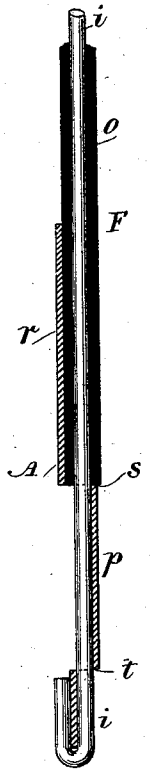
(No Model.)

W. T. LYMAN.

GALVANIC BATTERY.

No. 324,475. Patented Aug. 18, 1885.

Fig. 2



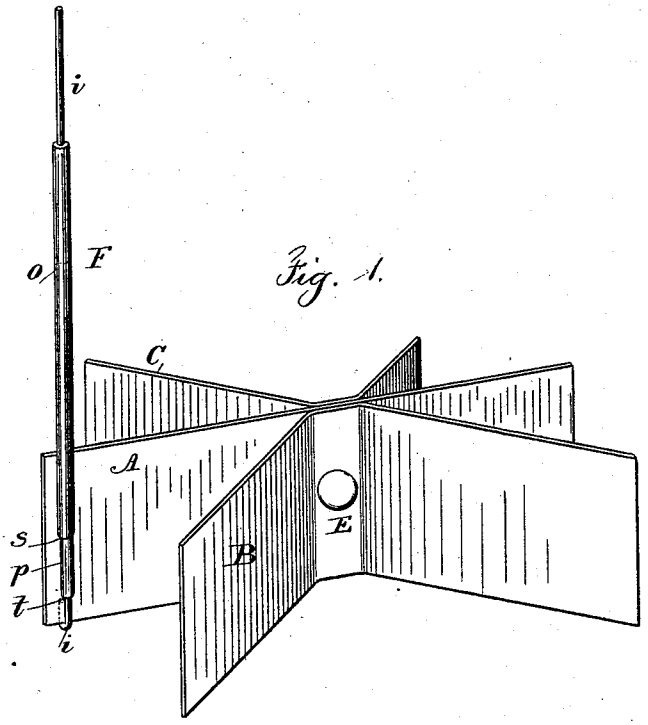


Fig. 1.

Witnesses

Chas. N. Smith

J. Stail

Inventor

William T. Lyman

by Samuel W. Serrell

atty

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM T. LYMAN, OF ANSONIA, CONNECTICUT, ASSIGNOR TO THE ANSONIA BRASS AND COPPER COMPANY, OF SAME PLACE.

GALVANIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 324,475, dated August 18, 1885.

Application filed April 13, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. LYMAN, of Ansonia, in the county of New Haven and State of Connecticut, have invented an Improvement in Galvanic Batteries, of which the following is a specification.

The copper plates in galvanic batteries have been made of sheet metal, and the conductor has been connected to the same by a rivet; but the pressure of the rivet upon the wire conductor flattens out such wire and lessens its strength, so that the conductor is liable to break off near the rivet. In galvanic batteries the conductor is usually insulated by a surrounding tube of gutta-percha; but the same only extending to the top edge of the copper plate leaves the wire of the conductor exposed to the action of the acid, and it sometimes happens, through inattention, that the lower end of the conductor is eaten away near the top edge of the copper plate.

My invention is made for avoiding the aforesaid risks of injury, and for effecting a more reliable connection between the copper plate and the conductor of the same.

In the drawings, Figure 1 is a perspective view of the copper plate and the conductor connected with the same, and Fig. 2 is a section in larger size through the conductor and copper plate.

The copper plates are of any desired shape. Usually, they are of sheet-copper comparatively thin, with one central sheet, A, and two side sheets, B C, united together by a rivet or rivets at E. The conductor F is made of copper wire, *i*, incased in a tube of gutta-percha, *o*. The plate A of copper at one end is stamped up in a die so that a groove is formed at *p* for the copper wire *i* to pass through, and a groove is formed at *r* of a size adapted to receive the insulating-tube *o*. These grooves *p* and *r* stand in opposite directions, and the copper plate A is perforated at *s t*, so that the copper wire *i* can be passed vertically through the perforation *s*, along the groove *p*, through the perforation *t*, and down at the side of the plate A, and the lower end of said wire *i* is turned up beneath the lower edge of said plate A, so as to hold the copper conductor firmly to the plate A. As the conductor is thus entered into its place, the insulating-tube *o* passes along in the groove *r*, and as this insulating-tube *o* extends down as low, or nearly so, as the middle of the plate A, the conductor is protected from the action of any sulphite of zinc that may be allowed to accumulate in the battery-cell, and the wire *i* is not injured, and is not liable to be broken in handling the parts of the battery, because the wire is not compressed at any place so as to be made smaller, and the groove or channel *r* receives the insulating portion of the conductor and forms a support for the same. The wire *i* is in contact with the plate A for a considerable distance; hence the electric connection is of the most perfect character, and the deposit of copper renders this connection still more perfect.

I claim as my invention—

1. The combination, with the copper plate in a galvanic battery, having a hole through said plate, of a wire conductor and an insulating-covering thereto, that extends down the copper plate to about half its width, and said wire passing through such hole and secured, substantially as set forth.

2. The combination, in a galvanic battery, of a copper plate containing a groove for the reception of the wire, and having holes through such plate for the passage of said wire, and a conductor having an insulating-covering extending down the copper plate about half its width, and the wire passed into such holes, substantially as set forth.

3. In a galvanic battery, a copper plate perforated and grooved for the reception of the copper conductor, said conductor passing through the perforation and down below the lower edge of the copper plate, and being secured by the lower end of the conductor being turned up, substantially as specified.

Signed by me this 1st day of April, A. D. 1885.

WILLIAM T. LYMAN.

Witnesses:
HENRY COOPER,
I. E. STODDARD.