

No. 641,335.

Patented Jan. 16, 1900.

P. L. SCHMIDT.
GALVANIC BANDAGE.

(Application filed Apr. 11, 1899.)

(No Model.)

Fig. 1.

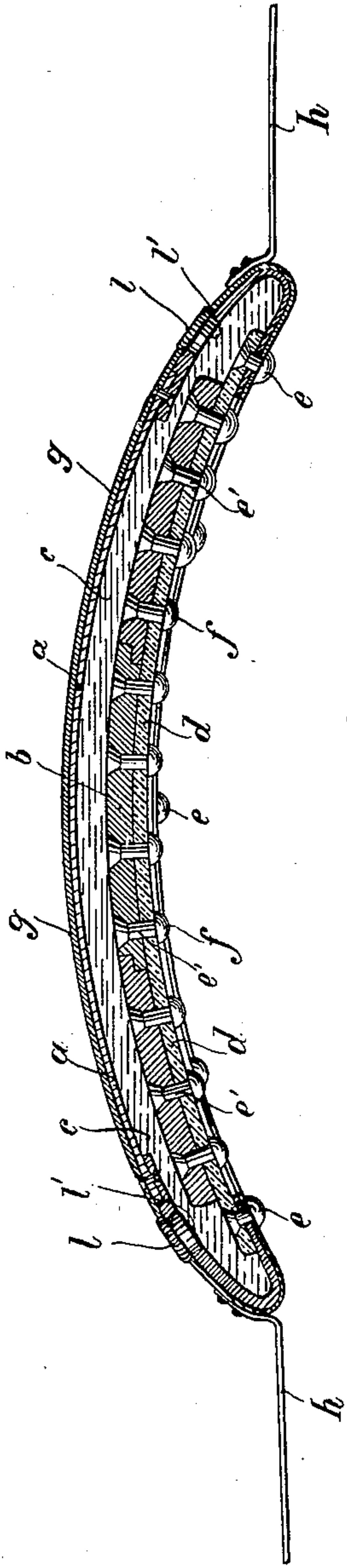
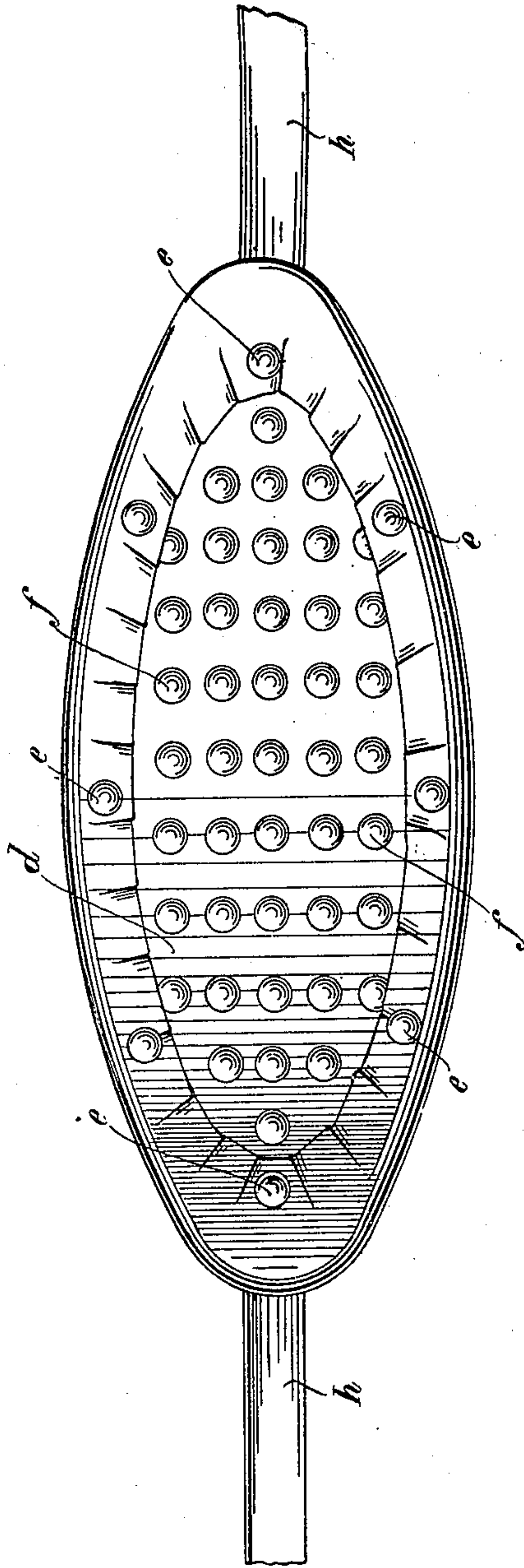


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

PHILIPP LORENZ SCHMIDT, OF WORMS, GERMANY.

