No. 719,315. PATENTED JAN. 27, 1903.

C. H. EVERETT.

STORAGE BATTERY.

APPLICATION FILED JULY 8, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

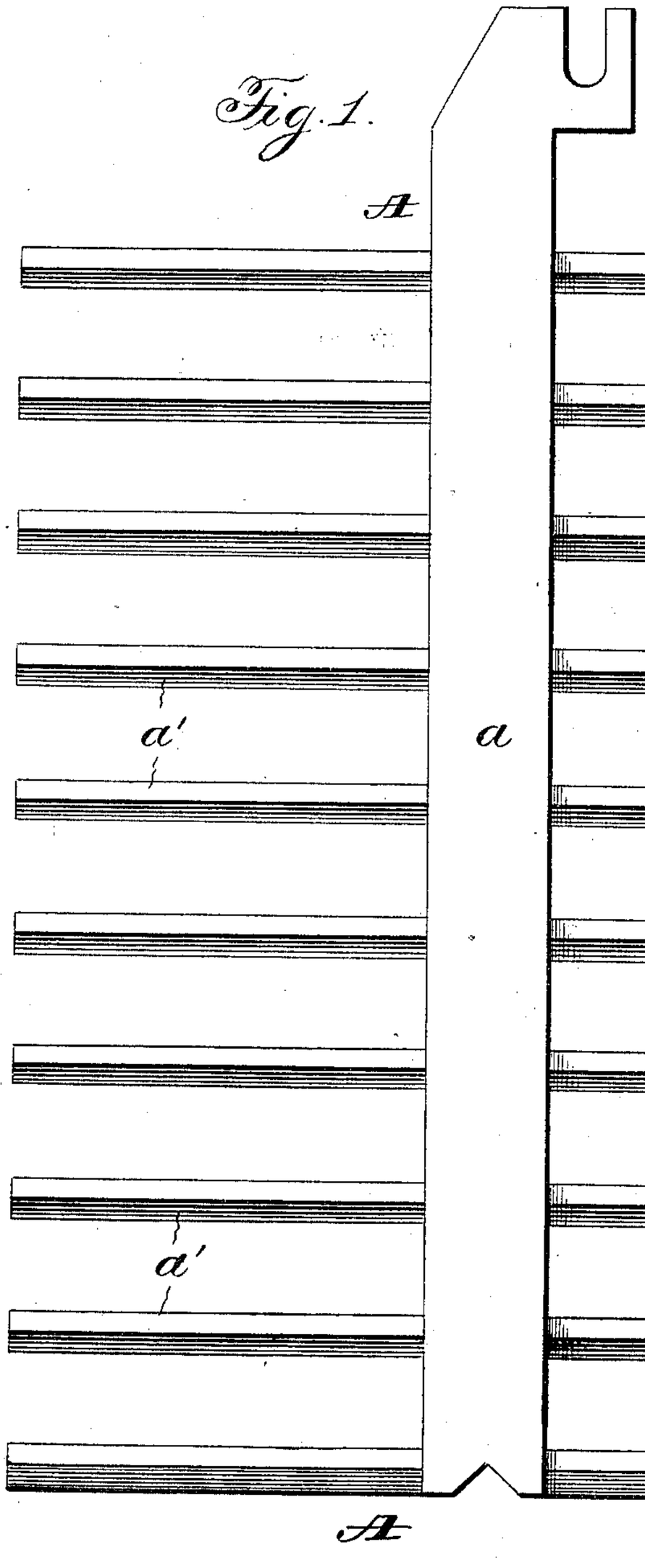
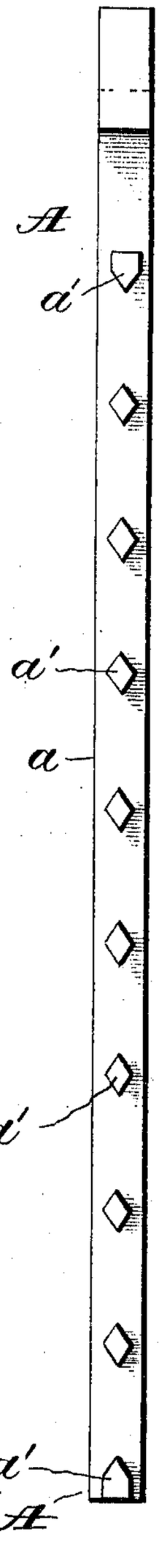


Fig. 2.



