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1,573,754

D. WALD.

TELEPHONE RECEIVER

Original Filed June 30, 1922

Fig. 1.

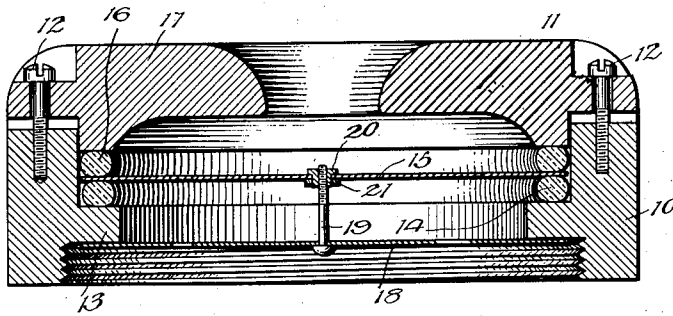
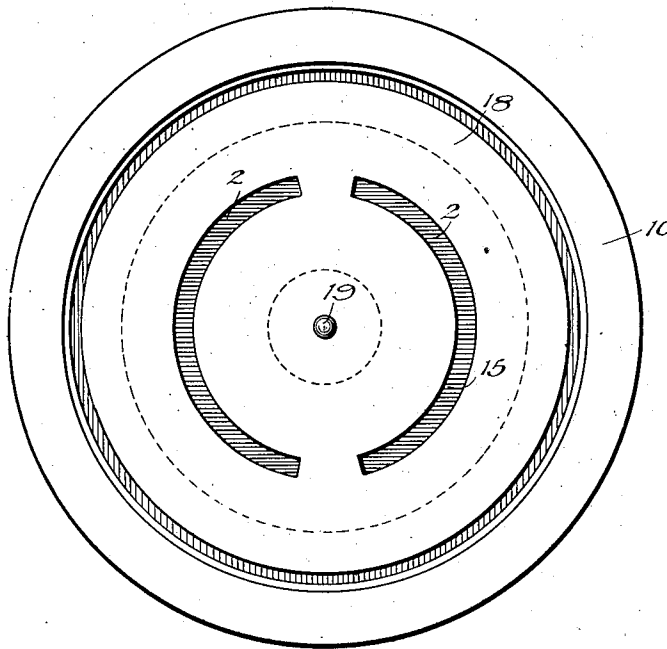


Fig. 2.



WITNESSES

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TELEPHONE RECEIVER.

Application filed June 30, 1922, Serial No. 572,044. Renewed December 31, 1925.

To all whom it may concern:

Be it known that I, DAVID WALD, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Telephone Receiver, of which the following is a full, clear, and exact description.

This invention relates to a receiver for use in the reception of electrical impulses such as telephone currents, and has for an object the provision of a construction in which the vibration of a diaphragm in response to current frequencies over a wide range can be placed with a minimum amount of distortion.

Another object resides in the provision of means whereby the above object can be achieved with a construction involving a minimum modification of the present type of receiver, whereby economy of manufacture is achieved.

A further object resides in the particular construction and arrangement of parts which are hereinafter described and claimed and shown in the accompanying drawings.

The invention is illustrated in the drawings, of which—

Figure 1 is a vertical diametrical section through the receiver.

Figure 2 is an inverted plan view of a receiver.

The form of the invention shown in the drawings is a preferred form, although it is understood that modifications in the construction and arrangement of the parts and in the character of the materials used may be adopted without departing from the spirit of the invention.

The drawings illustrate one form which my invention may assume, and this application thereof includes a cylindrical shell 10 and an outside cap 11 related in the usual manner to each other by cap screws 12. The shell 10 is provided with an interiorly extending annular flange 13 forming a shoulder on which a gasket 14, preferably of rubber, is disposed. On this gasket a diaphragm 15, preferably of mica, is laid and over the edge of this diaphragm another gasket 16, preferably of rubber, is disposed, the mica diaphragm being thereby supported within the shell 10 between the rubber gaskets 14 and 16. The outer cap is provided with a downwardly extending an-

nular flange 17 which bears against the upper gasket 16, and by the adjusting action of the cap screws 12 will tightly clamp the mica diaphragm 15 between the gaskets.

A second diaphragm 18, preferably of steel or other magnetic material, is disposed within the shell 10 and bears against the lower face of the shoulder 13. This steel diaphragm is connected by suitable means, such as a pin 19, preferably to the central point of the mica diaphragm 15. The end of the pin is threaded through a flanged bushing sleeve 20 which has a portion threaded to receive a tightening nut 21. Of course, the connection between the steel and the mica diaphragms may be made in a variety of ways without departing from the spirit of the invention, which involves the combination with a diaphragm responsive to magnetic influences, such as a steel diaphragm, of a second diaphragm, such as a mica diaphragm, which has a different range of resistance to various frequencies, whereby the combined vibration of the two diaphragms will result in a more uniform production of sound waves from the receiver and in this way reduce the distortion generally consequent to the action of the ordinary receiver diaphragm. The steel diaphragm 18 is provided with slots 22 mainly for the purpose of making it light and more sensitive to magnetic influence. These slots, of which there are two shown in the drawings, are, of course, arranged symmetrically around the center of the diaphragm so that the vibration of the diaphragm is uniform.

What I claim is:

A telephone receiver which includes a cuplike shell or casing having an inwardly extending annular flange, a steel diaphragm bearing against the lower face of said flange, a flexible gasket disposed against the upper face of said flange, a mica diaphragm bearing on said gasket, a rigid connection between the steel diaphragm and the mica diaphragm, a flexible gasket disposed on top of and along the edges of the mica diaphragm, a cover plate for said casing, a dependent flange on said cover plate extending into said casing and bearing on the second gasket, and means for adjustably fastening the cover plate on to the casing.

DAVID WALD.