J. ELMONDORF.

GALVANIC BATTERY.

No. 19,245. Patented Feb. 2, 1858.

Fig. 1.

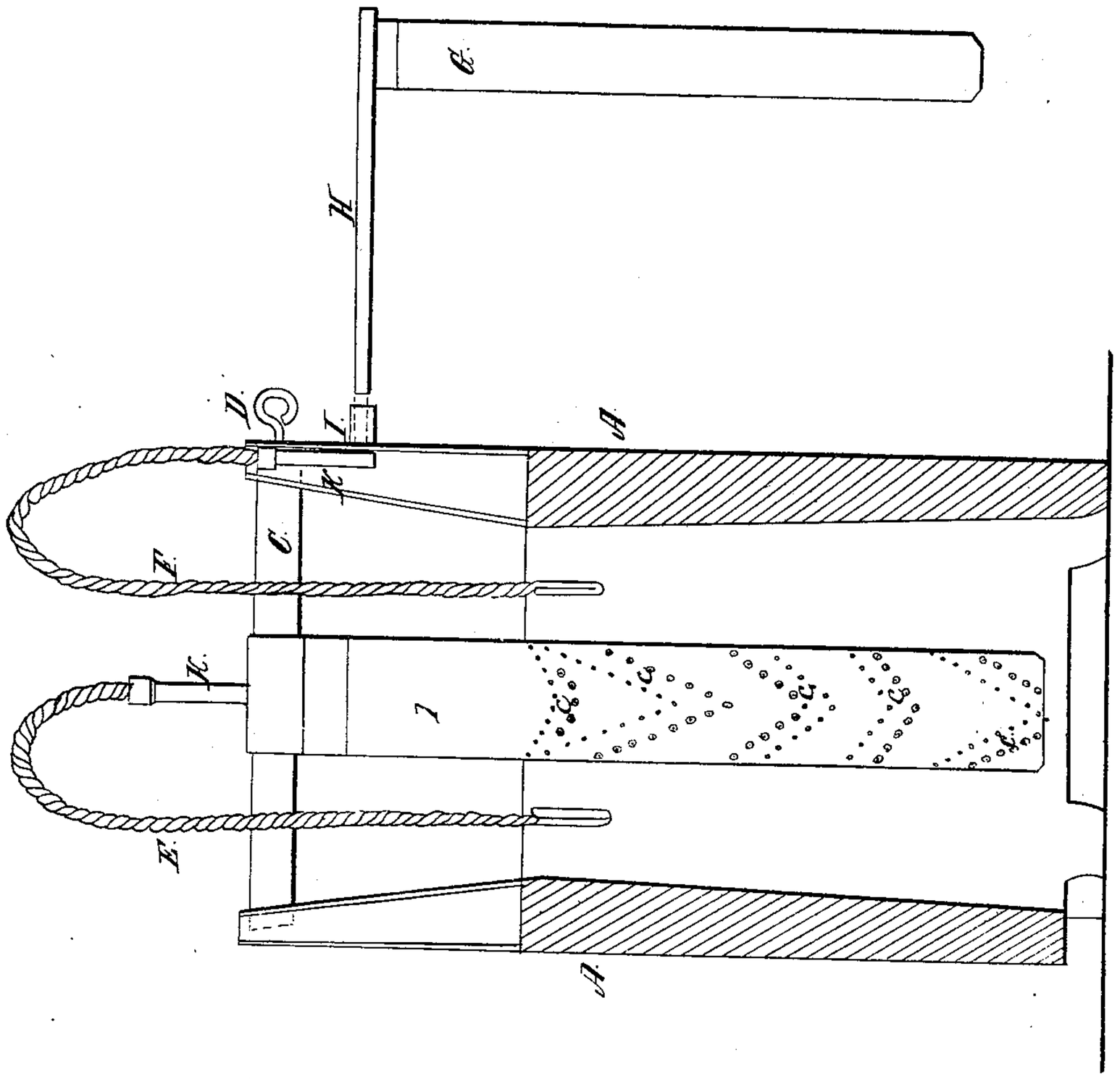
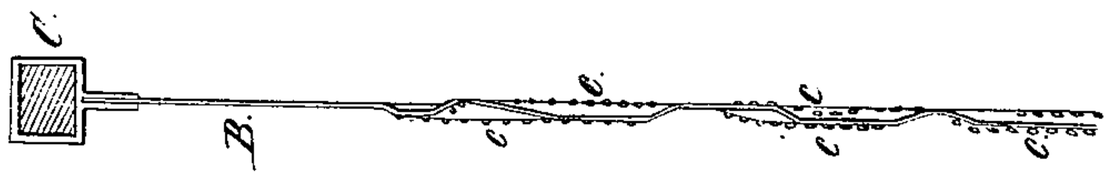


Fig. 2.



UNITED STATES PATENT OFFICE.

JOSEPH ELMENDORF, OF PENN YAN, NEW YORK.

IMPROVED METHOD OF ATTACHING THE ELECTRODES TO THE POLES OF GALVANIC BATTERIES.

Specification forming part of Letters Patent No. **19,245**, dated February 2, 1858.

To all whom it may concern:

Be it known that I, JOSEPH ELMENDORF, of Penn Yan, in the county of Yates and State of New York, have invented certain new and useful Improvements in the Construction of Batteries for Electro-Metallurgy; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon.

Similar letters refer to like parts in both of the drawings.

My improvements consist in a method of uniting the poles with the zinc and platinum plates, whereby greater constancy and uniformity of action is secured.

Figure 1 represents the section through the circular zinc plate of a battery of similar form to that known as "Grove's battery."

A A is the zinc, and B the platinum, plate.

C is the insulating-bar, made of ivory, which sustains the platinum plate, resting in recesses in the zinc at either end, and secured by the movable pin D.

E is the positive, and F the negative, pole.

G is an additional platinum plate for increasing the force of the battery when desired, it being suspended from the bar H, which can be readily inserted in the socket I.

Much difficulty in the use of the battery arises from the rapid oxidation of the connections between the poles and plates. To inexperienced operators this becomes a formidable obstacle to success. Even where the connections are most carefully made under the binding-screws the parts require frequently to be separated and heated with the file or emery-paper before constant action can be sustained.

I dispense entirely with binding-screws and form the connections with a fusible alloy of the following composition: Twenty parts of pure tin, ten parts of cadmium, one part of bismuth. This forms an alloy strong and durable, of perfect conducting qualities, not liable to oxidation, and fusing at so low a temperature that the parts can be readily separated or united without affecting the zinc or solder which may be exposed by the operation. With this method of forming the connections the battery never ceases to work from the cause last stated. Small brass sockets K K are soldered to the zinc and platinum plates, into which the wires are inserted, and a drop of the alloy secures them.

What I claim as my invention, and desire to secure by Letters Patent, is—

The method of attaching the electrodes by means of a fusible alloy composed of the ingredients and proportions substantially as specified.

JOSEPH ELMENDORF.

Witnesses:

WM. COMSTOCK,

J. FRASER.