

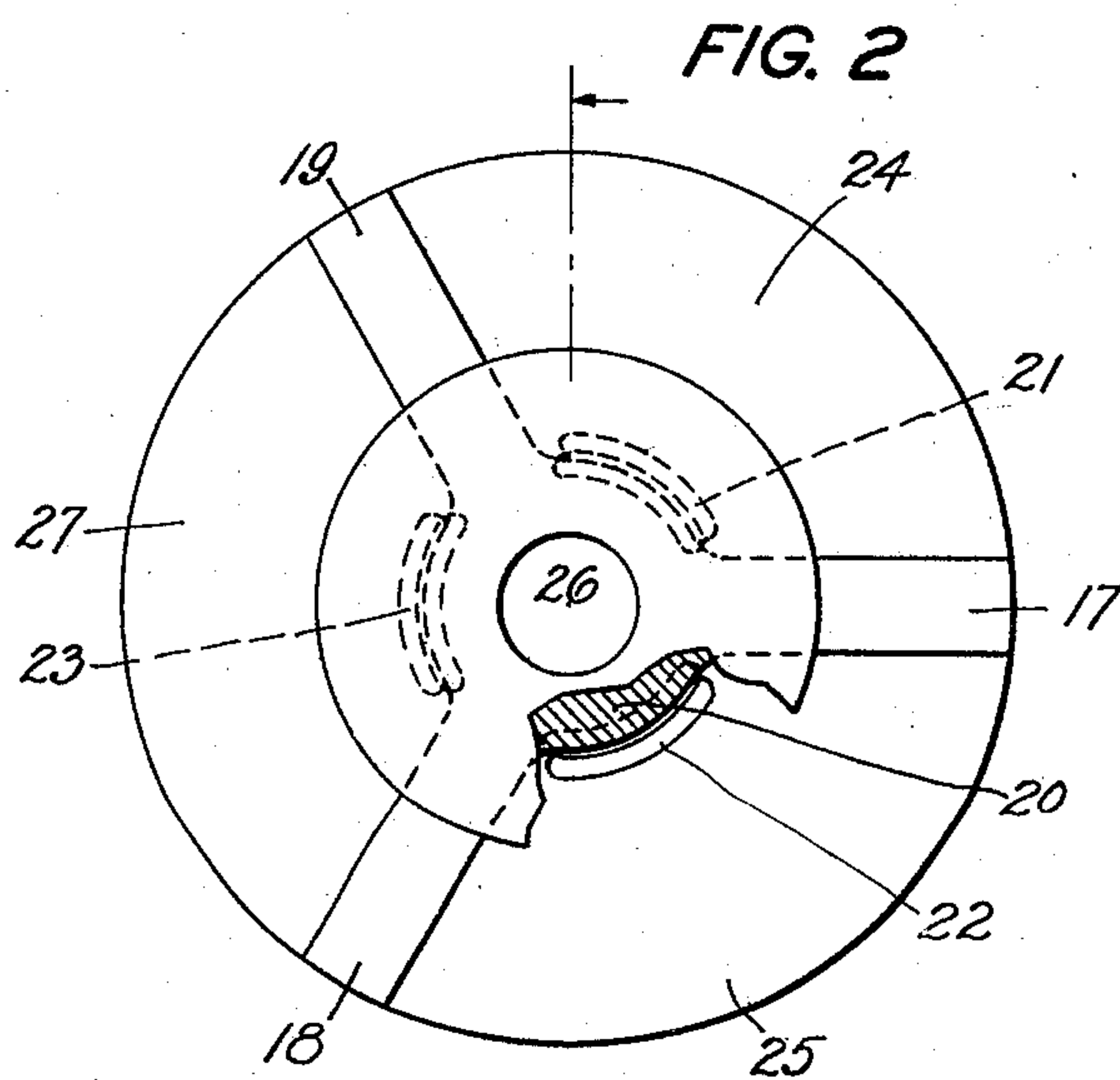
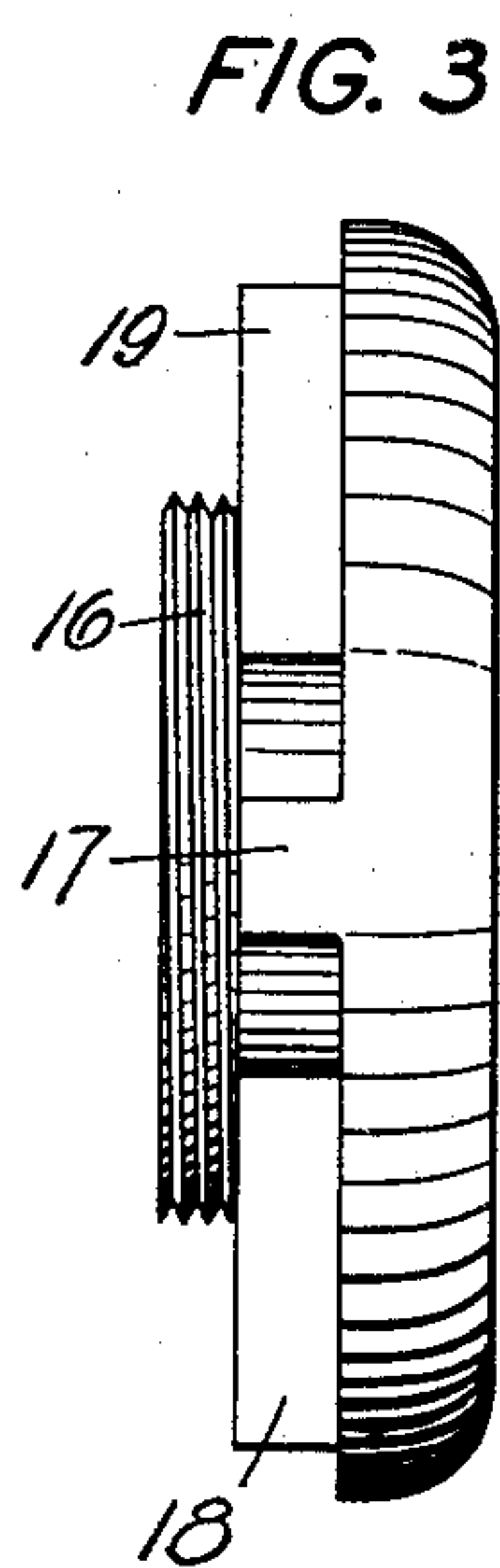
