

Dec. 26, 1933.

O. WEEBER ET AL

1,941,237

HAND TELEPHONE

Filed March 12, 1931

3 Sheets-Sheet 1

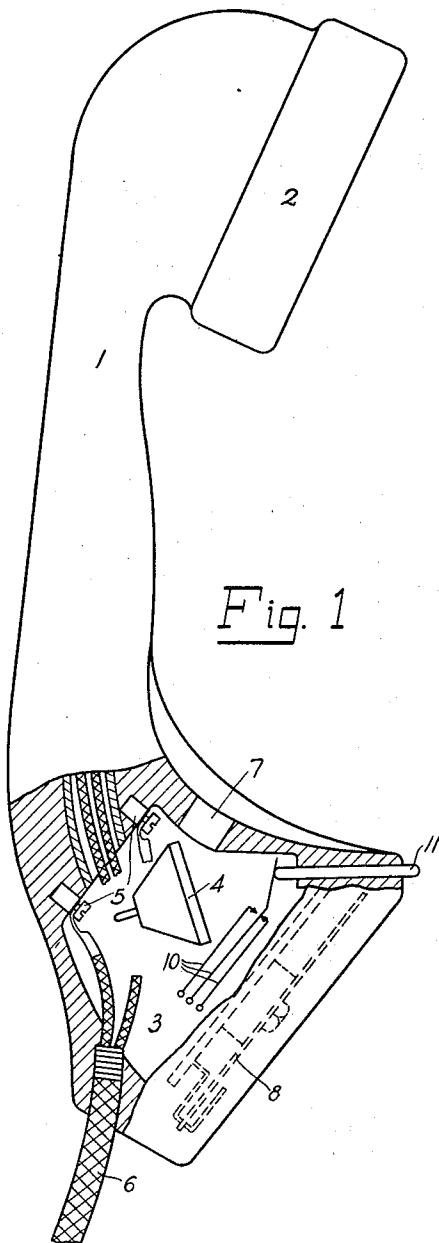


Fig. 1

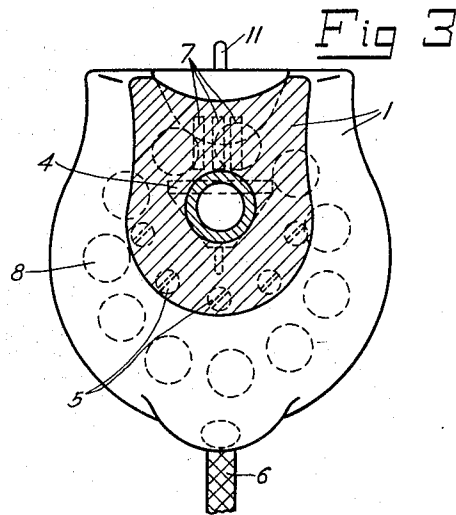


Fig. 3

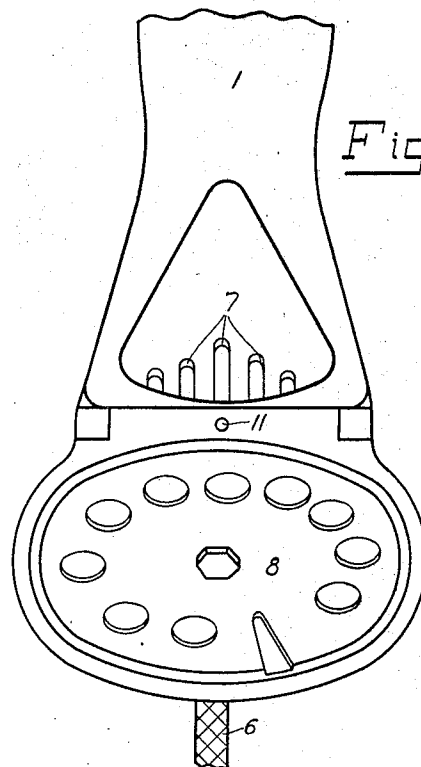


Fig. 2

Inventors—
Otto Weeber
Otto Soldan

Wm. Hatten Curren

Attg.

