

F. M. WAY.
 INVISIBLE EAR DRUM.
 APPLICATION FILED APR. 6, 1908.

902,785.

Patented Nov. 3, 1908.

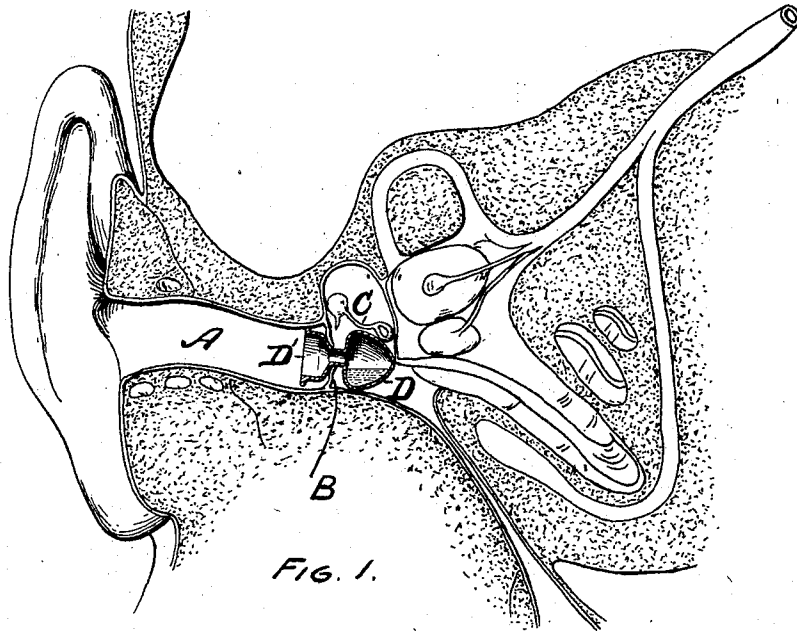


FIG. 1.

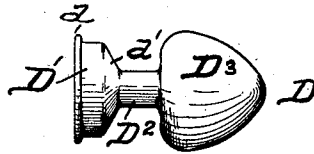


FIG. 2.

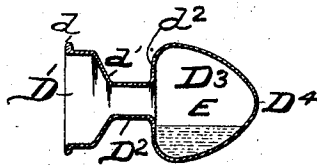


FIG. 3.

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FRANCES M. WAY, OF DETROIT, MICHIGAN.

INVISIBLE EAR-DRUM.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANCES M. WAY, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Invisible Ear-Drums, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in invisible ear drums, shown in the accompanying drawings and more particularly pointed out in the claims.

The object of this invention is an improved form of drum in which its peculiar shape serves a double purpose;—the form shown having been found in practice to readily adapt itself to the construction of the ear and to serve as a support for the ossicles, while its extreme end affords an adequate bearing or contact point for connection with the inner wall of the ear. Its peculiar shape also provides for a chamber designed to receive a medicinal preparation intended for use in the treatment of the ear by local applications.

Another feature of the construction is the contracted cylindrical stem connecting the cup and bulb-shaped portions, the stem being designed to pass through the opening in the ruptured tympanum, while the flaring cup-shaped portion snugly fits the wall of the auditory canal thereby sealing the opening into the tympanic cavity and thus preventing the too rapid evaporation of moisture from the surface of the tympanic membrane.

Another feature is the bead or thickened edge given to the cup-shaped portion, which serves to maintain its circular form and provide a suitable gripping edge for the tweezers when removing or replacing the drum.

In the drawings: Figure 1 shows the drum in position in the ear. Fig. 2 is an enlarged side elevation of the device. Fig. 3 is a longitudinal central section of the same.

Referring now to the letters of reference upon the drawings:—A indicates the auditory canal, B the tympanic membrane, and C the ossicles.

D denotes the drum preferably formed of rubber, consisting of a cup-shaped portion D' formed with a beaded outer edge d , and

a tapering inner wall d' . Connected with the inner wall d' is a relatively contracted tubular portion D², designed to project through the ruptured tympanum. The wall of the drum at d^2 flares outward at substantially right angles to the tubular portion D², shaping itself into a bulbous portion D³, of approximately parabolic form. Within the bulbous-shaped portion is lodged a suitable medicinal preparation E, designed for localized treatment of the ear.

D⁴ denotes an orifice at the end of the portion D³, through which the medicament passes to the ear.

It will be readily understood that the bulbous shape given to the chamber D³ serves to keep the wall of the chamber from collapsing.

Having thus described my invention, what I claim is:—

1. In an ear drum, an open cup-shaped portion, a chamber adapted to contain a medicinal preparation, and a tubular stem connecting the said chamber with the cup-shaped portion, said chamber having a relatively small opening in one end through which the medicinal preparation may be discharged.

2. In an ear drum, a cup-shaped portion, a hollow bulbous-shaped portion, adapted to carry a medicinal preparation, and a hollow stem connecting the cup-shaped portion with the bulbous portion, the wall of the bulbous portion provided with a contracted aperture to permit of a discharge of the medicine from the bulbous portion.

3. In an ear drum, a cup-shaped portion, a hollow bulbous portion adapted to carry a medicinal preparation, a relatively long tubular stem projecting from the bulbous portion, and a tapering inner wall connecting the cup-shaped portion with the tubular stem.

4. In an ear drum, a cup-shaped portion provided with a beaded outer edge and a tapering inner wall, a tubular portion projecting from the tapering inner wall, and a hollow bulbous portion connected with the tubular portion, said bulbous portion provided with a single aperture at one end for the discharge of a medicinal preparation.

5. In an ear drum, a cup-shaped portion, a hollow bulbous portion of substantially parabolic form, and a tubular stem connecting the bulbous portion with the cup-shaped portion, said bulbous portion provided with

a contracted aperture for the discharge of a medicinal preparation.

6. An ear drum comprising a cup shaped portion whose free edge is beaded and whose inner edge tapers, a tubular stem projecting from the tapering part of the cup shaped portion, and a hollow bulbous portion connected to the tubular portion, said bulbous portion at its base end being formed at a direct right angle to said tubular stem and having a perforation at its free end in alignment with the tubular stem.

7. An ear drum comprising a yieldable cup shaped portion, adapted to fit snugly in the auditory canal of the ear, a hollow bulbous shaped portion adapted to contain a medicinal preparation, and a hollow stem connecting the cup shaped portion with the bulbous portion and adapted to project through the ruptured tympanum of the ear, the wall of the bulbous portion provided with a single perforation.

8. An ear drum comprising a cup shaped portion, a hollow bulbous shaped portion adapted to contain a medicinal preparation,

and a hollow stem connecting the cup shaped portion with the bulbous portion, the bulbous portion having a perforation in alignment with said hollow stem.

9. An ear drum comprising a cup shaped sound receiving portion, a hollow bulbous portion adapted to carry a medicinal preparation, and a hollow sound conducting stem connecting the cup shaped portion with the bulbous portion, the wall of the bulbous portion where it connects with said hollow stem being disposed at a right angle to the hollow stem and gradually tapering outwardly from the stem with its outer tapering end provided with a perforation, the medicinal preparation being normally below the perforation and discharged through the perforation.

In testimony whereof, I sign this specification in the presence of two witnesses.

FRANCES M. WAY.

Witnesses:

GRACE E. WYNKOOP,
SAMUEL E. THOMAS.