

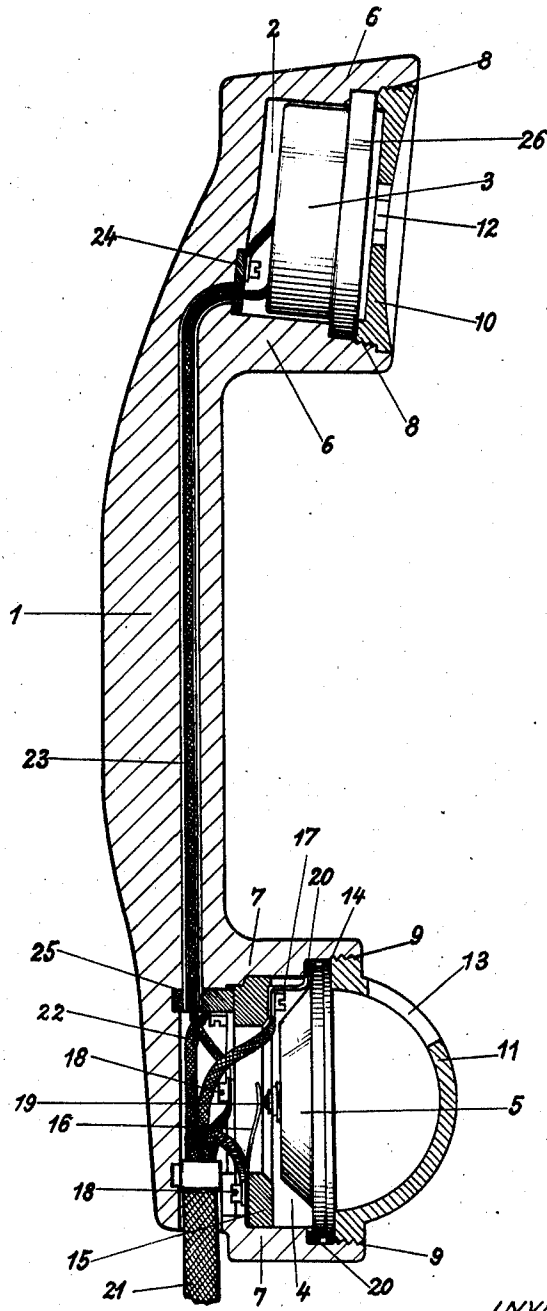
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MICROTELEPHONE

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UNITED STATES PATENT OFFICE

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MICROTELEPHONE

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The invention relates to micro-telephones, particularly wherein the handle and the casing for the receiver and the microphone are in one piece, being pressed or produced by squirting. The purpose of the invention is a simplification of the outer and inner construction of such micro-telephones, and consequently, a cheapening of the manufacture and an improvement in the efficiency of the instrument.

Known micro-telephones have the disadvantage that the user can, at any time, and without any special appliances, obtain access to the sensitive internal parts of the microphone and of the receiver. It is true that proposals are already known for preventing an unauthorized opening of the microphone or receiver casings, by making it only possible to open these casings by means of special tools. These known micro-telephones have, however, the disadvantage that complicated and encumbering appliances must be fitted within the casings and that, further, for the operation of the special appliances, openings must be provided in the casings which are unnecessary for the proper purposes of the microphone or of the receiver and which lead to a deterioration of the transmission of speech.

By this present invention these disadvantages of known appliances are avoided. This is obtained in such a way that the walls of the casings (which are provided at their outer edge with internal threads) for the receiver and microphone, (which are formed in the known manner as self-contained units), protrude from the outer parts of the said units and that the cover parts of the casings are, by their side surfaces, perfectly screwed into the casings. In this connection the outer surfaces of the cover parts are formed in such a manner that they do not offer any hold to the hand. The openings provided in the cover parts for the oscillations of the voice are, in this connection, formed in such a manner that a special tool can grip within them, so that an unauthorized opening of the casings by hand is impossible.

The invention is represented by way of example in the drawing, the description of

which will make it possible to recognize further characteristic features of the invention.