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Fig. 4

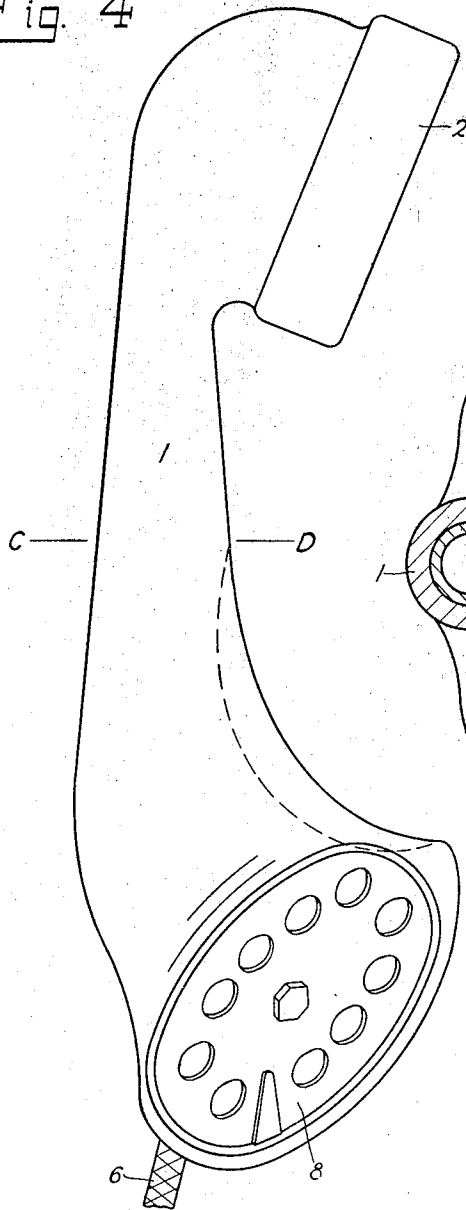
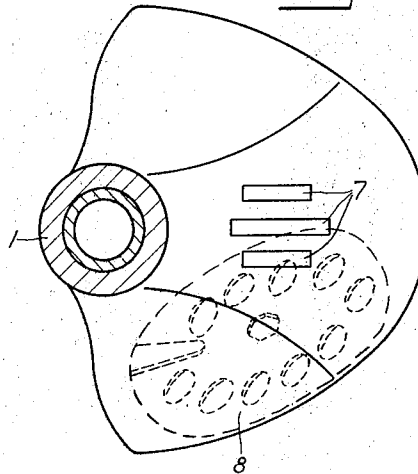


Fig. 5



—Inventors—
Otto Weeber
Otto Soldan

Wm. Walter Curren,

Att'y.

Dec. 26, 1933.

