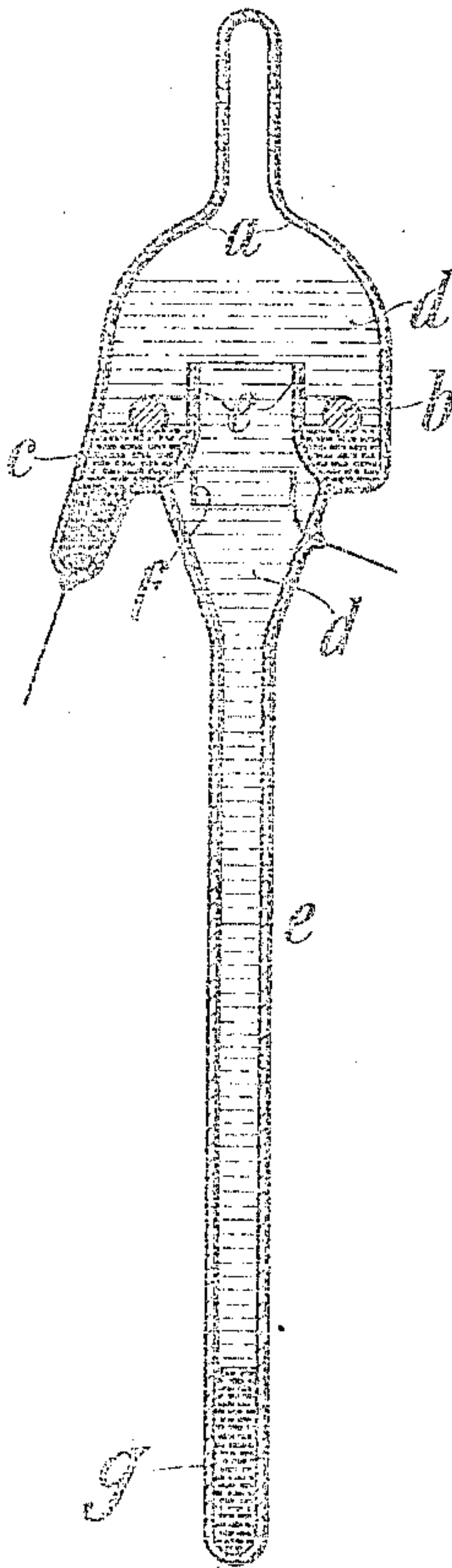


K. HAHN.
ELECTROLYTIC APPARATUS WITH LIQUID ANODE.
APPLICATION FILED MAY 27, 1909.

959,521.

Patented May 31, 1910.



Witnesses:

Paul Krüger
Fritz Lander

Inventor:

K. Hahn

UNITED STATES PATENT OFFICE.

KONRAD HAHN, OF WINKEL, NEAR GIFHORN, GERMANY, ASSIGNOR TO THE FIRM OF
SCHOTT & GEN., OF JENA, GERMANY.

ELECTROLYTIC APPARATUS WITH LIQUID ANODE.

959,521.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed May 27, 1909. Serial No. 498,739.

To all whom it may concern:

Be it known that I, KONRAD HAHN, a citizen of the German Empire, and residing at Winkel, near Gifhorn, Germany, have invented a new and useful Electrolytic Apparatus with Liquid Anode, of which the following is a specification.

The invention consists in an improvement in such electrolytic apparatus having liquid anodes as are occasionally or continuously subject to shocks. The latter often result in portions of the anode becoming detached and jerked out of the anode vessel into the cathode vessel. To prevent such mechanical waste of the anode, the anode vessel is according to the present invention fitted with a solid body, the dimensions and form of which are chosen, so that it sufficiently restrains the agitation of the anode (caused by shocks to the apparatus) in its vessel. This solid body is fixed in the anode vessel so as to have its place either in the anode or above it in the electrolyte or between the two, or the body is of such specific gravity, that, arranged loose in the anode vessel, it floats between the anode and the electrolyte.

In the drawing the principal part of an electrolytic electricity meter is represented as an example of an electrolytic apparatus according to the present invention.

In the annular anode vessel *a* there is an annular solid body *b*, the under part of which is submerged in the anode *c*, while the electrolyte *d* surrounds the upper part. The body *b* consists of glass or porcelain or of a precious or other suitable metal. It floats by virtue of its specific gravity between the two liquids. In absence of the solid body *b*, parts of the upper layer of the anode could in the case of shocks become detached and jerked out of the anode vessel *a* into the central tube *e*, which forms

the cathode vessel and in which the cathode *f* is placed. Hence, contrary to the object of the apparatus, anode liquid other than that precipitated on the cathode *f* from the electrolyte *d*, would find its way into the cathode vessel *e*.

It is assumed, that the apparatus will be used in situations, where it is subjected to a continuous succession of shocks, as, for instance, in vehicles. The obstacle, which the inner wall of the anode vessel *a* (the mouth of the cathode vessel *e*) offers to the circulation of the electrolyte between the electrodes, on account of its projecting beyond the upper surface of the anode, is compensated by the increase which this circulation undergoes in consequence of the shocks.

I claim:

1. In an electrolytic apparatus an anode vessel, a cathode vessel arranged below the anode vessel and communicating with it at a place superior to its bottom, a liquid anode covering this bottom, a solid cathode, an electrolyte contained in both vessels and a solid body arranged in the vertical direction above the bottom of the anode vessel so as to restrain the agitation of the anode.

2. In an electrolytic apparatus an anode vessel, a cathode vessel, a mouth projecting upwardly from the cathode vessel into the central part of the anode vessel, a liquid anode encircling the mouth, a solid cathode, an electrolyte contained in both vessels, and a solid annular body arranged in the anode vessel so as to surround the mouth of the cathode vessel and restrain the agitation of the anode.

KONRAD HAHN.

Witnesses:

PAUL KRÜGER,
FRITZ SANDER.