The handle 1 is pressed or produced by squirting as a whole, together with the casing 2 for the receiver unit 3 and the casing 4 for the microphone unit 5, for example from insulating material. The walls 6 and 7 respectively of the casings 2 and 4, are longer than the corresponding thickness of the respective units 3, 5, so that the walls protrude from the said units. At their outer end the walls have internal threads 8, 9, respectively, for receiving the corresponding threads on the edges of the cover parts 10 and 11. The outer surfaces of the cover parts are smooth, so that when screwed into the walls of the casings, they cannot be opened without a special tool. In order to avoid special openings in the casings for the tools, the openings 12 and 13 of the cover parts are formed in a special manner. Thus, the opening 12 of the cover part 10 for the receiver casing 2 is hexagonal so that a corresponding key can engage within the same and the speaking opening 13 of the cover part 11 for the microphone casing 4 consists of slots, into which corresponding projecting parts of a tool can be inserted.

The walls 6 and 7 of the casings are towards their outer ends, set off in shoulders or steps. Against these shoulders flanges or collars 26, 14, respectively carried by the units 3 and 5 are applied, whilst the cover parts 10 and 11 are situated in front of the flanges or collars 26 and 14. The units 3 and 5 are thereby maintained in a definite position.

Behind the microphone unit 5, and on a further shoulder of the wall 7 of the microphone casing 4, a plate 15 is supported, which bears contact springs 16 and 17 and terminals 18. The contact springs 16 and 17 engage against the microphone unit 5 and constitute the electrical connection with the two poles of the microphone. The contact spring 16 is formed as a plate spring and bears against a contact pin 19 at the centre of the microphone unit 5, whilst spring 17 is formed with a ring 20, which is pressed, when screwing-in the cover part 11, between the flange or collar 14 of unit 5 and the corresponding shoulder of the

5 wall of the casing 7. With the terminals 18
 of plate 15 are connected, on the one hand,
 the wires of the flexible cord 21 and, on the
 other hand, the conductor 22 leading to the
 receiver unit 3. These conductors 22 are con-
 10 ducted through a metallic tube 23 originally
 pressed into or formed by moulding in the
 handle 1, which tube is itself used as a con-
 ducting connection. For this purpose tube 23
 15 at its points of entrance into the casings 2
 and 3 is provided with terminals 24 and 25,
 to which are fitted the corresponding wire
 connections. With this arrangement it is
 only necessary to provide a very small recess
 in the cross section of handle, so that the han-
 dle retains a sufficient strength.

Having fully described our invention, what
 we desire to claim and secure by Letters Pat-
 ent is:—

20 1. A micro-telephone comprising a handle
 carrying at opposite ends integral casings
 open at the front and interiorly screw-thread-
 ed, receiver and microphone units housed
 25 within the respective casings so that the walls
 of the casings project outwards beyond the
 said units, and covers having their edges
 screw-threaded and completely screwed into
 the open fronts of the casings so as to engage
 30 the interior threads thereof, said covers hav-
 ing their outer surfaces formed so that they
 cannot afford a grip for the hand.

2. A micro-telephone comprising a handle
 carrying at opposite ends integral casings open
 at the front and interiorly screw-thread-
 35 ed, receiver and microphone units housed
 within the respective casings so that the walls
 of the casings project outwards beyond the
 said units, and covers having their edges
 screw-threaded and completely screwed into
 40 the open fronts of the casings so as to en-
 gage the interior threads thereof, said covers
 having their outer surfaces formed so that
 they cannot afford a grip for the hand, and
 having non-circular sound-oscillation aper-
 45 tures shaped so as to be adapted to be engaged
 by the insertion of a tool.

3. A micro-telephone comprising a handle
 carrying at opposite ends integral receiver
 and microphone casings open at the front
 50 and interiorly screw-threaded at the outer
 ends and having interior shoulders, receiver
 and microphone units housed within the re-
 spective casings and engaged with the inter-
 55 rior shoulders so that the walls of the casings
 project outwards beyond the said units, and
 covers having their outer edges screw-thread-
 ed and completely screwed into the threaded
 open fronts of the casings so as to retain the
 receiver and microphone units against their
 60 respective shoulders, said covers having their
 outer surfaces formed so that they cannot
 afford a grip for the hand.