O. WEEBER ET AL

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Fig. 7

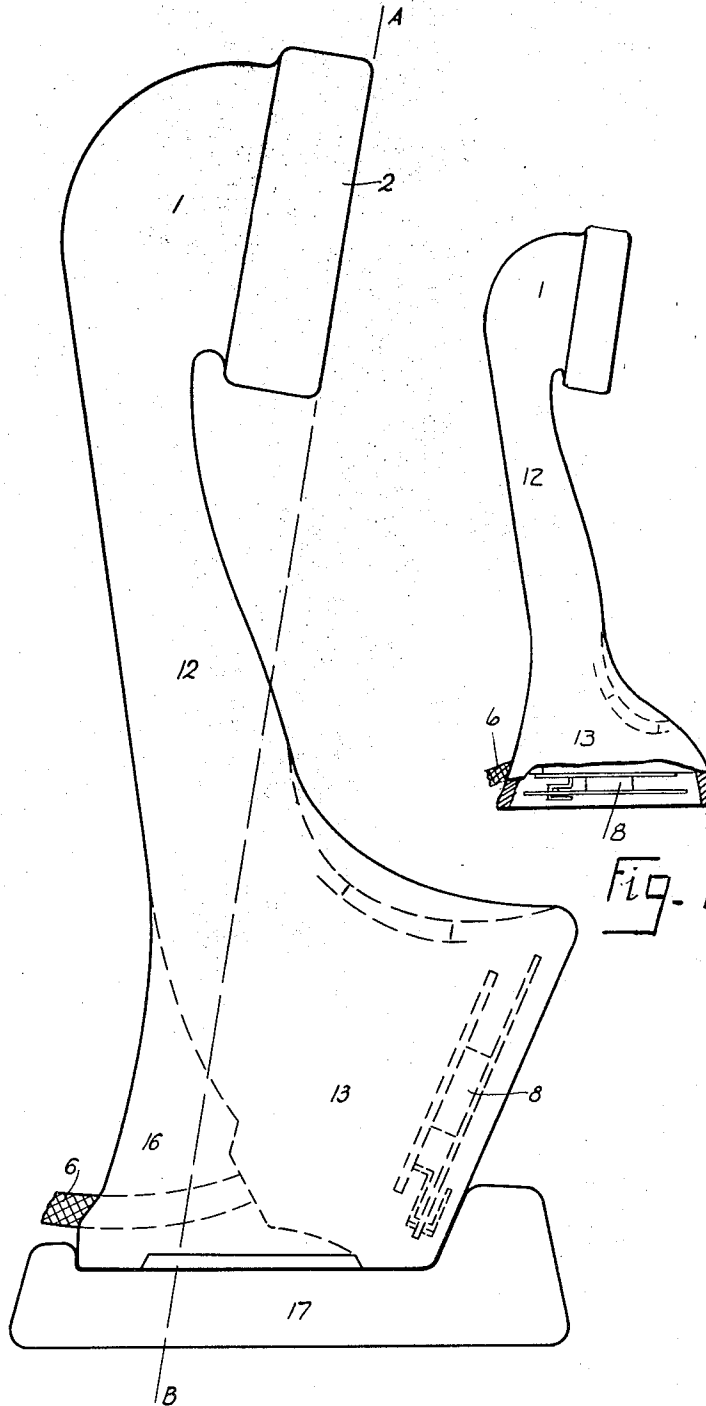


Fig. 6

—Inventors—
Otto Weeber
Otto Soldan
W. H. W. W. W.
Atty.

UNITED STATES PATENT OFFICE

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HAND TELEPHONE

Otto Weeber, Berlin-Charlottenburg, and Otto Soldan, Berlin-Siemensstadt, Germany, assignors to Siemens & Halske Aktiengesellschaft, Wernerwerk Siemensstadt, near Berlin, Germany

Application March 12, 1931, Serial No. 521,894,
and in Germany June 7, 1930

5 Claims. (Cl. 179—103)

The invention relates to a telephone handset with dial and aims at an improvement of such handsets in order to make them more suitable for use.

5 The telephone table instruments with automatic operation, normally used may be divided into those with a dial on the station and a removable micro-telephone and stations similar to the American system of pillar stations in which 10 the microphone, telephone and dial are combined in one instrument, held in the speaker's hand and moved bodily about. Both kinds of instruments are unsatisfactory with regard to easy handling and service. The first mentioned type 15 of instrument has the disadvantage that, in order to facilitate the operation of the dial the instrument must always be placed as near the user as possible at which he must twist and bend his body in order to reach the handset or operate 20 the dial. On the other hand, the combined microphone and telephone such as used in a hand set, however, is of advantage to the user. The pillar instrument has also the advantage that the standing place of the instrument is of no 25 consequence to the user with regard to the operation of the dial as the instrument is taken in the hand for speaking purposes but has the great drawback that both hands must be used for holding the instrument when speaking as the telephone is not fixed to the apparatus. If, on 30 the other hand, a hand set with dial is used, the above-mentioned disadvantages are easily removed in order to allow for a particularly simple operation.

35 It has already been suggested to supply telephone handsets with a dial which, however, due to their awkward handling and operation as well as unhygienic design have found no favour for subscriber's handsets, but have been used for special purposes only, e. g., as test apparatus or 40 the like. The objects of the invention reside in improvements of such handsets in order to make them suitable in the first instance for general use.

45 According to the invention, the dial for this purpose, is located near the microphone mouthpiece on the side of the ear cap, inside a space limited by the plane of the ear cap. Hereby is achieved that the operation of the handset is considerably simplified in comparison to already 50 known arrangements of this kind and at the same time all other demands which are put on such a handset, are met to the greatest possible extent. This arrangement of the dial and corresponding design of the casing body makes it 55

possible to hold the handset, while in its normal position, in a comfortable grip and bring it into the service position for dialling and later into the speaking position in an easy and natural manner without a change of grip or unpleasant twisting 50 of the hands being necessary. The handset is hereby improved with regard to its equalized weight and thus offers a particularly easy and comfortable handling. A further advantage in this arrangement consists in that the length of 55 the handset can be limited to a minimum with the result that the weight of the instrument is increased only a little. By reason hereof the handling of such an instrument is also more pleasant and the cost of production favourably 70 influenced.

One embodiment of the invention is shown in the drawings in various views and more completely described in the following:

Fig. 1 shows a handset in side view and part section, designed in accordance with the invention. 5

Fig. 2 shows the lower part of this handset seen from above.

Fig. 3 is a plan of the lower part of the handset with casing in the direction of the shaft of the dial in section, together with the microphone and terminals indicated therein. 30

Fig. 4 shows a side view of a modified form of the invention, and Fig. 5 shows a section of 35 the handset in Fig. 4 according to line C—D.

Figs. 6 and 7 are side views of still further modifications of construction.

