

(Model.)

S. NORTH.
Ear-Trumpet.

No. 227,178.

Patented May 4, 1880.



Fig. 1

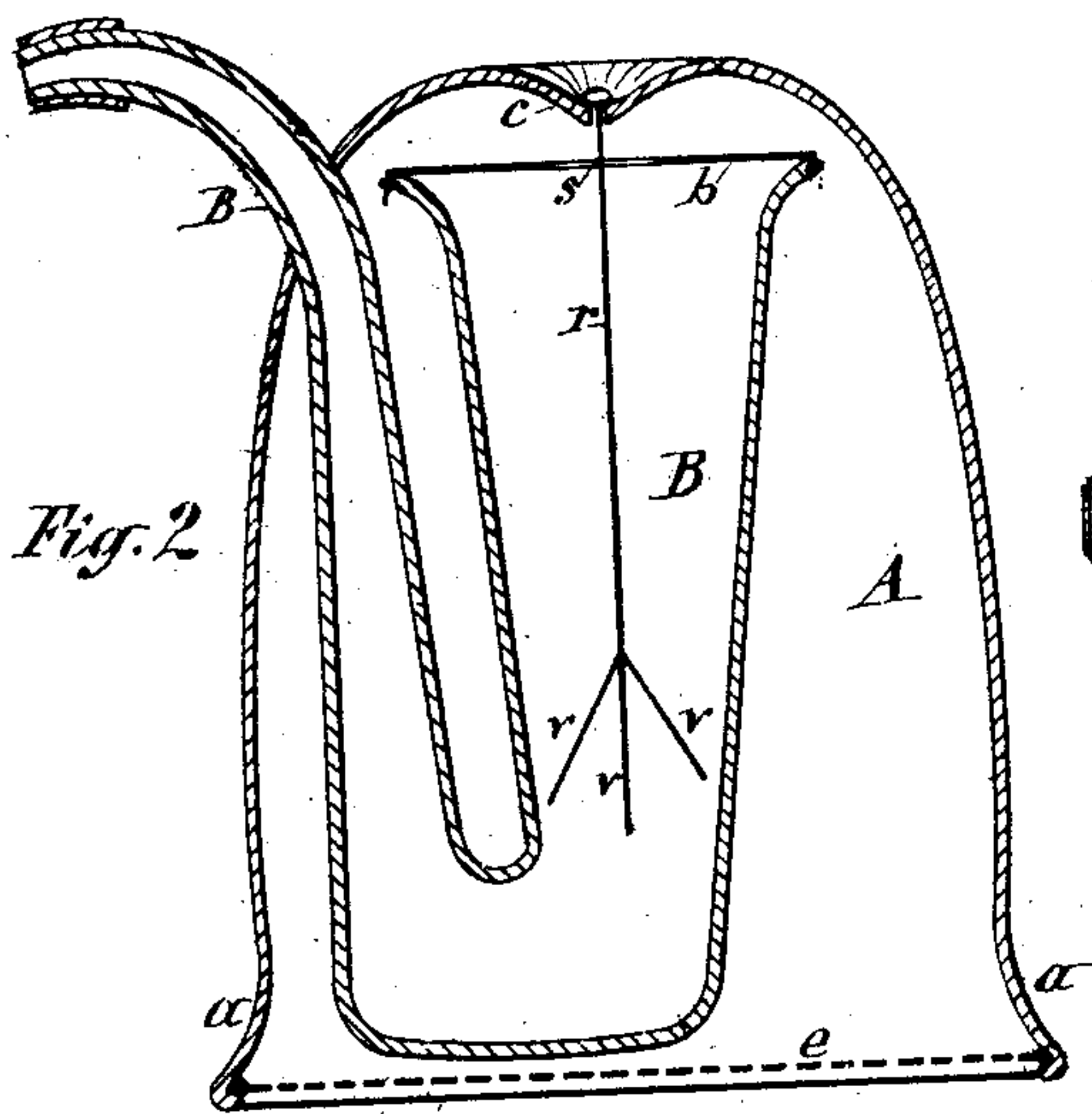


Fig. 2