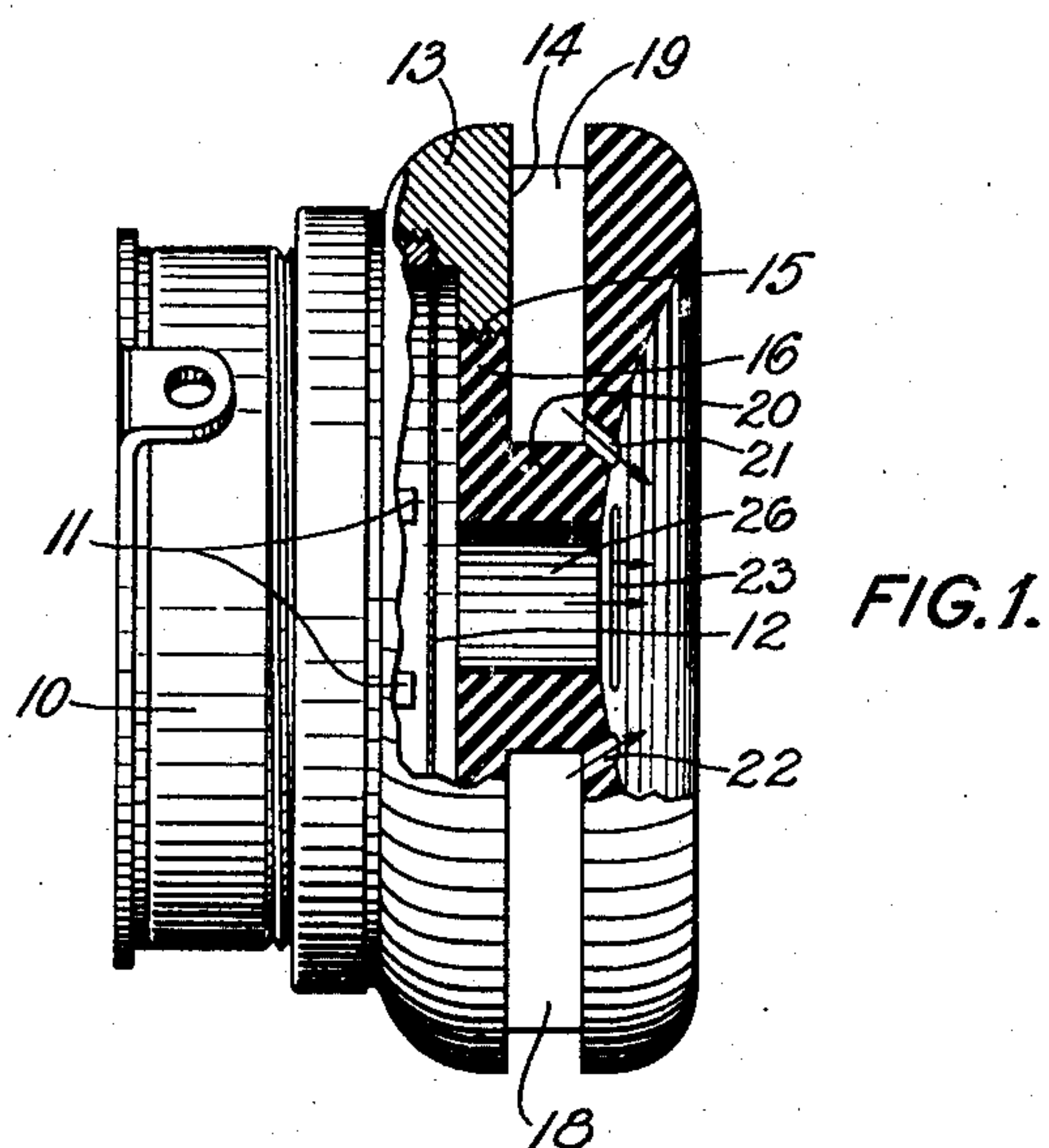
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TELEPHONE RECEIVER

