(Model.)

G. F. SHAVER.

MOLECULAR SOUND RESONATOR.

No. 444,464. Patented Jan. 13, 1891.

Fig 1

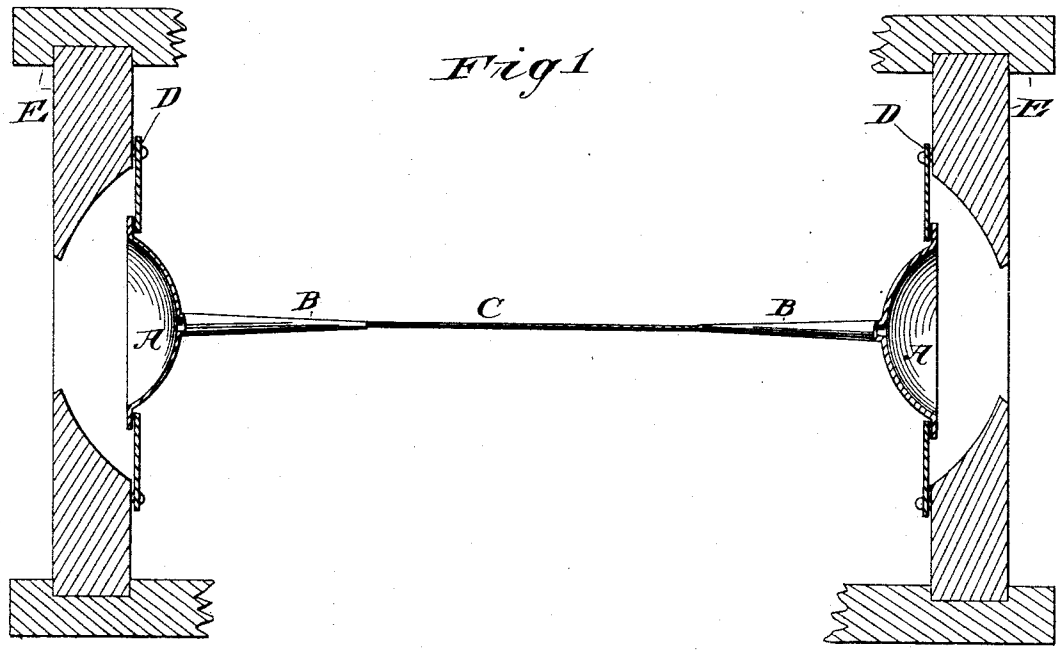
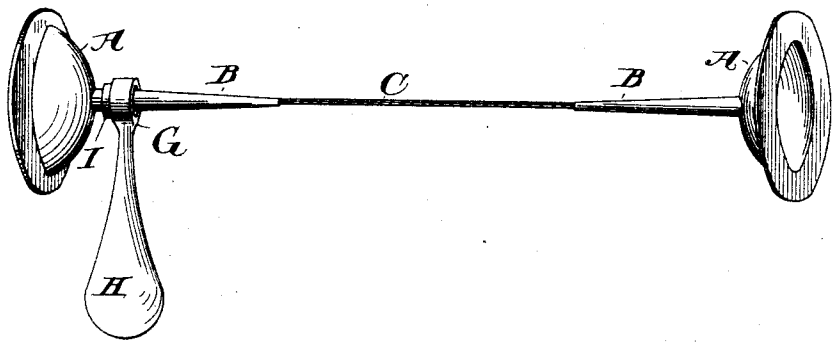


Fig 2.



Attest:
C. C. Benjamin
H. Hobbie

Inventor:
G. F. Shaver

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE FREDERICK SHAVER, OF NEW YORK, N. Y., ASSIGNOR TO THE SHAVER CORPORATION, OF NEW JERSEY.

MOLECULAR SOUND-RESONATOR.

SPECIFICATION forming part of Letters Patent No. 444,464, dated January 13, 1891.

Application filed May 12, 1890. Serial No. 351,464. (Model.)

To all whom it may concern:

Be it known that I, GEORGE FREDERICK SHAVER, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Molecular Sound-Resonators, of which the following is a specification.

The object of my invention is to provide a molecular resonator to be applied to mechanical telephones, stethoscopes, &c, whereby minute vibrations may be so increased as to render sounds ordinarily inaudible to become audible and ordinarily audible sounds to be largely augmented. The means whereby this end is attained is shown in the accompanying drawings, of which—

Figure 1 shows the device applied to a mechanical telephone, and Fig. 2 shows a device as embodied in a stethoscope.

A represents a metallic resonator, preferably spun or pressed into concavo-convex form, and is provided with a centrally-located aperture and rear extension-tube B. A connecting-wire C passes through the said tube to the resonator A, and the whole is soldered or brazed together, forming a continuous jointless metallic connection from one resonator to another.

The operation of the device is as follows: When vibrations of any sort impinge upon either resonator, it is caused to vibrate, and the vibrations are transferred to the rear extension B, thence to the connecting-wire C, thence to the opposing extension B, and to the opposing resonator A, and as no joint occurs in the path of the vibration the quality and power of the vibration remain practically unimpaired, and when the connecting-wire is short the vibrations appear to be augmented, so that the slightest touch upon one resonator becomes an audible sound when reproduced by the other. I account for this remarkable phenomenon upon the theory that the result is due to a movement or disturbance of the molecules of matter composing the resonator, extension, and connecting-wire, and that as the receiving-resonator delivers the vibrations to the connecting-wire unimpaired the vibrations upon reaching the apex of the receiving-resonator spread out over the entire surface of the same, and thereby produce the effect of an amplification of the sound transmitted.

In a former patent of mine, No. 392,233, issued November 6, 1888, a device therein called a "reflector" is shown, which in outward appearance bears close resemblance to the molecular resonator herein described, the essential difference being in the provision of a jointless metallic connection between one resonator or diaphragm and another. Therefore

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

1. A molecular resonator consisting of a disk of metal A, in combination with a rear extension-piece B and a connecting-wire C, all solidly soldered or brazed together into one continuous metallic conductor, substantially as herein set forth and described.

2. The combination of two metallic resonators connected one with the other by means of a jointless metallic conductor, substantially as herein set forth and described.

Signed at New York, in the county of New York and State of New York, this 10th day of May, A. D. 1890.

GEORGE FREDERICK SHAVER.

Witnesses:

H. J. FOOTNER,

M. CARSON.