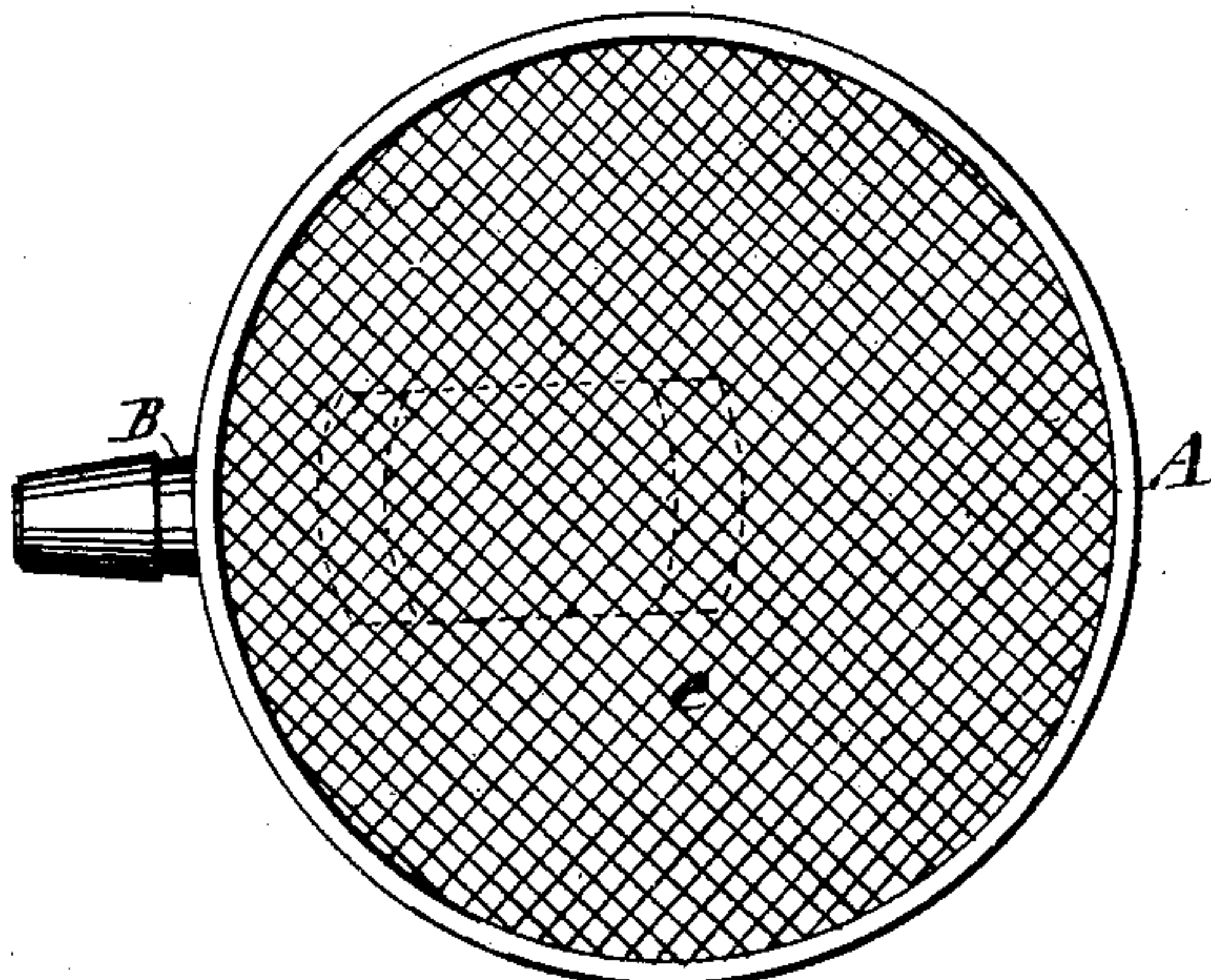


Fig. 3

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UNITED STATES PATENT OFFICE.

STEPHEN NORTH, OF SYRACUSE, NEW YORK.

