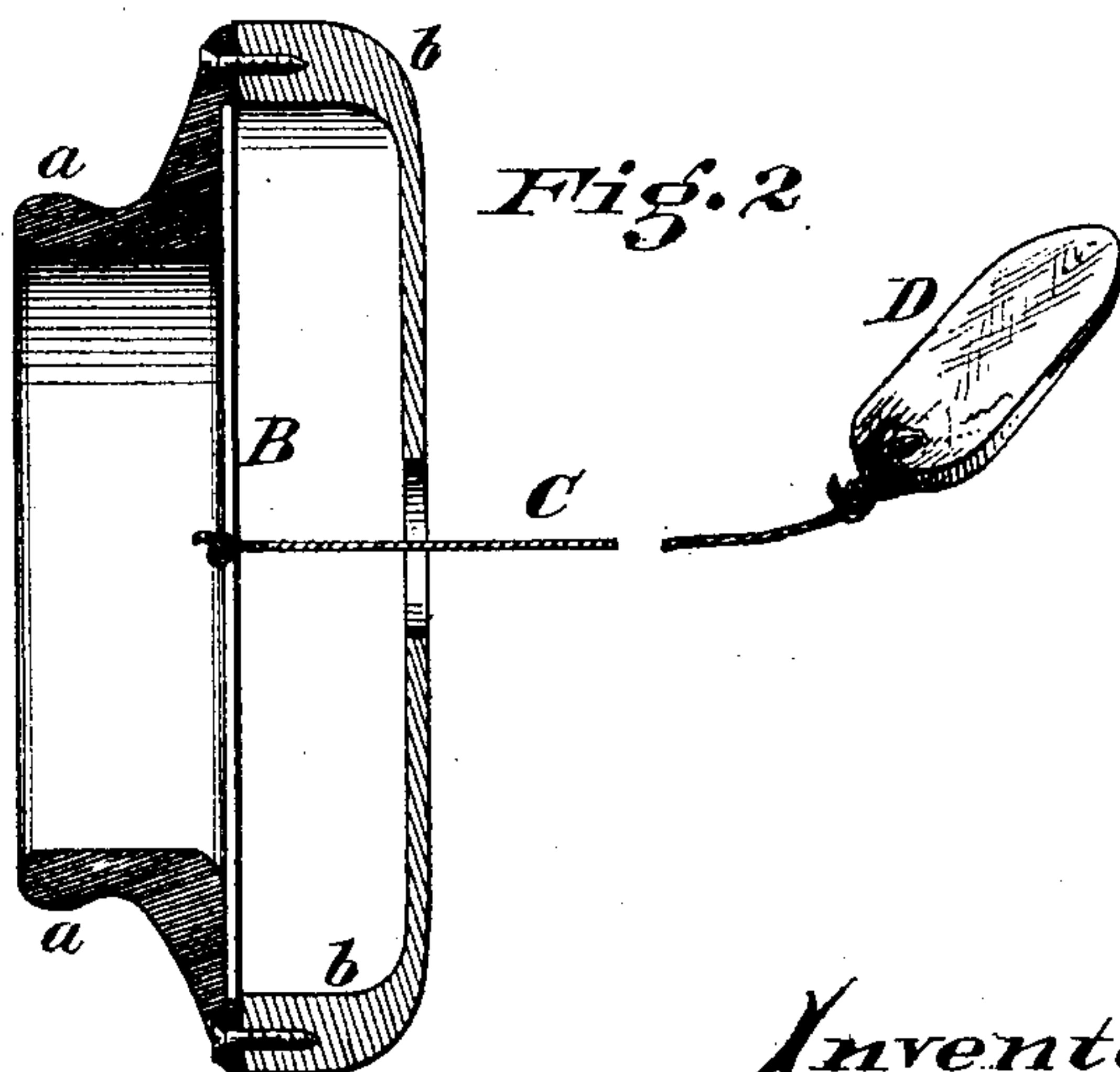
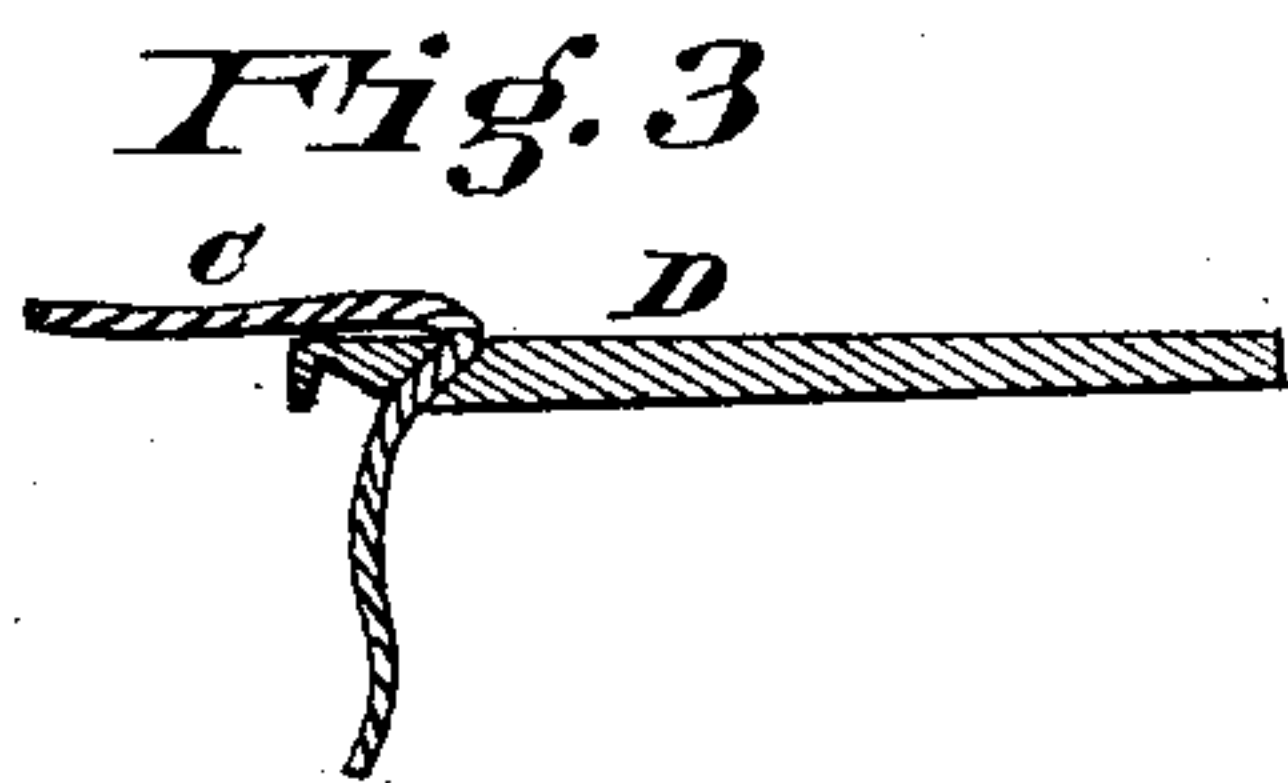
