No. 684,291. Patented Oct. 8, 1901.

W. A. McCOY.

CATHODE PLATE.

(Application filed Sept. 14, 1900.)

(No Model.) 2 Sheets—Sheet 1.

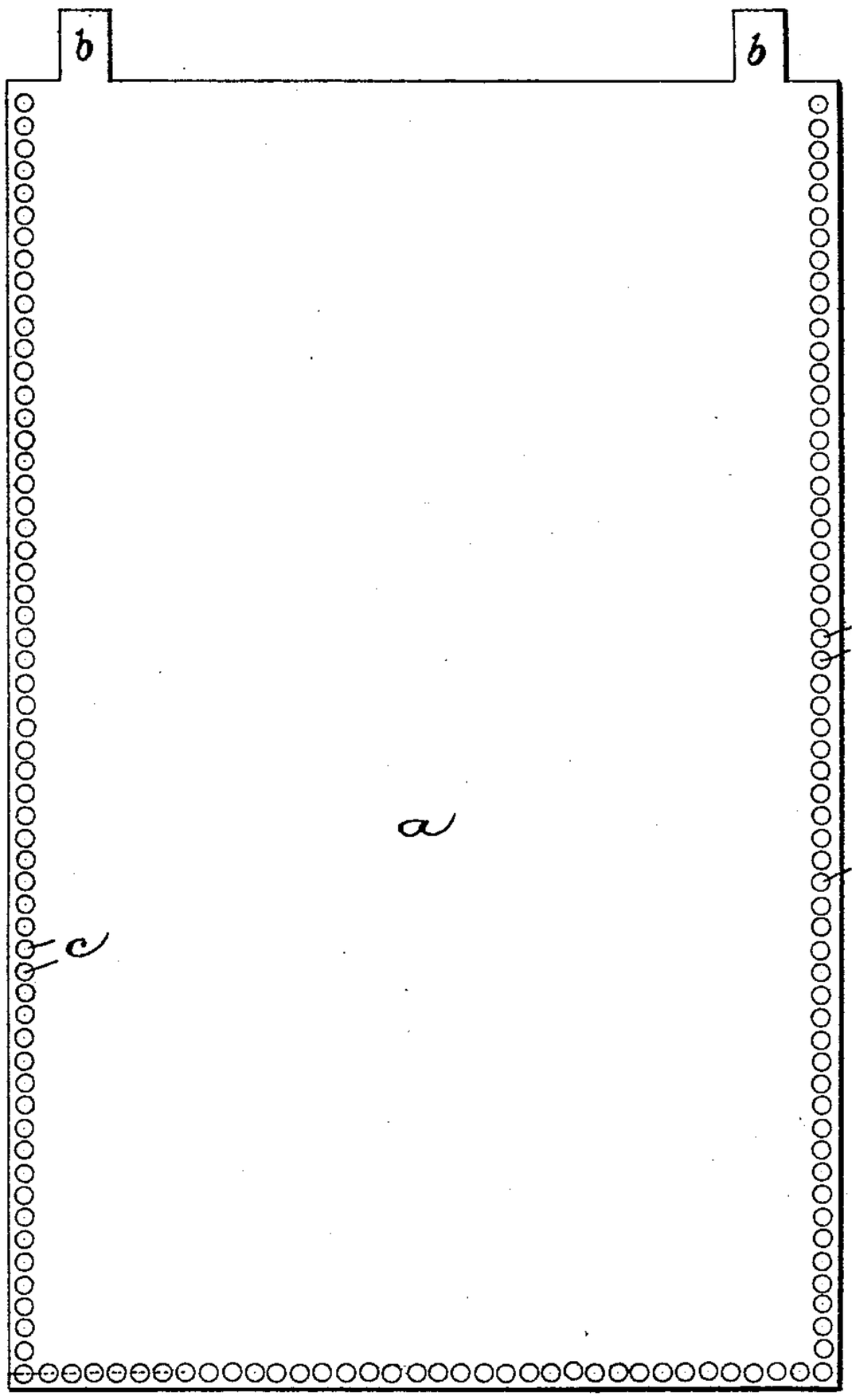

Fig. 1.