Witnesses:
Jas. E. Hutchinson
Henry C. Hazard

Inventor.
Claude H. Everett,
by Rindle and Russell,
his attorneys.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

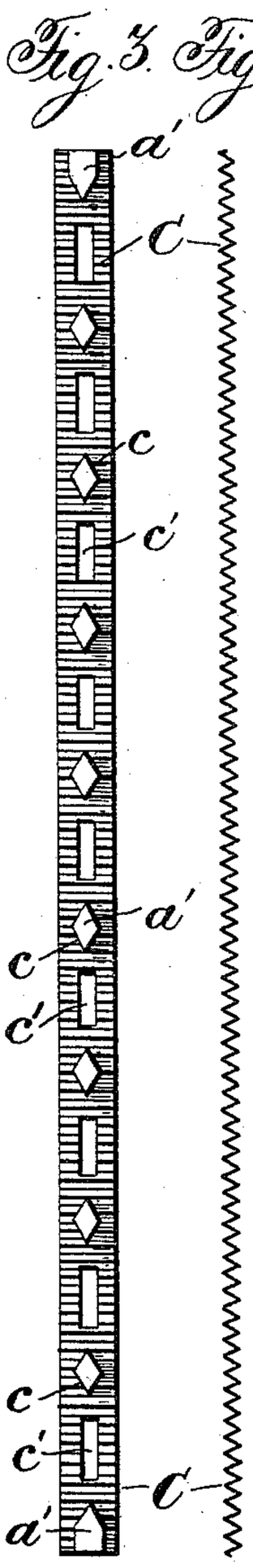

Fig. 4.

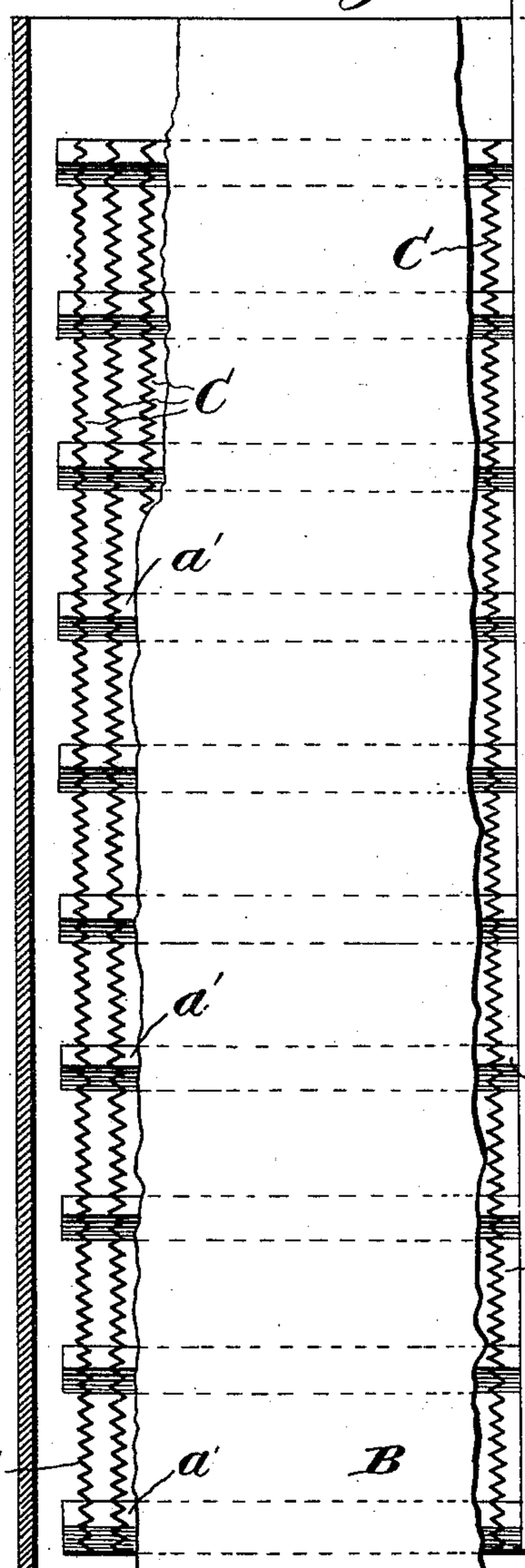

Fig. 5.

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UNITED STATES PATENT OFFICE.

CLAUDE HAROLD EVERETT, OF ATLANTA, GEORGIA.

STORAGE BATTERY.

SPECIFICATION forming part of Letters Patent No. 719,315, dated January 27, 1903.

