

May 18, 1954

A. S. RAIMO
EXPANSIBLE OTOSCOPE
Filed Nov. 28, 1952

2,678,645

Fig. 1

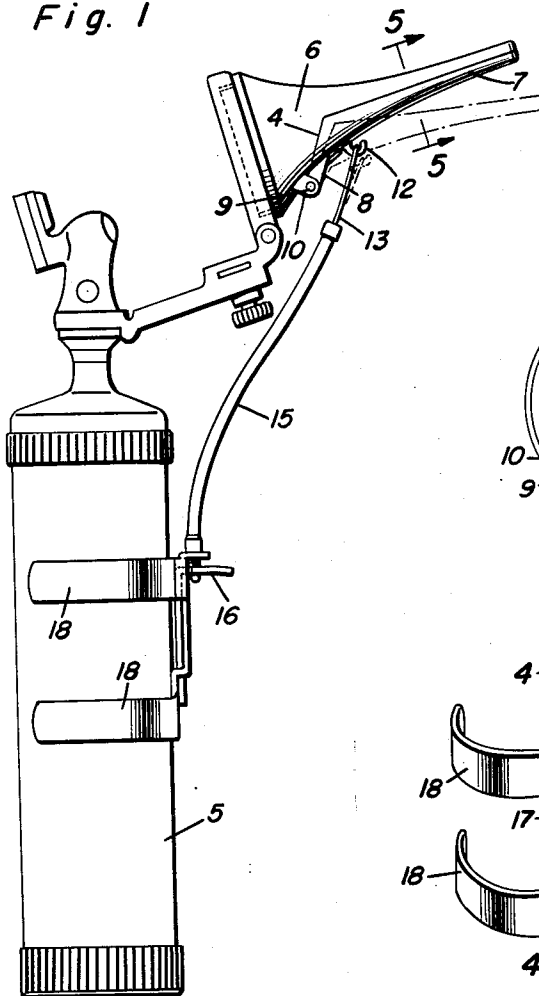


Fig. 2

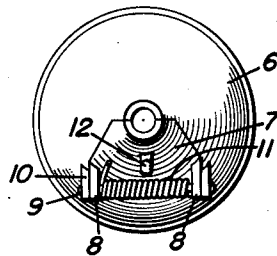


Fig. 3

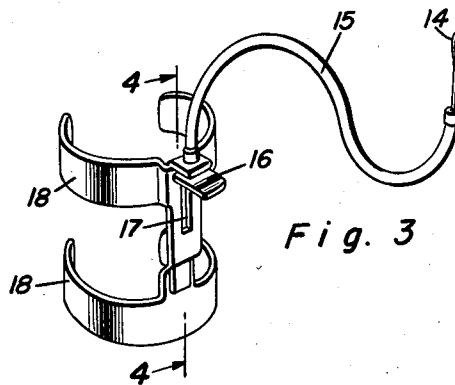


Fig. 5

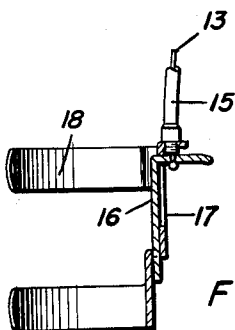


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Fig. 4



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EXPANSIBLE OTOSCOPE

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3 Claims. (Cl. 128—9)

1

The present invention relates to new and useful improvements in otoscopes and more particularly to an expansible ear piece for the instrument.

An important object of the invention is to construct the funnel shaped ear piece of the instrument with a longitudinally extending segment having a transverse shape corresponding to that of the ear piece and pivoted at its inner end thereto for expanding the ear canal into which the ear piece is inserted to enlarge the canal for more complete examination of the ear drum.

Another object is to provide a device of this character of simple and practical construction which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purpose for which the same is intended.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view;

Figure 2 is an enlarged front elevational view of the ear piece;

Figure 3 is an enlarged perspective view of the clip and actuating slide for expanding the ear piece;

Figure 4 is a vertical sectional view taken on a line 4—4 of Figure 3; and,

Figure 5 is a transverse sectional view taken on a line 5—5 of Figure 1.

Referring now to the drawing in detail, wherein for the purpose of illustration, I have disclosed a preferred embodiment of my invention, the numeral 5 designates an otoscope of a type commonly used by physicians for examination of the ears and including a funnel-shaped ear piece 6 for insertion in the ear.

The ear piece is formed with an open lower half which extends rearwardly from its narrow front end to a point 4 adjacent the rear end of the ear piece and a rigid longitudinal segment 7 of arcuate shape in cross-section to conform to the shape of the ear piece 6 is closely fitted flush in the open lower half of the ear piece and is provided with a pair of downwardly projecting spaced apart apertured ears 8 pivotally mounted on a pin 9 which is supported in a second pair of spaced apart apertured ears 10 molded or otherwise suitably carried by the ear piece. A coil spring 11 is mounted on the pin 9 and tensionally holds the segment 7 closed against the open lower half of the ear piece.

A hook 12 is attached to the segment 7 and to which one end of a flexible wire 13 is attached by means of a loop 14, the wire being encased in

2

a rubber sleeve or cover 15 and is attached at its other end to a slide 16 engaged in a slot 17 in a resilient clip 18 adapted for clamping to the casing of the otoscope.

With the clip 18 secured in position, as shown in Figure 1, the spring 11 holds the pivoted segment 7 in a closed position against the ear piece for insertion therewith in an ear canal. The slide 16 may then be moved downwardly in the clip 18 whereupon the wire 13 will swing the segment 7 away from the ear piece, as shown by dotted lines in Figure 1, into its open or expanded position to expand the ear canal.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. In an otoscope including a handle part, a sectional ear piece including a stationary part and a longitudinally extending movable part pivoted at its inner end to the stationary part for swinging toward or away from the latter in an expanding movement of an ear canal in which the ear piece is inserted, and manipulating means for the movable part and slidably supported on the handle.

2. In an otoscope, a sectional ear piece including a stationary part and a longitudinally extending movable part pivoted at its inner end to the stationary part for swinging toward or away from the latter in an expanding movement of an ear canal in which the ear piece is inserted, spring means swinging the movable part into a contacting position, a clip carried by the otoscope, a slide on the clip, and means connecting the slide to said movable part to swing the latter in an expanding movement.

3. In an otoscope, a sectional ear piece including a stationary part and a longitudinally extending movable part pivoted at its inner end to the stationary part for swinging toward or away from the latter in an expanding movement of an ear canal in which the ear piece is inserted, spring means swinging the movable part into a contacting position, a slide carried by the otoscope and a flexible member connecting the slide to the movable part to swing the latter in an expanding movement.

References Cited in the file of this patent

FOREIGN PATENTS

Number	Country	Date
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