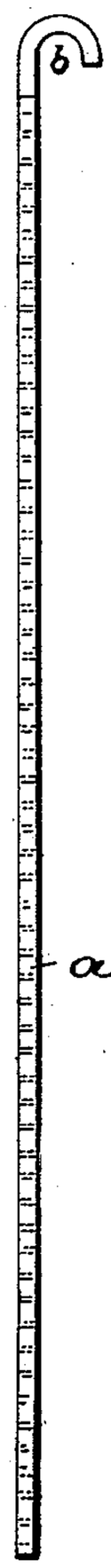

Fig. 2.

Fig. 3.

WITNESSES:

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Russell M. Everitt.

INVENTOR,

William Asa McCoy,

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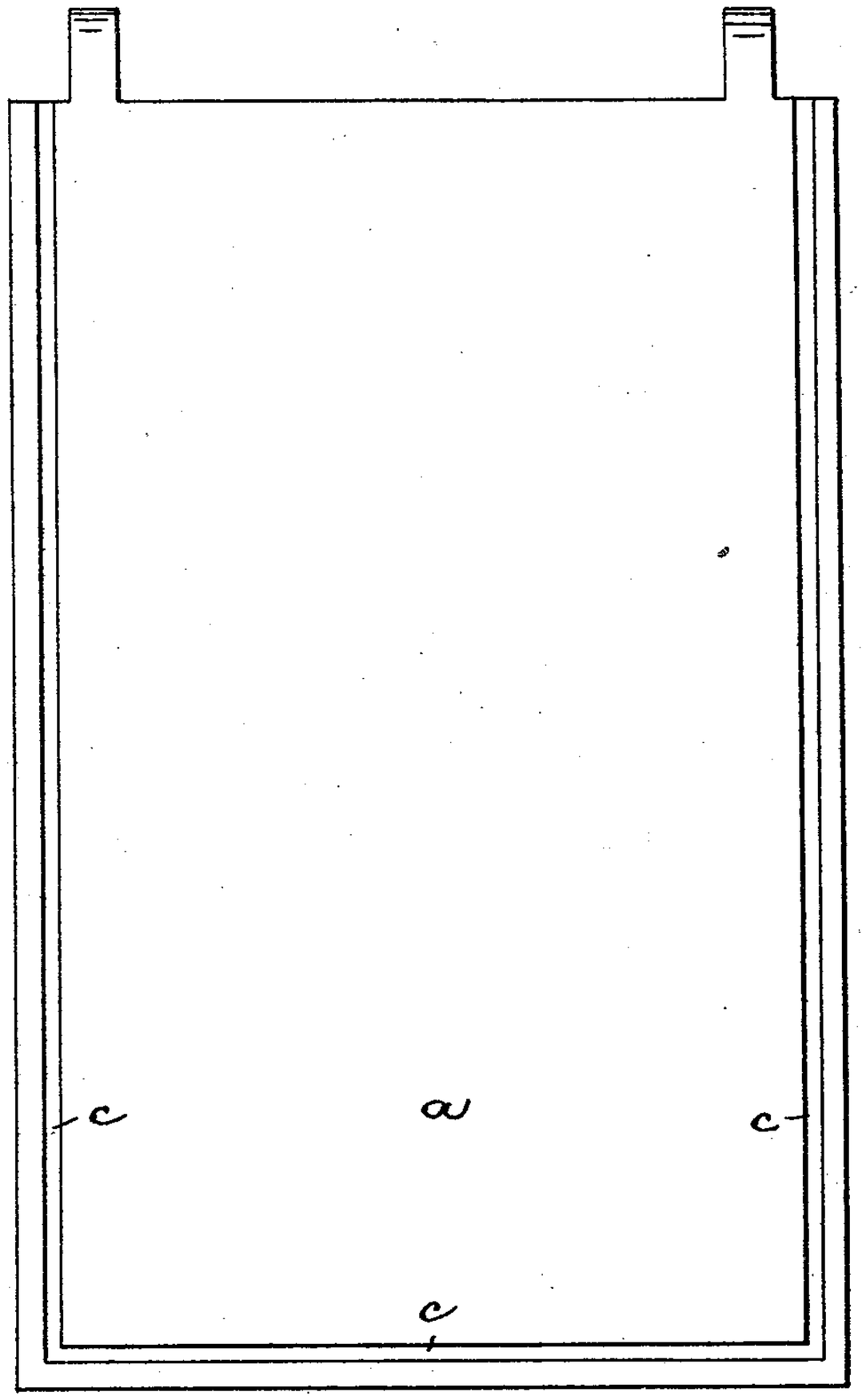

