C. B. SCHOENMEHL.

BATTERY ELECTRODE.

APPLICATION FILED MAY 26, 1913.

1,140,403.

Patented May 25, 1915.

Fig. 1.

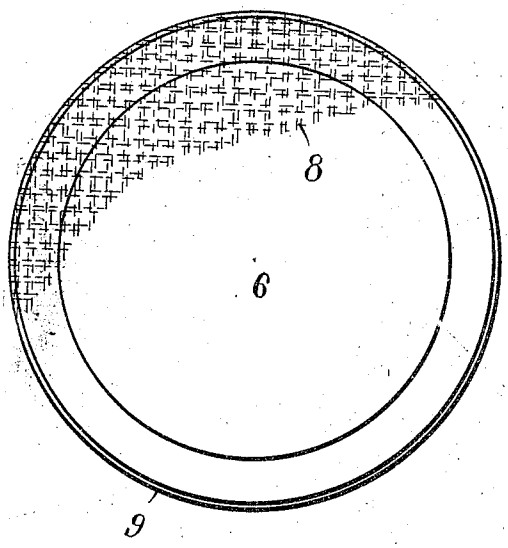


Fig. 2.

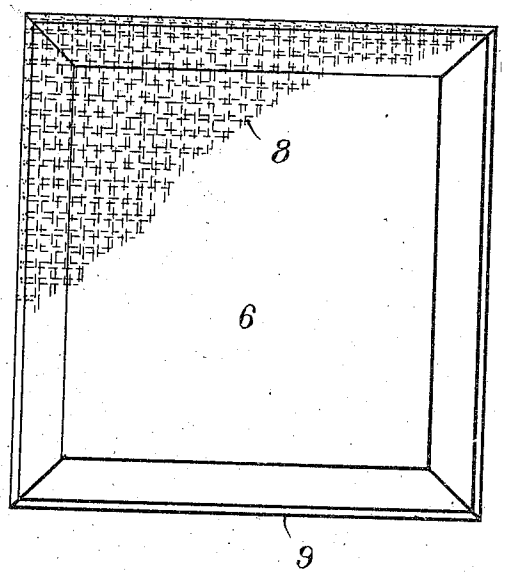
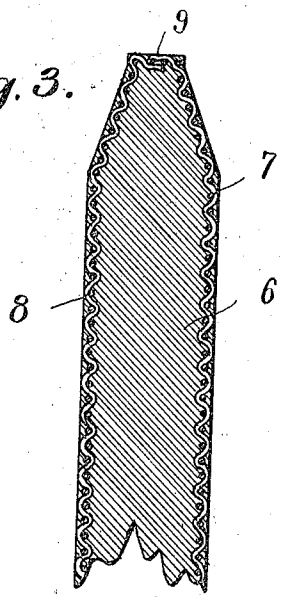


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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BATTERY-ELECTRODE.

1,140,403. Specification of Letters Patent. Patented May 25, 1915.

Application filed May 26, 1913. Serial No. 769,816.

To all whom it may concern:

Be it known that I, CHARLES B. SCHOENMEHL, citizen of the United States, and resident of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in a Battery-Electrode, of which the following is a specification.

My present invention refers to negative battery electrodes of the compressed oxid of copper type, such as are commonly molded, compressed and baked to form an integral mass. Electrodes of this class are now very commonly made in what are known as plate forms and may be either round or square as preferred. When so formed they are suitably arranged in a battery jar alongside and intermediate of positive or zinc plates, by being suspended from a hanger usually connected to the cover of the jar.

It is the purpose of my present invention to produce an improved form of negative electrode of this general type in a way to prevent its breakage during the course of manufacture and shipment and further to increase the conductive qualities of the electrode, and finally to prevent the plates from pealing or crumbling away as in use when submerged in a conductive solution.

My improved plate is preferably made of the same quality of finely ground oxid of copper scale as is now employed for this general type of plates and in addition thereto I employ one or more stiffening members which are embedded in the surface of the plate as will later be more fully explained.

Upon the accompanying drawings forming a part of this specification it will be found that similar characters of reference are employed to denote like or corresponding parts throughout the several figures, and of which,

Figure 1, shows a side view of a round form of my improved copper oxid negative electrode. Fig. 2, shows a similar side view of a square form of compressed oxid of copper negative electrode constructed in accordance with my invention, and, Fig. 3, is a central vertical section through a portion of one of the said plates, better to illustrate the relative internal construction.

From the foregoing illustration it will be apparent that either a round or a square plate or in fact a plate or bulk of compressed oxid of copper of any particular size shape or proportion may be formed in accordance with my invention.

Referring in detail to the characters of reference marked upon the drawings, 6 represents the negative electrode formed of compressed oxid of copper and 7 the wire mesh embedded in the one side of plate and 8 the wire mesh embedded in the opposite face.

9 indicates the overlapping edge portions of the wire mesh which as will be noted are arranged to come together around the thinner edge portions of the plate. This construction obviously forms a protective covering or inclosure of wire mesh around the entire body of the copper oxid so as to amply protect it from cracking, breaking or disintegrating.

In practice the two sheets of wire mesh are first placed in the mold with a proper quantity of powdered copper oxid arranged therebetween so that when the plate is compressed in the machine the said oxid may be squeezed in between the meshes of the wire in a manner to form a smooth finished copper oxid surface with the wire scarcely distinguishable when the plate is formed. This wire, however, becomes exposed and more noticeable after the element has been used in solution, though it holds the body of the copper together permanently and throughout the life of the battery.

I am aware that it is not broadly new to employ reinforcing members in battery electrodes, but so far as I know it is new to use wire mesh embedded in and covering the operative face or surface of compressed oxid of copper negative electrodes.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

A plate form of negative electrode for primary batteries, comprising a compressed

mass of oxid of copper, and a woven wire member embedded in the sides and edge surfaces of the said copper plate to inclose the mass and having a filling of oxid of copper covering the said wire gauze to form all of the side and edge portions of the plate smooth.

Signed at Bridgeport in the county of Fairfield and State of Connecticut this 19th day of May, A. D., 1913.

CHARLES B. SCHOENMEHL.

Witnesses:

C. M. NEWMAN,

RUTH M. WORDEN.