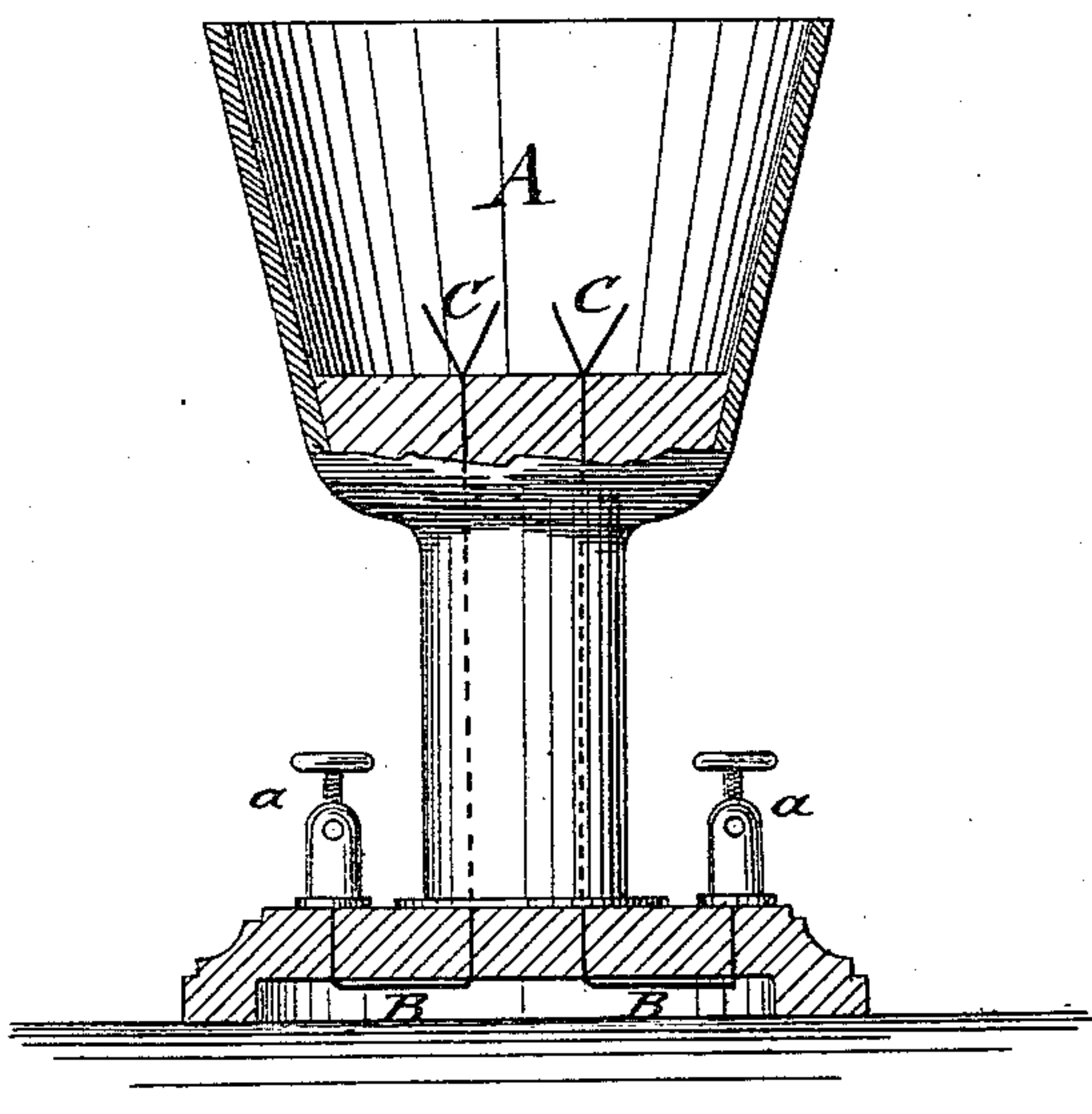


E. CASSELBERRY & N. H. EDGERTON.

Electrolytic Apparatus.

No. 148,667.

Patented March 17, 1874.



Witnesses.

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UNITED STATES PATENT OFFICE.

EVANS CASSELBERRY, OF ST. LOUIS, MISSOURI, AND NATHAN H. EDGERTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ELECTROLYTIC APPARATUS.

Specification forming part of Letters Patent No. **148,667**, dated March 17, 1874; application filed April 19, 1873.

To all whom it may concern:

Be it known that we, NATHAN H. EDGERTON, of the city and county of Philadelphia and State of Pennsylvania, and EVANS CASSELBERRY, of the city and county of St. Louis and State of Missouri, have invented a new and Improved Apparatus for Decomposing Water and other Liquids; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification.

The drawing represents a vertical section of our improved apparatus for decomposing water into its component parts for technical, practical purposes and illumination.

Our invention consists in combining with a suitable tank or tanks, for holding the liquid to be decomposed, electrodes having two or more bifurcated divisions, upon the surface of which the decomposition takes place, increasing with the increase of the said surface until the total strength of the current is thus utilized.

In the drawing, A represents the decomposing tank or receptacle, which is connected by set-screws *a* with a galvanic battery or magneto-electric machine. The conducting-wires

B are suitably insulated by sealing-wax or other non-conductors, and terminate within the tank A, where the water or other liquid is placed. The insulated wires B terminate in bifurcated wires or plates C, of platinum or other unoxidizable material. The oxygen and hydrogen gases forming at each terminal electrode C are conducted to suitable receptacles, to be applied for fuel, light, or other practical purposes. By augmenting the surface of the terminal electrodes C, the effect on the liquid in the decomposing-tank is correspondingly increased in proportion as the area of metallic surface increases, until the whole strength of the current is converted into work.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The apparatus for electrical decomposition, consisting of a decomposing tank or receptacle and the bifurcated or divided conductors within such receptacles, substantially as and for the purpose described.

EVANS CASSELBERRY.
NATHAN H. EDGERTON.

Witnesses:

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