,853,343

OSCILLATORY MEMBER FOR LOUD SPEAKERS, MICROPHONES, OR THE LIKE

Filed June 4, 1929

Fig. 1.

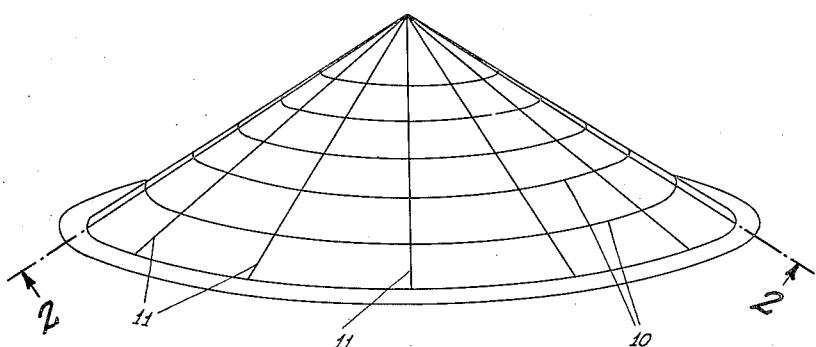
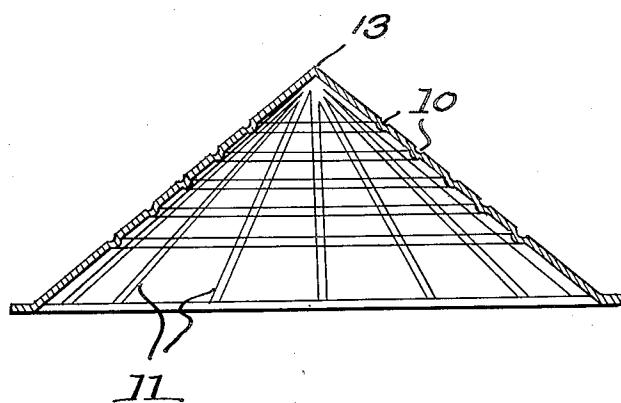


Fig. 2.



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OSCILLATORY MEMBER FOR LOUD SPEAKERS, MICROPHONES, OR THE LIKE

Application filed June 4, 1929, Serial No. 368,361, and in the Netherlands July 25, 1928.

This invention has reference to an oscillatory member for loudspeakers, microphones or the like and to its manufacture.

It is desirable that the said oscillatory members should be as light as possible. The difficulty in manufacturing these members generally consists in that by reason of the said condition the stiffness can not be increased to such a high extent as is desirable for use in loudspeakers, microphones or the like.

According to the process of the invention the said oscillatory members are made from resinous organic products of condensation, a filling substance being used which, impregnated or not, is sufficiently coherent to be shaped into the form of the oscillatory member prior to the pressing operation.

The advantage of this process consists in that the product of condensation with filling substance is already evenly distributed in the matrix when the pressing operation is carried out. It is thus possible to secure a thinness of wall which otherwise could not be reached with these materials under the prevailing conditions of temperature and pressure.

Among resinous organic products of condensation are reckoned, inter alia, artificial resins produced by the action of formaldehyde or furfural on phenol, cresol, ureum, and the like.

Various materials, for example linen gauze, silk and the like are adapted to serve as the filling substance. Good results are obtained by the use of filter paper as the filling substance.

The oscillatory member made by the process of the invention is possessed not only of sufficient lightness but also of great stiffness so that the invention is particularly applicable wherever it is desirable to use large oscillatory members.

For oscillatory members the conical shape is certainly the most usual, the member con-

structed in this shape can be strengthened by providing on its surface annular and/or radial grooves or protuberances for reinforcement. An advantage of the invention is that variously shaped oscillatory members can be made in a simple manner with the certainty of obtaining very stiff and light members.

The invention will be more clearly understood by reference to the accompanying drawings in which a conical oscillatory member embodying the invention is illustrated.

Fig. 1 is a front view of a diaphragm the arrangement of grooves being shown schematically;

Fig. 2 is a sectional view on line 2—2 of Fig. 1 showing the groove formation.

Referring to the figures, 10 designates circular and 11 radial grooves formed on the surface of the cone. It is not necessary that these reinforcements should be in the form of grooves, but good results may also be obtained by protuberances being mounted on the surface of the member. These grooves or protuberances being produced as a result of the particular shape of the matrix and the die, it is of course, obvious that they do not introduce any complication whatever in the manufacture of the said members.

I claim:

1. An oscillatory member for loudspeakers or the like comprising a large conical diaphragm made of resinous organic products of condensation with a filling substance impregnated thereby.

2. An oscillatory member as claimed in claim 1, for which filter-paper is used as the filling substance.

3. An oscillatory member as claimed in claim 1, which is provided on its conical surface with annular grooves for reinforcement.

4. A large conical vibratile member for acoustic devices comprising a filling substance which is initially sufficiently stiff to have a definite, predetermined shape, and a resinous

organic product of condensation impregnated into said filling substance.

5. An acoustic device comprising a member having a substantially conical surface, said surface being subdivided into a plurality of areas by a plurality of annular and radial grooves formed in said member.

6. An acoustic device having a curved exterior surface, said surface being subdivided 10 into a plurality of sections by a number of radial and annular intersecting grooves.

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