In Fig. 1, the numeral 1 represents the body of the handset and 2 the ear cap of the telephone, 90 built into the upper casing, but not shown. The casing body 1 forms a well 3 in its lower end, which is provided to take the microphone 4 and the terminals 5 for the cord connections of the connecting cord 6. The casing body 1, at the part 95 which forms the mouthpiece for the microphone, is provided with holes 7 as an entrance for the sound waves. The lower hollow in the handset is terminated by the dial 8.

The casing 3 for the dial 8, in addition to the microphone unit 4 and terminals 5, contains 100 the calling key. The latter consists of a set of contact springs 10 and the switch pin 11, actuating them, which is so arranged that it is permanently depressed as long as the handset rests 105 in its normal position and thus an automatic switching operation is achieved. The key and the associated switch member can also, of course, be fitted in the upper casing 2, e. g., in the case of a suspended normal position of the handset. 110

In the construction shown in Figs. 4 and 5, the shaft of the finger plate slants with respect to the symmetrical plane of the mouth-piece 9. The advantage obtained by this arrangement is that the movement of the set required to bring the dial in position for operation is exceedingly simple.

In the construction shown in Fig. 6, the lower portion of the handle 12 broadens toward the bottom and forms a casing 13 provided with a mouth-piece for the microphone and dial switch.

When the handset rests in its normal upright position, the lower opening of the casing 13 is entirely closed by the supporting surface, for example, the table on which it stands so that at the same time, dust is prevented from settling on the dial.

In the handset shown in Fig. 7 the lower part differs in construction from that of Fig. 6 in that the dial switch in this case is in the relation to the set as in the construction shown in Fig. 1. The arrangement offers a particularly comfortable handling, but requires a different construction of the lower casing body in order to obtain a supporting surface. For this purpose, a projection 16 is provided at the lower part of the casing body 12 which, together with the flattened portion of the casing 13, furnishes the necessary supporting surface for the handset.

In order to increase the stability of a handset of such design, it can be associated with a special base plinth 17, as shown, which forms the support for the handset in its normal position. This base plinth can be covered with felt or the like so that the supporting points for the handset need not be damaged by the careless replacement of the handset. The base plinth 17 can also be fitted to receive the connecting cord.

As will be seen, the microphone and dial, due to this arrangement, are located in a constricted arrangement in a space to the right of line A—B drawn through the plane of the ear cap. The result of this arrangement is that, in contrast to such designs of handsets with dial, in which the latter is located on the back of the handset or in other arrangements—on the front of the upper part of the handset and penetrates into the bordering line A—B, operation is very much facilitated. In an arrangement with the dial on the back of the handset a turning round of the handset is necessary in order to dial, which is an unwanted exertion. If the dial, as mentioned, is located in the upper part of the front of the handset it is in the way for the user in the listen-

ing position due to its location at the ear cap. In the arrangement, according to the invention, however, these disadvantages are eliminated and the dial receives such a favourable position, as will be seen by the embodiment, that a particularly comfortable operation of the dial is achieved without the handset having to be brought into any one special position.

The spacing out of the microphone, mouth-piece and terminals, as will be seen in Figs. 1 and 3 of the drawings to the dial is so arranged that the space, provided for the fitting of these units, projects in the direction of the dial shaft and covers the largest part of the finger plate surface. Hereby a very favourable constricted arrangement is obtained which, in addition, tends to cheapen the production of such handset bodies.

What is claimed is:

1. In a pedestal type hand telephone, a base portion for supporting the hand telephone in an upright position, and an impulse transmitting device in the space surrounded by the material of said pedestal constituting the base portion.

2. In a pedestal type hand telephone, a base portion for supporting the hand telephone in an upright position, a microphone cell and an impulse transmitting device, respectively, mounted inside the base portion thereof.

3. In a hand telephone, a handle having an upper portion arranged to receive a receiver unit and having its lower portion bell shaped to form a casing for a microphone unit and impulse transmitting device, said bell-shaped portion also serving as a base for holding the hand telephone in an upright position when not in use.

4. In a unitary structure comprising a pedestal type hand telephone having a receiver and microphone cell mounted therein, a base for supporting the hand telephone in an upright position, and an impulse transmitting device lying in a plane at substantially right angles to the receiver normally hidden from view by said base.

5. In a hand telephone, a hand portion serving as a casing, a receiver mounted on one end thereof, an opening in the other end, a transmitter mounted in said opening, an impulse sender mounted in the same opening over the transmitter and closing said opening, and another opening in the hand portion adjacent the transmitter.

OTTO WEEBER.
OTTO SOLDAN.