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A. HAMMER

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ARMATURE FOR MAGNETIC LOUD SPEAKERS

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Fig. 1

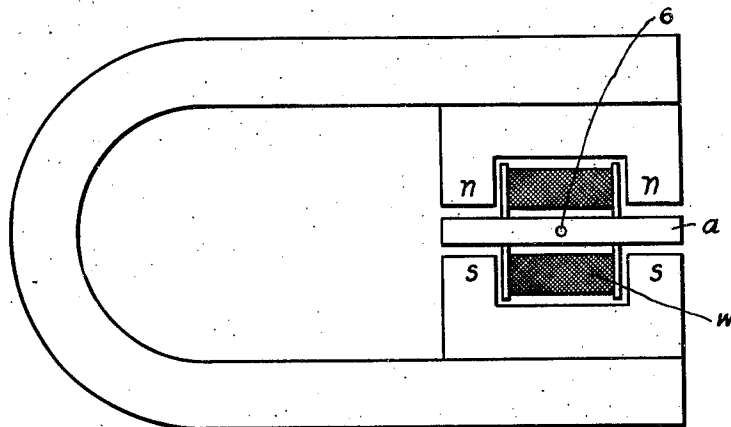


Fig. 2

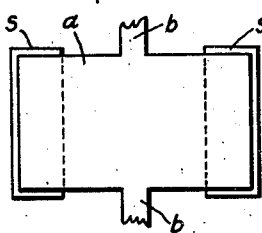


Fig. 3

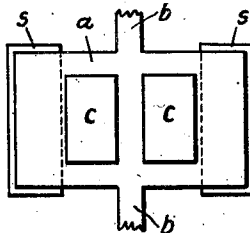
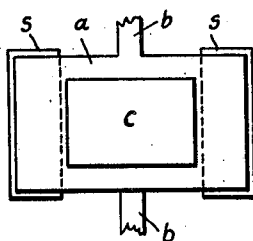


Fig. 4



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SPEAKERS

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2 Claims. (Cl. 175—339)

This invention relates to electro-magnetic systems of the moving iron type and particularly to electro-magnetic systems which are designed for use with acoustic apparatus. More specifically the invention relates to improvements in the armature of electro-magnetic systems of the moving iron type.

The object of the invention is to provide a more efficient magnet system whereby the fidelity of sound reproduced thereby will be materially improved.

The invention as described in the following specification should be read in connection with the accompanying drawing in which,

Fig. 1 is a plan view illustrating a magnet system according to the present invention,

Fig. 2 is a view of the type of armature heretofore used in a magnet system as is disclosed in Fig. 1 and,

Figs. 3 and 4 are views of an armature modified according to the present invention.

Fig. 1 shows a schematic view of a loud speaker magnet of the type well known in the prior art, comprising two poles n, n , at the upper pole shoe and two poles s, s , at the lower pole shoe, an armature a adapted to pivot about the axis b , and a winding or coil w traversed by the voice currents and thereby causing vibration of the said armature.

A plan view of the armature a with poles s, s , located thereunder, is shown in Fig. 2. This armature in the form and kind used in the earlier art, has the shape of a continuous quadrangle; hence, it contains metallic masses in parts which are not located opposite the poles.

According to the invention the armature is so designed that at such points as are not directly located opposite the poles, one or more recesses are provided.

This arrangement is illustrated by way of example in Figs. 3 and 4 comprising two and one recess c respectively.

Recesses or cut out portions of this kind offer advantages in two different respects. In the first place, upon impinging of the armature on

the pole-shoe the magnetic flux, and as a result also the magnetic force of adhesion, will not be increased to the same extent as is true in the case of the uninterrupted or solid shape of the armature used in the prior art. As a result the setting device serving to detach the armature and move it away from the contact position may be constructed less heavy and sturdy. The forces required in the system connected with the armature being more or less elastic and serving for the transfer of its motions to the cone loud speaker, are as a consequence diminished, and thus also its natural period of vibration is reduced owing to the presence of feebler elastic forces in the system. Furthermore, owing to the reduction of the vibrating masses the vibration characteristic of the system (i. e., the interdependence between the oscillation amplitudes and the frequency) becomes less steep with increase of impressed frequency compared with what is true of the usual designs. In this manner both the lower as well as the higher acoustic frequencies in their relation to each other will be reproduced with greater faithfulness than has heretofore been true in the forms of construction shown in the prior art.

What I claim is:

1. An armature for magnet systems of the moving iron type comprising a body adapted to extend between a pair of magnetic fields the lines of force of which cut said body at different parts thereof and a perforation in said body for removing a substantial portion of that part of the body which lies between the parts cut by said magnetic fields.

2. A magnetic system of the moving iron type comprising means forming a plurality of pairs of pole pieces, an armature positioned to extend between the members of said pairs of pole pieces, whereby it is traversed at different parts thereof by lines of force from said pole pieces, and openings in said armature at portions thereof located between adjacent pairs of said pole pieces.

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