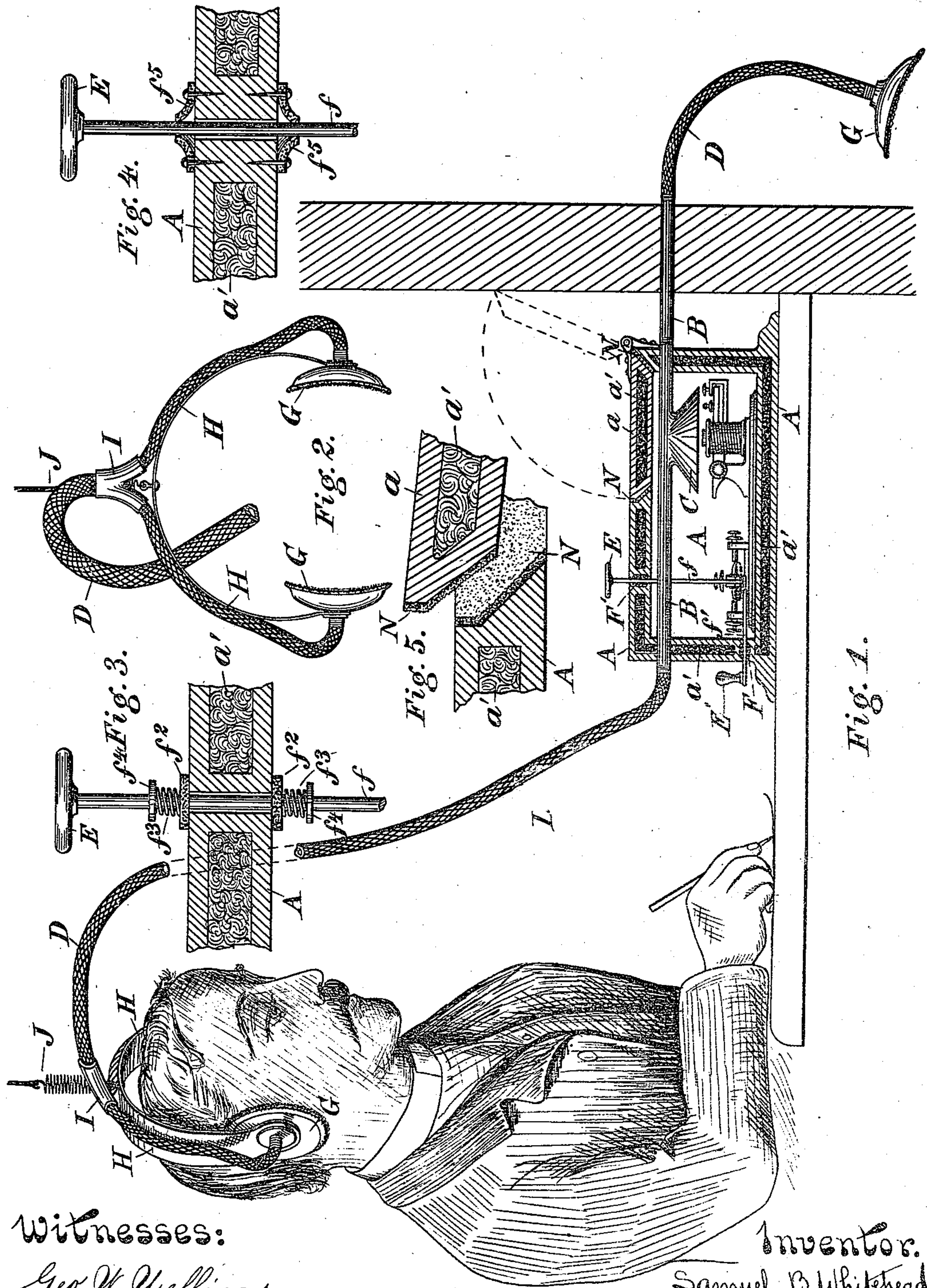


(No Model.)

S. B. WHITEHEAD.
TELEGRAPHIC APPARATUS.

No. 376,569.

Patented Jan. 17, 1888.



Witnesses:
Geo. W. Heffinger
H. H. Kirt

Inventor.
Samuel B. Whitehead.
By his *W. R. Smyth*
Atty.

UNITED STATES PATENT OFFICE.

SAMUEL B. WHITEHEAD, OF SAN FRANCISCO, CALIFORNIA.

TELEGRAPHIC APPARATUS.

SPECIFICATION forming part of Letters Patent No. 376,569, dated January 17, 1888.

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To all whom it may concern:

Be it known that I, SAMUEL B. WHITEHEAD, a citizen of the United States, residing in the city and county of San Francisco, and State of California, have invented certain new and useful Improvements in Telegraphic Apparatus; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in telegraphic apparatus in which messages are received and transmitted by sound.