4. A micro-telephone comprising a handle
 carrying, at opposite ends integral receiver
 65 and microphone casings open at the front and

interiorly screw threaded at their outer ends,
 a single interior shoulder on the receiver
 casing, two interior shoulders on the micro-
 phone casing one near the inner end and the
 other towards the outer end, receiver and
 70 microphone units housed within the respec-
 tive casings the receiver unit engaging the
 single interior shoulder of the receiver cas-
 ing and the microphone unit engaging the
 outer shoulder of the microphone casing, so
 75 that the walls of the casings project outwards
 beyond the said units, covers having their
 outer edges screw-threaded and completely
 screwed into the threaded open fronts of the
 casings so as to retain the receiver and micro-
 80 phone units against their respective should-
 ers said covers having their outer surfaces
 formed so that they cannot afford a grip for
 the hand, and a plate supported against the
 inner shoulder of the microphone casing.

5. A micro-telephone comprising a handle
 carrying at opposite ends integral receiver
 and microphone casings open at the front and
 interiorly screw-threaded at their outer ends,
 90 a single interior shoulder on the receiver cas-
 ing, two interior shoulders on the microphone
 casing one near the inner end and the other
 towards the outer end, receiver and micro-
 phone units housed within the respective cas-
 95 ings the receiver unit engaging the single
 interior shoulder of the receiver casing and
 the microphone unit engaging the outer shoul-
 der of the microphone casing, so that the
 walls of the casings project outwards beyond
 100 the said units, covers having their outer edges
 screw-threaded and completely screwed into
 the threaded open fronts of the casings so as
 to retain the receiver and microphone units
 against their respective shoulders said covers
 105 having their outer surfaces formed so that
 they cannot afford a grip for the hand, and a
 plate supported against the inner shoulder of
 the microphone casing, said plate carrying
 contact springs engaging the poles of the mi-
 110 crophone unit and terminals for the connec-
 tion of the conductors leading to the micro-
 phone and receiver.

6. A micro-telephone comprising a handle
 carrying at opposite ends integral receiver
 and microphone casings open at the front and
 115 interiorly screw-threaded at their outer ends,
 a single interior shoulder on the receiver cas-
 ing, two interior shoulders on the micro-
 phone casing one near the inner end and the
 other towards the outer end, receiver and
 120 microphone units housed within the respec-
 tive casings the receiver unit engaging the
 single interior shoulder of the receiver cas-
 ing and the microphone unit engaging the
 outer shoulder of the microphone casing, so
 125 that the walls of the casings project outwards
 beyond the said units, covers having their
 outer edges screw-threaded and completely
 screwed into the threaded open fronts of the
 casings so as to retain the receiver and mi-
 130

crophone units against their respective shoulders said covers having their outer surfaces formed so that they cannot afford a grip for the hand, and a plate supported against the inner shoulder of the microphone casing, said plate carrying contact springs engaging the poles of the microphone unit and terminals for the connection of the conductors leading to the microphone and receiver, the plate being held against its shoulder by the contact springs pressing against the microphone unit.

7. A micro-telephone comprising a handle carrying at opposite ends integral receiver and microphone casings open at the front and interiorly screw-threaded at their outer ends, a single interior shoulder on the receiver casing, two interior shoulders on the microphone casing one near the inner end and the other towards the outer end, receiver and microphone units housed within the respective casings the receiver unit engaging the single interior shoulder of the receiver casing and the microphone unit engaging the outer shoulder of the microphone casing, so that the walls of the casings project outwards beyond the said units, covers having their outer edges screw-threaded and completely screwed into the threaded open fronts of the casings so as to retain the receiver and microphone units against their respective shoulders said covers having their outer surfaces formed so that they cannot afford a grip for the hand, a plate supported against the inner shoulder of the microphone casing, and a metallic tube moulded in the handle having terminals at opposite ends situated in the receiver and microphone casings respectively.

In testimony whereof we have affixed our signatures.

JOHANN SCHNEIDER.
GEORG HECKMANN.