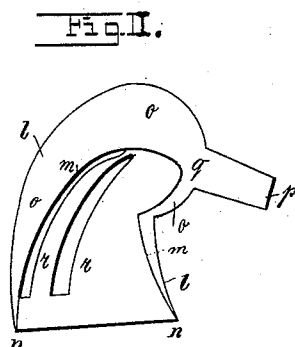
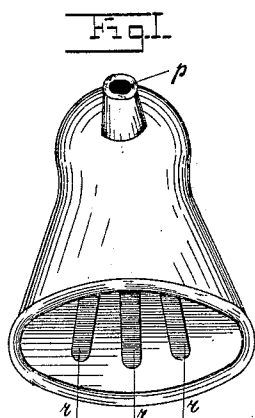


(No Model.)

F. W. ASCHENDORF.
EAR TRUMPET.

No. 466,531.

Patented Jan. 5, 1892.



Witnesses.
M. B. Dyre.
J. D. Knigabery

Inventor:
Friedrich W. Aschendorf
By his Atty.
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UNITED STATES PATENT OFFICE.

FRIEDRICH WILHELM ASCHENDORF, OF WIESBADEN, GERMANY.

EAR-TRUMPET.

SPECIFICATION forming part of Letters Patent No. 466,531, dated January 5, 1892.

Application filed July 6, 1891. Serial No. 398,616. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH WILHELM ASCHENDORF, a resident of Wiesbaden, in the Kingdom of Prussia and German Empire, have
5 invented certain new and useful Improvements in Ear-Trumpets; and I do hereby declare the following to be a full, clear, and exact description of the said invention, such as will enable those skilled in the art to which
10 it appertains to make and use the same.

My invention is an improvement in ear-trumpets; and it consists in the novel features hereinafter fully described.

In the accompanying drawings I have shown
15 one form in which I have contemplated embodying my invention, and the said invention is fully disclosed in the following description and claims.

In the said drawings, Figure 1 represents
20 a perspective view of an ear-trumpet constructed according to my invention, and Fig. 2 represents a central longitudinal section of the same.

The object of my invention is to produce
25 an ear-trumpet which shall be simple in construction and which can be cheaply and easily made, and also one which will have such a construction as to give a great amount of resonance.

30 In carrying out my invention I employ two shells or cones—an outer shell *l* and an inner shell or cone *m*—having their large ends united by burnishing one over the other at *n* or by soldering or other preferred means. The
35 outer shell or cone *l* has an ear-piece or extension *p*, adapted to fit the ear and having a passage through it communicating with the inclosed space *o* between the inner surfaces of the two shells.

40 The inner shell *m* is provided with a series (preferably three) of slots or openings *r r r*, as shown in the drawings, which communicate with the inclosed space between the two shells. The inner shell is closed at *q* adjacent to the
45 ear-piece *p* of the outer shell, as shown in Fig. 2. By this construction the sound undu-

lations cannot pass into the open end of the inner shell and directly to the ear through the ear-piece *p*, (the inner shell having no opening adjacent to the ear-piece, as before stated,) 50 but the sound will be forced to pass through the slots *r r* and be communicated to the air inclosed between the walls of the shells, thereby causing the air in such inclosed space to vibrate and greatly increasing the resonance 55 of the instrument. The walls of the shells co-operating with the vibration of the air inclosed in the space between said walls, will produce a resonance which will render the instrument very effective. It will also be seen 60 that the instrument can be very cheaply and easily manufactured. The tubular ear-piece *p* may be covered with india-rubber, leather, or other suitable substance to enable it to be held in the ear without the support of the 65 hand.

What I claim, and desire to secure by Letters Patent, is—

1. An ear-trumpet consisting of an outer and an inner shell having an inclosed space 70 between, the inner shell having a series of apertures communicating with the said space, and an ear-piece connected to the outer cone and communicating with said air-space at a distance from said apertures, substantially as 75 described.

2. An ear-trumpet consisting of an outer shell and an inner shell within the same, said shells having their larger ends connected together and forming an air-space between 80 them, an ear-piece secured to the outer shell and communicating with the air-space adjacent to a closed portion of the inner shell, said inner shell having a series of apertures in the same at a distance from said ear-piece, 85 substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRIEDRICH WILHELM ASCHENDORF.

Witnesses:

ALVESTO P. HOGUE,
JEAN GRUND.