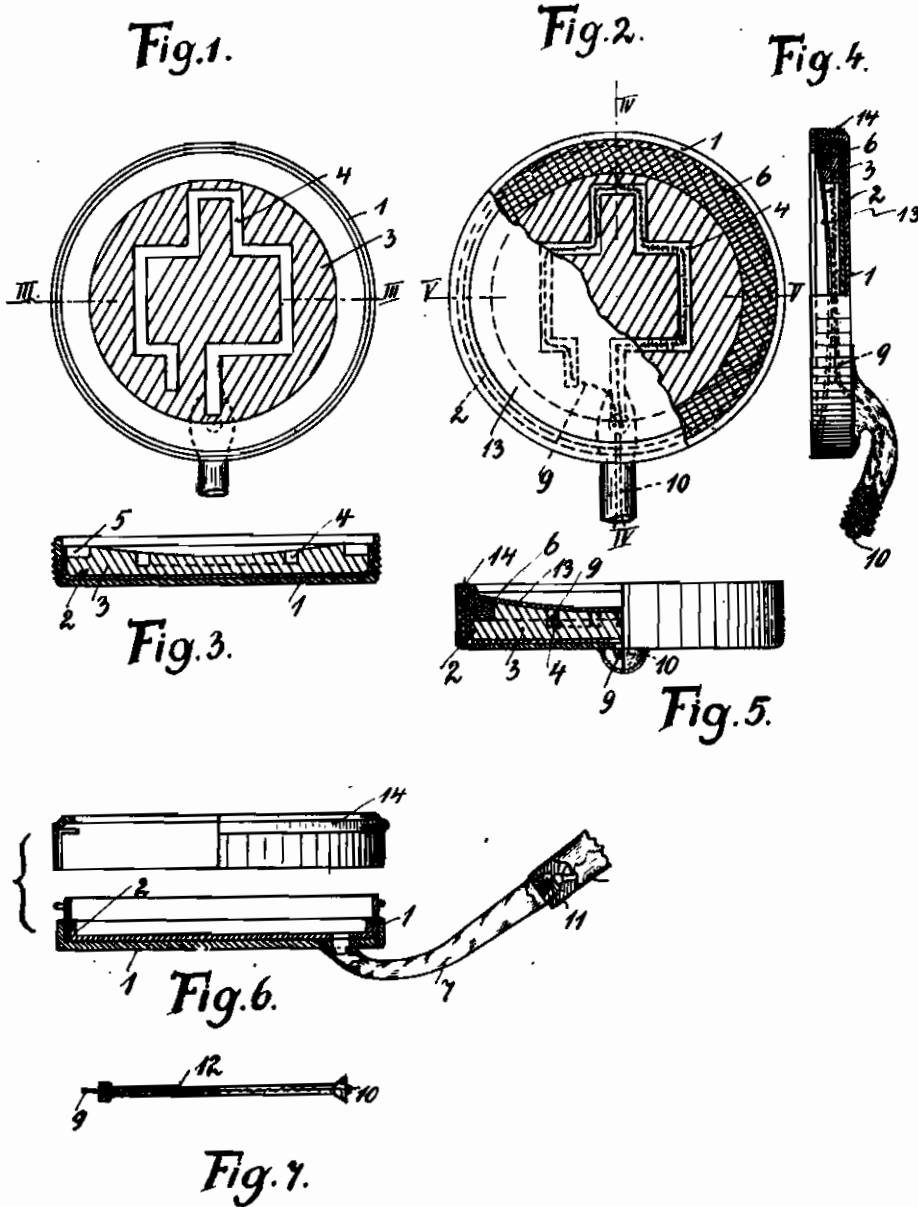


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BOILING-PROOF MOUTH- AND OPERATION MIRRORS
WITH EMPLOYMENT OF A RE-SHAPABLE
SUPPORT FOR HEATING WIRES
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METHOD AND APPARATUS FOR THE PRODUCTION OF BOILING-PROOF MOUTH-AND OPERATION MIRRORS WITH EMPLOYMENT OF A RE-SHAPABLE SUPPORT FOR HEATING WIRES

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Electrically heated mouth mirrors are known, the heating wires of which soldered on the casing are located between perforated insulating discs which, after the wires have been placed between asbestos plates, are rigidly embedded in the casing by a water-proof cement.

