

I claim as my invention:-

1. In a microphone for the conversion of sound into electrical current variations, the combination of a granule chamber, a diaphragm adapted to be vibrated by sound impinging thereon, a fixed electrode within the chamber, a second electrode within the chamber adapted to be vibrated by said diaphragm, carbon granules between said fixed and second electrodes, and a member deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules, in such manner as to exert pressure on the granules whereby a tendency for the resistance through the granules due to the deformation of the microphone parts is compensated.
2. In a microphone for the conversion of sound into electrical current variations, the combination of a granule chamber, a diaphragm adapted to be vibrated by sound impinging thereon, a fixed electrode within the chamber, a second electrode within the chamber adapted to be vibrated by said diaphragm, carbon granules between said fixed and second electrodes, and a member deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules, in such manner as to lessen the distance between the fixed and second electrodes.
3. In a microphone for the conversion of sound into electrical current variations, the combination of a granule chamber, an end closure for said chamber, a diaphragm adapted to be vibrated by sound impinging thereon, an electrode within the chamber adapted to be vibrated by said diaphragm, a second end closure for said chamber, and a fixed electrode within the chamber carried by said second end closure, one at least of said end closures being deformable, under the action of heat transferred thereto

14
and generated by the passage of an electric current between said electrodes and across said granules, in such manner as to lessen the distance between the electrodes.

4. In a microphone for the conversion of sound into electrical current variations, the combination of a granule chamber, an end closure for said chamber, a diaphragm, an electrode within the chamber adapted to be vibrated by said diaphragm, a second end closure for said chamber, and a fixed electrode within the chamber carried by said second end closure, carbon granules occupying the space between said electrodes, said second end closure consisting of a bi-metallic member deformable under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and across said granules in such manner as to lessen the distance between the fixed and moving electrodes.

5. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a diaphragm, an electrode within the chamber adapted to be vibrated by said diaphragm, an end closure of dish formation to which said electrode is secured, a second end closure, a fixed electrode within the chamber secured to said second end closure, carbon granules occupying the space between said electrodes, said first end closure being deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and across said granules, in such manner as to lessen the distance between the fixed and vibrating electrodes.

6. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a conical diaphragm, a conical end closure for said chamber at one end thereof the diaphragm and end closure being secured together at their apexes, an

17
electrode within the chamber secured to the apexes of the diaphragm and end closure and adapted to be vibrated by said diaphragm, a second end closure, a second electrode within the chamber secured to the said second end closure, carbon granules occupying the space between the electrodes, the conical diaphragm and conical end closure being deformable under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through the granules, the effect on the pressure upon the granules exercised by the diaphragm being compensated by an effect exercised in an opposite sense by the conical end closure.

7. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a conical diaphragm attached at its periphery to the rim of the granule chamber the apex of the said diaphragm being directed towards the granule chamber, a conical end closure at one end of the chamber the apex of the said closure being directed towards and secured to the apex of the diaphragm, an electrode within the chamber adapted to be vibrated by said diaphragm and attached to the apex of said end closure, a second end closure at the other end of said chamber, a fixed electrode within the chamber and attached to the said second end closure, and carbon granules occupying the space between the two electrodes.

8. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a conical diaphragm, a conical end closure for said chamber at one end thereof the diaphragm and end closure being secured together at their apexes, an electrode within the chamber secured to the apexes of the diaphragm and end closure and adapted to be vibrated by said diaphragm, a second end closure, a second electrode

14
within the chamber secured to the said second end closure, carbon granules occupying the space between the electrodes, the conical diaphragm and conical end being deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules, to cause the apex of said diaphragm to tend to move towards the granule chamber and to cause the apex of said end closure to tend to move away from the granule chamber said diaphragm being further deformable, under the action of heat transferred to the rim thereof and generated as aforesaid, to cause the apex of said diaphragm to tend to move away from the granule chamber, and said conical end closure further deformable, under the action of heat transferred from the granule chamber to the rim of the end closure and generated as aforesaid to cause the apex of the end closure to tend to move towards the granule chamber, the heat for the further deformation of the conical closure being transferred earlier than that for the further deformation of the diaphragm.

9. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a diaphragm, and end closure for said chamber, an electrode within the chamber and attached to said end closure said end closure and electrode being adapted to be vibrated by said diaphragm, a second end closure, a fixed electrode within the chamber, and carbon granules occupying the space between said electrodes, said end closures being of bi-metallic material.

10. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a diaphragm, an end closure for said chamber, an electrode within the chamber adapted to be vibrated by said diaphragm, a second end closure, a fixed electrode within

13
the chamber secured to said second end closure, and carbon granules occupying the space between the electrodes, said granule chamber having a wall deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules, in such a manner as to exercise pressure on said granules.

11. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a diaphragm, and end closure for said chamber, an electrode within the chamber adapted to be vibrated by said diaphragm, a second end closure, a fixed electrode within the chamber secured to said second end closure, and carbon granules occupying the space between the electrodes, said granule chamber having a bi-metallic wall deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules in such a manner as to exercise pressure on said granules.

12. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a diaphragm, an end closure for said chamber, an electrode within the chamber adapted to be vibrated by said diaphragm, a second end closure, a fixed electrode within the chamber secured to said second end closure and carbon granules occupying the space between the electrodes, said granule chamber having a wall divided into tongues and being deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules, in such a manner as to exercise pressure on said granules.

13. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a diaphragm, an end closure for said chamber, an

14 electrode within the chamber adapted to be vibrated by said diaphragm, a second end closure, a fixed electrode within the chamber secured to said second end closure one of said electrodes being of bi-metal, and carbon granules occupying the space between the electrodes, said granule chamber having a wall deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules, in such a manner as to exercise pressure on said granules.

14. In a microphone for the conversion of sound into electric current variations, the combination of a granule chamber, a diaphragm, an end closure for said chamber, an electrode within the chamber adapted to be vibrated by said diaphragm, a second end closure, a fixed electrode within the chamber secured to said second end closure both of said electrodes being of bi-metal, and carbon granules occupying the space between the electrodes, said granule chamber having a wall deformable, under the action of heat transferred thereto and generated by the passage of an electric current between said electrodes and through said granules, in such a manner as to exercise pressure on said granules.