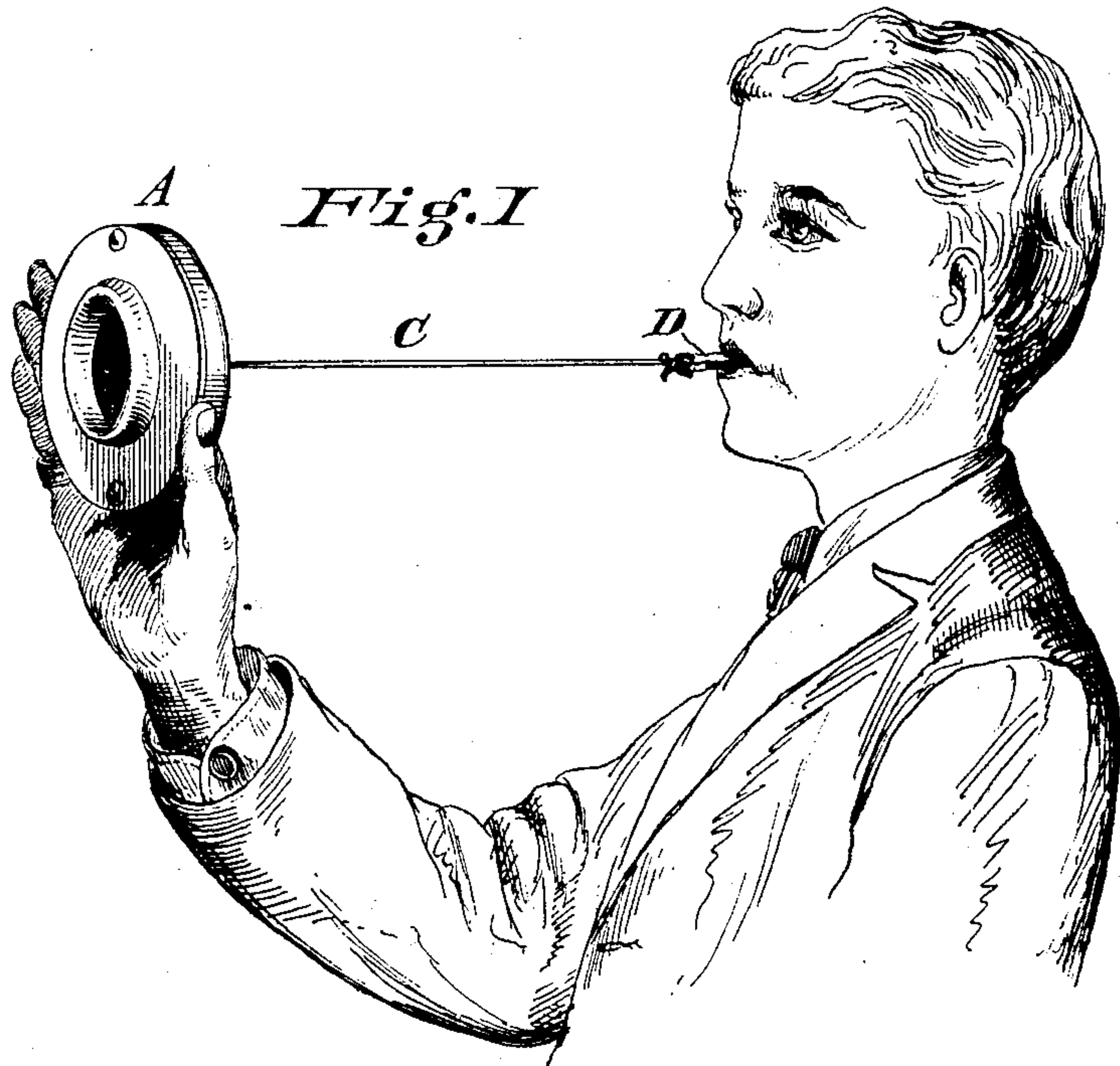