Application filed July 8, 1901. Serial No. 67,464. (No model.)

To all whom it may concern:

Be it known that I, CLAUDE HAROLD EVERETT, of Atlanta, in the county of Fulton, and in the State of Georgia, have invented certain new and useful Improvements in Storage Batteries; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is the front elevation of a plate embodying my invention. Fig. 2 is a side elevation of the plate illustrated in Fig. 1. Figs. 3 and 4 are respectively front and side elevations of the strips which are placed on the arms of the plate shown in Fig. 1. Fig. 5 is a sectional view of the plate of my battery having the strips in position thereon and placed in the containing-cell.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention has been to provide a storage-battery plate which will have, among others, the following advantages: that of being light and at the same time strong, not easily injured by jarring, rapid charging or discharging, or by short-circuiting, and that of having large capacity for a given weight; and to such ends my invention consists in the storage-battery plate hereinafter specified.

In carrying my invention into practice I provide a frame A, which consists, preferably, of a strip *a*, with arms *a'* and *a'* extending from the supporting strip *a*, said arms being unconnected at their outer ends. The strip and arms may be of any desired cross-section. I prefer, however, to make the strip *a* rectangular in horizontal cross-section and wider in the plane of the arms than transversely thereto and to make the arms *a'* diamond shape in cross-section. Such parts can, however, be made square, oval, channel, round, or any other desired cross-section. While the drawings show a central supporting-strip *a* and arms radiating therefrom on each side, I do not confine myself to this construction, as it is evident that the arms could radiate from one side and be either in one plane or several planes. Corrugated sheet-metal strips C, which are perforated with holes *c*, that correspond to the cross-sections of the arms *a'*, are passed over such arms and are secured thereto by soldering, burning, or any other practical means. The strips C are also preferably provided with openings *c'* and *c'* between the openings which receive the arms, thereby increasing the active surface by allowing the electrolyte to reach the interior of the plate. I prefer to make these strips of corrugated metal, as such corrugations allow for expansion of the plate during rapid discharge without buckling taking place. These can be made, however, of flat sheets; but I thereby lose the advantage of expansion of strips in the direction of their length. The strips C are close together, and yet separated with a sufficient space to permit the formation of an ample quantity of peroxid of lead or any other active material.

The frames of my plates being formed with parallel arms, which are unconnected at the outer extremity, and being formed of a strong material are not easily injured by expansion and contraction of the active substances, as they are free to expand laterally and vertically, and there is no tendency for such frame to buckle or warp, so as to touch each other, and thereby short-circuit the battery. The corrugated strips are admirably adapted to hold the active substances, and their corrugated shape allows them to expand and contract without injury to themselves or to the frame of the plate. The cross-section of arms can be made of such size as is found most desirable to give the battery requisite strength for the use for which it is intended. The arms of the frame being completely embedded in the active material removes all tendency to local action. The arms form short and direct connections between the active material and the vertical strips *a*. The slots or openings in the strip C between the arms *a'* permit the free access of the electrolyte to the various parts of the plate, thereby increasing the active surface of the plate, which not only increases the capacity, but also permits a heavier discharge rate.

It will be seen that my battery is one of light weight, large capacity, heavy discharge rate, high efficiency, and of ample strength to stand the blows and shocks to which it is subjected in use.

Having thus described my invention, what I claim is—

1. In a storage-battery plate, the combina-

tion of a support, arms extending laterally therefrom, said arms being unconnected at their outer ends, and sheet-metal strips mounted on said arms.

2. In a storage-battery plate, a combination of a supporting-strip, a series of arms extending laterally therefrom, said arms being unconnected at their outer ends, and corrugated sheet-metal strips mounted on such arms.

3. In a storage-battery plate, the combination of a supporting-strip, a series of arms extending laterally therefrom, said arms being unconnected at their outer ends, and corrugated sheet-strips mounted upon such arms, such strips having perforations to allow electrolyte to circulate in the interior of the plates.

4. A storage-battery plate consisting of a frame, and lead strips secured to said frame, said strips having openings for the admission of the battery fluid.

5. A positive storage-battery plate, consisting of the combination of a vertical support, arms extending horizontally therefrom, and corrugated sheet-lead strips, such strips having openings therein in which said arms are adapted to be received, and such strips being secured upon said arms, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of July, A. D. 1901.

CLAUDE HAROLD EVERETT.

Witnesses:

LOUIS T. HALL,

EDWIN J. PRINDLE.