The objects of my invention are, first, to control the sound of transmitting and receiving instruments; second, to so arrange the transmitting and receiving instruments as to prevent unscrupulous persons with a knowledge of telegraphy from stealing messages by means of eavesdropping; third, to do away with the noise and disturbance caused by the simultaneous working of many instruments in one room; fourth, to provide a means whereby the manager or other privileged person may hear the ticking of any particular instrument; fifth, to so arrange the apparatus that while accomplishing the foregoing objects it shall not in any way obstruct the operator in the performance of his duty of receiving, transmitting, and transcribing messages; sixth, to so devise the apparatus that should the operator have occasion to leave his instrument it can be arranged to attract the attention of himself or others when the sounder commences to operate. I accomplish these objects by means of the devices illustrated in the accompanying drawings, in which—

Figure 1 is a view of my device in operation, portion being sectioned. Fig. 2 is a view of head-clamps and ear-pieces. Figs. 3 and 4 are modifications of f and f' ; Fig. 5, detail of cover-packing.

A is a box containing telegraphic instrument. a is a cover or lid; a' , non-conducting material; B, acoustic tube; C, sound-gatherer; D, flexible acoustic tube; E, transmitting-key; $F F'$, packing; $f f'$, transmitter-key and switch-rods, respectively; G, ear-pieces; H, head-clamps; I, Y-branch connection; J, an elastic cord or spring; f^2 , a washer; f^3 , spring; f^4 , collar; f^5 , flexible washer; N, packing for lid.

The construction and operation of the device are as follows: The box A, which incloses

a telegraphic transmitting and receiving instrument, is made of suitable sound-non-conducting material, or otherwise made to be as perfect a sound non-conductor as possible. The manner shown in the drawings, Fig. 1, I consider preferable, the construction of which is as follows: The sides, top, and bottom are made double, a sufficient space being left between the double plates, which is filled with any sound non-conductor. Holes are provided at suitable places in the sides of the box for rods to pass through to operate the transmitter and switch. These holes are suitably packed to prevent the escape of sound. This may be accomplished in various ways, three of which I show—one at $f f'$, Fig. 1, in which the rods are surrounded by and worked through a packing of fibrous or elastic nature. Other forms, which are shown in Figs. 3 and 4, will be more fully explained hereinafter.

The box which incloses the telegraphing-instrument is provided with one or more acoustic tubes of suitable size and material, which pass into the interior for the purpose of conveying the sound of the instrument to the outside of the box. These tubes may be extended to any desired length or position, or may be attached to flexible tubes for convenience of use; these flexible tubes to be supplied with suitable ear-pieces.

The arrangement illustrated in Fig. 1 shows the manner in which I preferably construct the apparatus and from which I have derived the best results. The double-walled box A, as described, incloses the telegraphic instrument, over the sounder of which is a bell or funnel shaped sound-collector, to which the acoustic tube or tubes are connected. To one of these is connected a flexible tube of convenient length for the operator, the free end of which is divided into two branches by a Y-connection. These branches terminate in ear-pieces which are adjustably connected together by a spring, which passes over or around the head of the operator and exerts sufficient pressure to retain the ear-pieces in position, thereby obviating the necessity of his holding them in position. The cord J suspends the head-clamps and ear-pieces in a convenient position, and is of elastic material, and thus allows of considerable movement of the operator

without inconvenience. The other acoustic tube, which is not intended for constant use, is provided with a single ear-piece.

A portion of the box A over the sounder is 5 hinged, so that it can be raised, that when this cover is open the sounder can be heard like any ordinary instrument, so that if the operator desires to leave his instrument the attention of himself or others may be drawn to it 10 should the sounder commence to operate. The edges of this cover or lid, and also that portion of the box upon which it rests when closed, is provided with felt or other suitable material, to prevent sound from issuing from between 15 the joints of the cover and box. This is shown at N in Fig. 1 and also in detail in Fig. 5.

In Figs. 3 and 4 I show two ways of preventing the egress of sound from the holes 20 through which the transmitter-key and switch are worked. Around the edge of the ear-piece where it comes in contact with the head of the operator it is provided with a pad of soft material—such as wool or chamois-skin—to prevent constant use from inconveniencing 25 the wearer, and also to make as close a joint as practicable between the head and ear pieces, and so prevent the escape of sound.

In Fig. 3 the washers f^1 are secured to the rod E in such position as to keep the spring 30 slightly compressed against the washers when the rod E is in its normal position. The washers f^2 are of felt, or other material of a yielding or elastic nature, and fit somewhat tightly around the rod E.

35 In Fig. 4 the washers f^3 are of a flexible and elastic material, and are secured in position by pins near their periphery.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a muffled telegraphic message receiving and transmitting instrument, a box all the 40 sides of which are made with an inner and outer casing, and the space between the casings filled with suitable non-conducting material, and having a cover or lid similarly constructed, and the edges of the box and of the 45 lid or cover, where they come together to form a joint, being furnished with felt or other suitable material, the box also having holes 50 through which the key and switch rods pass, suitably packed to prevent the egress of sound, substantially as described.

2. In a muffled telegraphic message receiving and transmitting instrument, the combination 55 of the sound-non-conducting box A, substantially as described, a telegraphic receiving and transmitting instrument therein contained, the tubes BB', sound-collector C, stems 60 E and E', for operating the transmitting instruments from the outside of the box, flexible pipe D, with its branches H H, ear-pieces G, having their edges padded and conforming to the contour of the human head around the ear, the head-clamp H, and elastic sustaining-cord 65 J, all arranged and operating substantially as described.

SAMUEL B. WHITEHEAD.

Witnesses:

GEO. W. WEFFINGER,
H. H. KIRK.