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM A. McCOY, OF PERTH AMBOY, NEW JERSEY.

CATHODE-PLATE.

SPECIFICATION forming part of Letters Patent No. 684,291, dated October 8, 1901.

Application filed September 14, 1900. Serial No. 29,995. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. McCOY, a citizen of the United States, residing at Perth Amboy, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Cathode-Plates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

An important object of this invention is to avoid the expense involved in the use of wooden cathode-frames such as have been heretofore commonly employed upon cathode-plates. Said frames have served to prevent the metal deposited upon one side of the cathode-plate from becoming inseparably connected with the deposit upon the opposite side of said plate. Such wooden frames have had a period of utility of from two to four days, after which they were necessarily replaced by new ones at very considerable expense.

A further important object of my improvements is to avoid the injurious effects due to the deteriorating action of the wood used in the construction of said frame upon the electrolyte.

The invention consists in the improved cathode-plate, substantially as will be hereinafter described and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the views, Figure 1 is a front elevation of the improved plate, and Fig. 2 is a side elevation of the same. Fig. 3 is a detail section taken at line *x*, Fig. 1. Fig. 4 is a front elevation showing a modification of construction.

In said drawings, *a* indicates a cathode-plate, of copper or other suitable metal, having means such as the integral hooks *b b* at the top, by means of which said plate may be suspended to extend into the electrolyte. At or near the lateral edges and bottom of the said plate *a* or other suitable position to facilitate stripping at opposite sides thereof are series of recesses formed in the face of the plate, forming receptacles for an insulating or electrically non-conductive material *c c c*. These said recesses or receptacles are preferably perforations extending through the plate from side to side, as shown in Fig. 3, and the said perforations are preferably short drill-holes separate and apart from one another, so that the said insulating material *c c* will remain therein with security and not be detached under the rough treatment to which the more or less heavy plates are subjected when the same are handled. The perforations are quite close together, so that the exposed metal between them will form but very slight connections of the deposited sheet with the metal deposited at the outside of the series of perforations, and thus the deposited sheets may be easily stripped from the cathode-plate, the said sheet being easily torn or severed from the edge metal in the act of stripping, as will be understood. The edge-deposited pieces may be easily removed from the cathode-plate after stripping and be used as scrap metal or otherwise. In practice I usually drill the holes a quarter ($\frac{1}{4}$) of an inch in diameter and thirty-one one-hundred-and-twentieths ($\frac{31}{120}$) of an inch from center to center.

The insulating compound may be of any insulating material, such as abietic acid anhydrid and bitumen, grease, or other matter capable of withstanding the action of the electrolyte and the conditions under which the same is or may be employed. The recesses at the sides and bottom of the plates may be continuous, as in Fig. 4.

Having thus described the invention, what I claim as new is—

1. The improved cathode-plate having at

the side and bottom edges recesses filled with insulating material, substantially as set forth.

2. The improved cathode-plate having at the side and bottom edges, series of separate recesses filled with insulating material, substantially as set forth.

3. The improved cathode-plate, comprising a metallic plate having at its edges series of drill-holes, perforating said plates, and filled with insulating material at the opposite sides of said plate, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of August, 1900.

WILLIAM A. McCOY.

Witnesses:
CHARLES H. PELL,
RUSSELL M. EVERETT.