GALVANIC BANDAGE.

SPECIFICATION forming part of Letters Patent No. 641,335, dated January 16, 1900.

Application filed April 11, 1899. Serial No. 712,617. (No specimens.)

To all whom it may concern:

Be it known that I, PHILIPP LORENZ SCHMIDT, a subject of the Grand Duke of Hesse, residing at Worms, in the Grand Duchy of Hesse, in the German Empire, have invented certain new and useful Improvements in Galvanic Bandages, (for which I have applied for patents in England, dated February 24, 1899, No. 4,137; in Germany, dated February 17, 1899; in France, dated February 24, 1899, No. 274,138; in Austria, dated February 21, 1899, and in Hungary, dated February 25, 1899, No. 2,774,) of which the following is a specification.

This invention relates to a device for enabling a galvanic current, which in numerous cases exercises so beneficial an effect upon the human body, to be applied to the body in a simple and practical manner.

A method of carrying out my invention is illustrated by way of example in the accompanying drawings, in which—

Figure 1 is a cross-section of the device, and Fig. 2 is a plan view of the under or inner side of the same.

The device consists, essentially, of the parts necessary for the production of the current, which are arranged in a suitable manner and so as to form a bandage. Upon the upper or outer side is arranged a strip of zinc *a*, which is separated from a carbon-manganese plate *b* by means of an electrolytic conductor. This electrolytic conductor, which is indicated in the drawings by letter *c*, is of the nature of that employed in so-called "dry" cells, such conductor consisting, for example, of a dilute solution of an acid, such as sulfuric acid, or of a salt, such as sal-ammoniac, mixed with sufficient absorbent material, such as plaster or powdered alumina mixed with asbestos, to give the whole a semisolid consistency. The under side of the bandage is formed by a strip of india-rubber *d*, which is connected with the zinc strip by means of metallic (zinc) studs *e*. Metallic studs *e'*, which are provided with heads *f* upon the outer side of the bandage, lead from the india-rubber strip to the carbon-manganese plate. These metallic studs are embedded in the carbon-manganese plate, and care must be exercised that they should not be able to be attacked by the ma-

terial serving as a conductor of the second class. With this object those portions of the carbon-manganese plate in which the studs are situated are provided with a protecting medium—paraffin, for example. Upon the upper side of the bandage are provided admission-apertures *l'* for the purpose of enabling the necessary liquid to be introduced from time to time. These apertures *l'* may be closed in any suitable manner—for instance, by means of valves *l*.

The device may be covered upon the outer side by means of an appropriate material *g*, or the upper layer *a* may remain uncovered, being nicked or otherwise treated in order that it may present a better appearance. At each end of the bandage bands *h* are fastened.

The device is intended to serve as a body-bandage and is fastened to the body by means of the bands *h*. As soon as the bandage is applied to the body communication is established by it between the studs *e* and *e' f*, thereby closing the galvanic circuit in order that the current may exercise its influence upon the body.

The bodies or substances employed for the purpose of producing the electric current may of course be varied in any desired manner according to circumstances.

What I claim, and desire to secure by Letters Patent of the United States, is—

A galvanic bandage consisting of a device arranged after the manner of dry cells in the form of a bandage and provided with a soft or elastic material upon its under side which is connected by means of metallic studs *e* with one of the battery elements and also by means of metallic studs *e'* with the other element of the battery in such a manner that upon applying the device upon the body this latter forms the connection between the two sets of conductors thereby closing the electric circuit substantially as and for the purposes hereinbefore described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

PHILIPP LORENZ SCHMIDT.

Witnesses:

ADOLF KING,
PHILIPP MÜHL.