As the discs serve merely as lining for the mirror, they cover the wires but have no influence on the packing of the casing.

Electrically heated mouth mirrors are also known, in which the heating wires are wound around the insulating socket or support. For covering the wires an asbestos disc is also used which is securely held with the mirror in the casing by a folded over edge.

The wires branching from the winding extend through the bottom of the casing into a hollow handle equipped in known manner with contact arrangements. The mirror casing is inserted into the hollow handle. The electric wire loosely extends through the hollow handle and must be detached when the mirror is boiled. This mirror is, however, not boiling proof because the water filters through the asbestos disc and can also penetrate through the handle into the casing. A mouth mirror must, however, be absolutely boiling proof and, together with the casing, it must be not thicker than 7 mm., as otherwise it is no longer possible to insert the mirror between the molars of the upper and lower jaws.

The practical use of such mirrors shows, that inserting of the mirror into the casing is rendered difficult by a rigid insulating support when this support is fixed in the casing by a folded over edge of the casing. The mirror is put under tension by the hard support and cracks very easily. A mirror, which is fixed by a folded over edge of the casing, is further uneconomical in practice, because when the heating wires burn through it is no longer possible to insert a fresh support into the old casing.

The mouth mirror according to the application differs from the mirror of known type in that the casing is filled with pulverous material which after having been heated in the casing forms a paste which can be reshaped by means of a mold so that not only the casing is well filled but also grooves for the heating wires and for the packing ring are formed. This mass is kept in soft condition under the influence of the heated mold until the heating wires and the packing ring have been inserted and the mirror is put on and packed.

By this embedding of the support cracking of the mirror is absolutely prevented. The support

produced in this manner can be changed as it is embedded in a mica lining serving at the same time for insulating the heating wires. The aperture in the bottom plate, which allows access to the shank of the casing is attained by a boring through the mica lining at the point where the handle has to be inserted. It is also possible to pack the handle by a rubber sleeve which is inserted by stretching and threading into the open end of the bore. When released this rubber sleeve contracts and fills the interior of the handle. The wires in the sleeve and the wire between the jacket and the outer wall of the rubber tube are also tightly embedded. No water can penetrate into the casing from above, i. e. on the edge of the mirror owing to the packing ring under the mirror, whereas the penetration of water along the handle is prevented by the rubber sleeve.

The mass of which the exchangeable insulating socket consists is composed of the following substances:

	Parts
I. Refractory lacquer.....	30
II. Stearin and natural wax in equal parts...	15
<i>Filling substances</i>	
III. Finely ground artificial resin.....	20
IV. Asbestos flour.....	15
V. Charcoal ash (finely ground).....	20

The substances I and II of the mixture are easily smeltable, whereas the filling substances III, IV and V are difficultly meltable or unmeltable and are mechanically bound by the melting of the substances I and II.

An embodiment of the invention is illustrated by way of example in the accompanying drawing, in which

Fig. 1 shows in top plan view how the support for the heating wire is shaped by a mold,

Fig. 2 shows in top plan view the finished mouth mirror partly broken away,

Fig. 3 is a cross-section on line III—III of Fig. 1,

Fig. 4 is a vertical section on line IV—IV of Fig. 2,

Fig. 5 is a cross-section on line V—V of Fig. 2,

Fig. 6 shows in elevation the casing for the mouth mirror, the lid being lifted.

Fig. 7 shows the rubber tube on the wire.

The casing 1 of the mouth mirror has a lining 2 consisting of mica. This lining has the shape of the casing and contains the insulating support 3 in which the grooves 4 for the heating wires,

the groove 5 for the packing ring 6 and the mouth piece 7 of the handle 8 are embedded. The heating wire in the grooves 4 is designated by 9 and the wire in the rubber tube by 10. The connecting nipple of the handle 7 is designated by 11 and the connecting tube with the connecting wire for the source of current by 12, this source of current consisting for instance of a rod battery. The mirror 13 is securely held by a bent over edge 14 of the casing.

The mouth mirror may evidently be connected to a weak current installation. The thickness of the heating wires and the insulating of the same can be as desired, so that the mouth mirror can be heated only up to about 40° C. This temperature is sufficient to keep the mirror absolutely free from moisture.

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