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TELEPHONE RECEIVER

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This invention relates to telephone receivers and has particular reference to a type of receiver which is well adapted for use in connection with certain telephone apparatus for measuring noise.

According to this invention the extraneous noise, the intensity of which is to be measured, and certain diaphragm tones are received simultaneously in the ear of the operator from respective paths in the receiver earpiece, the path for the extraneous noise being concentric to that of the diaphragm sound path at the center of the earpiece.

In the preferred embodiment of this invention a number of radially disposed fin members are provided at the rear of the earpiece and cooperate with the face of the receiver casing for forming a path for the extraneous noise which enters the concave portion or earpiece through slots disposed concentric to and in proper spaced relation from the reference tone path at the center of the earpiece. This construction permits the operator to easily discriminate between the extraneous noise and the diaphragm tones and thereby facilitates the accurate setting of certain attenuator devices in which the difference in the intensity of the extraneous noise with respect to the diaphragm tones may be translated into any arbitrary electrical unit desired.

In the drawings Fig. 1 is a side assembly view of a telephone receiver embodying the earpiece of this invention showing the earpiece and certain operating parts of the receiver with portions cut away, Fig. 2 is a rear view of the earpiece with portions cut away and Fig. 3 is a side view of the earpiece.

The telephone receiver to which this invention is applicable generally comprises a casing 10 for housing a permanent magnet (not shown), a pair of electromagnets having pole pieces 11 and a diaphragm 12 disposed in attractable relation with the pole pieces 11.

The diaphragm 12 is held in adjusted position on the casing 10 by a clamping ring 13 having a plain face 14 and an interiorly threaded aperture 15 provided for a purpose that will be hereinafter described in detail.

According to this invention the receiver earpiece has a threaded flange or disc 16 which

engages the interiorly threaded aperture 15 of the clamping rings 13. Between this disc portion and the rear of the earpiece proper there is disposed a number of radially disposed spacer members 17, 18 and 19 as shown in the Figures 2 and 3. These spacer members extend from the periphery of a cylindrical portion 20 carried by the earpiece and an aperture 26 is provided at the center of the cylindrical portion to form a sound path from the diaphragm to the concave portion of the earpiece. Concentric to sound path 26 and in proper spaced relation therewith there is disposed a number of arcuated openings 21, 22 and 23 as shown in Figs. 1 and 2 which connect the concave surface of the earpiece with openings 24, 25 and 27 formed by the spacer members 17, 18 and 19, partially by the face of clamping ring 13 and the inner face of the flanged member 16 in alignment with the face 14 of clamping ring 13. These openings form paths for the room or extraneous sounds.

The spaced relation between the diaphragm sound path and the paths for the extraneous sounds determine the coupling action.

In the construction of this earpiece the provision of separate paths for the extraneous noise and diaphragm tones permit to properly dimension these paths and to dispose them in proper spaced relation in order to obtain a small coupling action and thereby secure a small loss of diaphragm tones to the ear. That is, if the coupling is large considerable loss in diaphragm sounds occur through the extraneous noise paths with the consequent inaccurate setting of the attenuated device.

This construction prevents the obstruction of the extraneous path upon the holding of the receiver against the folds of the ear and the pressure at which the receiver is held against the ear does not affect or change the operating characteristic of the receiver and therefore the discrimination between the extraneous and the diaphragm tones.

What is claimed is:

1. In a telephone receiver, an earpiece having a sound path at the center, and having means for engaging the receiver case, said case cooperating with the earpiece to form a

sound path through the earpiece extending from the periphery to the front of the earpiece in position concentric to the first mentioned sound path.

5 2. In a telephone receiver, an earpiece, one face thereof being concave and having an acoustic path extending from the diaphragm to the concave face of the earpiece, a number of fin members at the rear of the earpiece
10 carrying a threaded disc portion engaging the receiver case, the earpiece and the fin members cooperating to form radial paths for the extraneous noise, and apertures in said earpiece connecting said paths to the concave
15 face of the earpiece.

In witness whereof, I hereunto subscribe my name this 31st day of December, 1928.

KENNETH P. SEACORD.

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