W. W. BOSTWICK.
Audiphone.

No. 221,892.

Patented Nov. 18, 1879.



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UNITED STATES PATENT OFFICE.

WALTER W. BOSTWICK, OF CINCINNATI, OHIO.

IMPROVEMENT IN AUDIPHONES.

Specification forming part of Letters Patent No. **221,892**, dated November 18, 1879; application filed September 19, 1879.

To all whom it may concern:

Be it known that I, WALTER W. BOSTWICK, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Sound-Transmitting Instruments, of which the following is a specification, reference being had to the accompanying drawings and the letters of reference thereon, in which—

Figure 1 is a perspective view of my invention in use. Fig. 2 is a sectional view of the sound-receiving and transmitting chamber and connecting parts. Fig. 3 is a sectional view of the mouth-piece.

The object of my invention is to provide a means and apparatus whereby deaf persons may be enabled to hear ordinary conversation addressed to them, which apparatus shall, besides being effective for the purpose, at the same time possess the advantages of cheapness, and of a size enabling it to be conveniently carried about the person.

It is a well-known fact that sound-vibrations may be transmitted to the auditory nerve through the teeth, and thus sound-vibrations of such delicacy as to be inaudible otherwise may be distinguished.

My invention is designed to utilize this principle for the benefit of those whose ordinary organs of hearing are defective; and it consists in the construction and combination of apparatus hereinafter described, whereby the vibrations of a diaphragm, such as used in the ordinary telephone, set in motion by the voice or other source of sound, are transmitted to the teeth of the deaf person, and reproduce the effect of sound upon the auditory nerve.

Referring to the drawings, A denotes the bell or sound-receiving instrument, which may be constructed of wood or other suitable material, containing a diaphragm, B, secured therein at its outer edges.

The containing-case for the diaphragm is more conveniently made in two parts, *a b*, turned so as to fit neatly together and clasp the diaphragm B at its outer edge between them, in which position they are secured by screws or otherwise.

The part *a* has an opening provided with a flaring mouth, into which the voice is directed, while the part *b* is hollowed out, so as to leave

a sound-chamber in rear of the diaphragm, with an aperture through its rear wall, through which a cord, C, attached to the center of the diaphragm, passes without touching. This construction affords to the diaphragm the protection of a containing-case, and also enables it to receive the effect of reflex waves of sound upon both sides.

To the remote end of the cord C is attached a tablet or mouth-piece, D, of ivory, bone, or other suitable material. It should be so attached as to permit of being slipped along the cord and engage it at any desired point.

In using the apparatus the user places the tablet or mouth-piece between his teeth, and holds the sound-receiving chamber toward and near the mouth of the speaker, or source of sound, and adjusts it so that the cord shall be somewhat taut. The diaphragm, being set in motion by the voice or other sound, transmits its vibrations by means of the cord to the teeth, and thence to the auditory nerve, of the deaf person, producing the sensation of sound.

It will be observed that the sound-receiving chamber is of such construction as to admit of its being but little, if any, larger than a good-sized watch, and may be carried in the pocket with equal convenience.

The diaphragm may be of thin sheet metal, thin wood, sheep-skin, or any other suitable material.

Having fully described my invention, I claim—

1. A sound-transmitting apparatus or audiphone for deaf persons, consisting, essentially, of a diaphragm mounted in a frame, to vibrate under the impulses of sound, and a transmitting-cord connecting said diaphragm with a mouth-piece adapted to be held between the teeth, combined and operating substantially as specified.

2. The watch-shaped case A, containing a diaphragm, B, in combination with a transmitting-cord, C, and mouth-piece D, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 15th day of September, 1879.

WALTER W. BOSTWICK.

Witnesses:

L. M. HOSEA,

J. WM. JOHNSON.