EAR-TRUMPET.

SPECIFICATION forming part of Letters Patent No. 227,178, dated May 4, 1880.

Application filed March 4, 1880. (Model.)

To all whom it may concern:

Be it known that I, STEPHEN NORTH, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and
5 useful Improvements in Aural Instruments, (not patented to me, nor with my knowledge or consent, in any foreign country,) of which the following, taken in connection with the accompanying drawings, is a full, clear, and
10 exact description.

This invention relates to a novel, simple, compact, convenient, and effective instrument, which I have denominated the "Earphone," the same being designed to audibly convey
15 sounds to the ear of a person of defective hearing.

The invention consists, essentially, of a peculiar-shaped resonant sound-receiving shell adapted to rest against the cheek of the per-
20 son using the same, and having within it a tube arranged with one end in proximity to the reverberating end of the aforesaid shell, and with the opposite end projecting through the shell and adapted to be inserted in the
25 ear of a person, by which arrangement a compact and convenient instrument is obtained, which is capable of transmitting sounds audibly to a person defective of the sense of hearing.

30 The invention also consists in the combination, with the aforesaid instrument, of certain devices for allaying or moderating the jars or vibrations of the sound in transmission, and thus rendering the same more distinctly aud-
35 ble to the person using the instrument, all as hereinafter more fully described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 illustrates the method of applying my inven-
40 tion for use. Fig. 2 is a vertical transverse section of my earphone, and Fig. 3 an inverted plan view of same.

Similar letters of reference indicate corresponding parts.

45 A represents the sound-receiving shell, made in the form of a bell having a nearly or quite straight body, terminating with a slight outward flare, as shown at *a*, at the open end of the shell, the object of this peculiar outline of
50 said shell being to bring the same to bear

against the cheek-bone when the transmitting-tube, hereinafter described, is inserted into the ear, thereby subjecting to the vibration of the shell the nerve which extends across the cheek and to the interior of the ear.

55 The crown of the shell A is depressed, as shown at *c*, and directly under this depression is the flaring mouth of a tube, B, the main portion of which is located within the shell, and has its opposite extremity protruding
60 through the same sufficiently to allow it to be inserted in the ear of a person, and at the same time bring the shell to bear on the cheek, as aforesaid. Across the mouth of the tube is
65 spanned a detonating-plate or drum-head, *b*, having a central aperture, *s*, through which passes a wire, *r*, pendent from the depression
70 *c* of the shell, and terminating within the tube B with a furcation or a number of prongs, *v*, the function of said wire being to break or moderate the jars or vibrations of the trans-
mitted sound.

Across the open end of the case A is spanned a wire-netting or other suitable screen, *e*, which
75 further moderates the aforesaid injurious effects, and also protects the inclosed transmitting-tube and the toning-wire *r* contained therein.

Having thus described my invention, what I claim as new, and desire to secure by Let-
80 ters Patent, is—

1. The combination, with the resonant shell A, of the transmitting-tube B, provided with the drum-head *b*, as and for the purpose set forth.

85 2. The combination of the resonant shell A, having the depression *c*, and the tube B, arranged opposite the said depression, substantially in the manner shown.

3. The combination, with the shell A and
90 tube B, of the furcated wire *r*, substantially as and for the purpose specified.

4. The combination of the shell A, provided with the netting or screen *e* and with the depression *c*, the tube B, arranged within
95 the shell A, and having one end directly opposite the depression *c*, and provided with a drum-head, *b*, having a central aperture, *s*, the opposite end of the tube protruding through the shell, and adapted for application to the
100

ear, and the furcated wire *r*, extended from
the crown of the shell *A* into the aforesaid
tube, all constructed and combined substan-
tially in the manner and for the purpose speci-
5 fied.

In testimony whereof I have hereunto signed
my name and affixed my seal, in the presence

of two attesting witnesses, at Syracuse, in the
county of Onondaga and State of New York,
this 28th day of February, 1880.

STEPHEN NORTH. [L. S.]

Witnesses:

E. LAASS,

WM. C. RAYMOND.