

Hearing Aid

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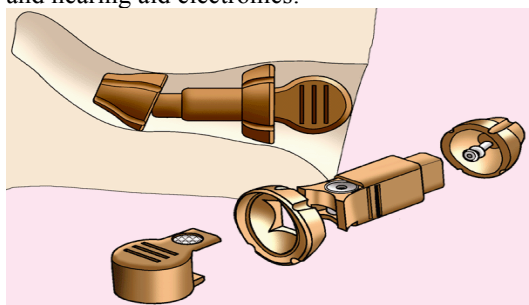
Abstract—Invisible in canal hearing aids or ICC for short is a hearing aid device that can produce a more natural hearing experience for people who need to amplify or modulate sound in their ear. One of the new proto types for canal hearing aid devices is one with a disposable battery module.

I. INTRODUCTION

ACCORDING to the New York times, hearing loss is a disability that is currently untreated in about 85 percent of the people who are affected by it in the United States. This disability is said to be a hidden disability to those who might have it because it is not as obvious as other disabilities to distinguish. Hearing loss usually occurs in a subtle way and worsens over the years. People who might have this disability usually can still hear sound. The problem with these people is that they think that the people speaking to them aren't speaking clearly. Usually the people affected by this disability always ask others to speak up, repeat what they say or tell them to speak more slowly. That it is why it is important to treat people who have this disability. One of the treatments for hearing loss would be a hearing aid. The canal hearing module with a disposable battery is one the best hearing aids for people who is affected by this disability in their middle age. The canal hearing aid with disposable battery helps produce a more natural experience of hearing. It is placed in the ear canal.

II. METHODS

The ICC is located in the cartilaginous ear canal. It incorporates durable components that are intended for long-term use. This includes the receiver (speaker), microphone, and hearing aid electronics.



The disposable battery module consists of consumable components that deteriorate in a short period of time. For example the battery and incoming sound port. The battery module is also composed of an acoustically transparent debris filter to prevent water ingress and debris from reaching and contaminating the main module specifically the microphone inside. The main module connects to a seal tip positioned in a bony region in proximity to the eardrum. The seal tip assembly helps deliver sound via flexible narrow tubing and seals against the walls of the ear canal through material concentrically positioned over sound tubing.

III. RESULTS

There was three experiments performed for this module. The device was inserted into the right ear canal of 7 subjects. The angle design allowed for deep fitting with the seal assembly placed well into the bony region. The bulky size of the main module and bends of the hearing module provided a natural stop and prevented it from having a accidental contact with the ear drum. All of the 7 subjects who tried the device found the device comfortable. The device also looked invisible even when looked from a closer angle.

Patent Application Publication Mar. 10, 2011 Sheet 2 of 6 US 2011/0058697 A1

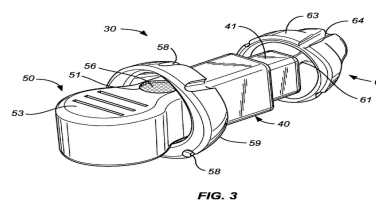


FIG. 3

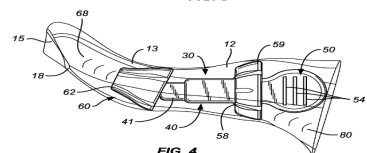


FIG. 4

IV. DISCUSSION

According to other reviews of this device some drawbacks of this module is that the device unnecessary bulky due to the fact that the battery retained in a small compartment. The hearing module is also a rigid shape that does not conform to the shape of the ear canal. This was of course just a patent application and could have room for improvement to this module. It was produce by Ihear Inc.

REFERENCES

- [1] Ihear Medical Inc, *Canal device with Disposable battery Patent Application*
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