No. 711,481. Patented Oct. 21, 1902.

N. T. DABOLL.

STORAGE BATTERY PLATE.

(Application filed Feb. 19, 1902.)

(No Model.)

Fig. 1.

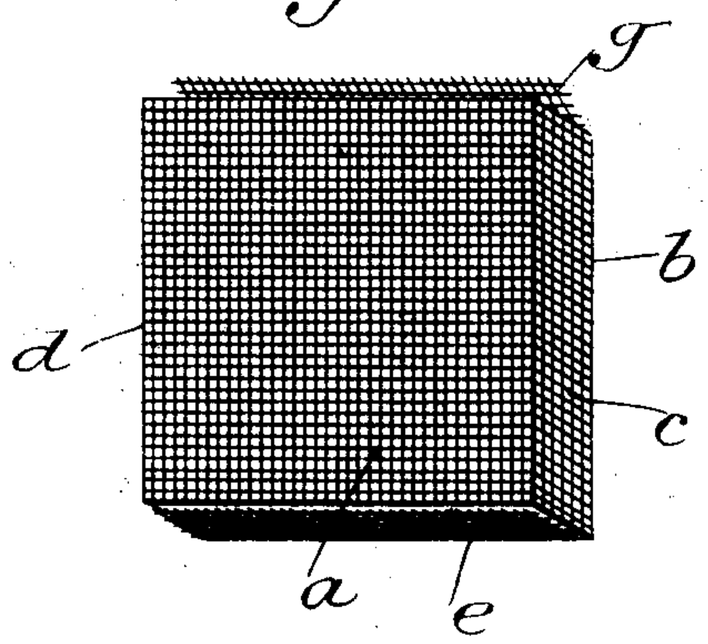


Fig. 2.

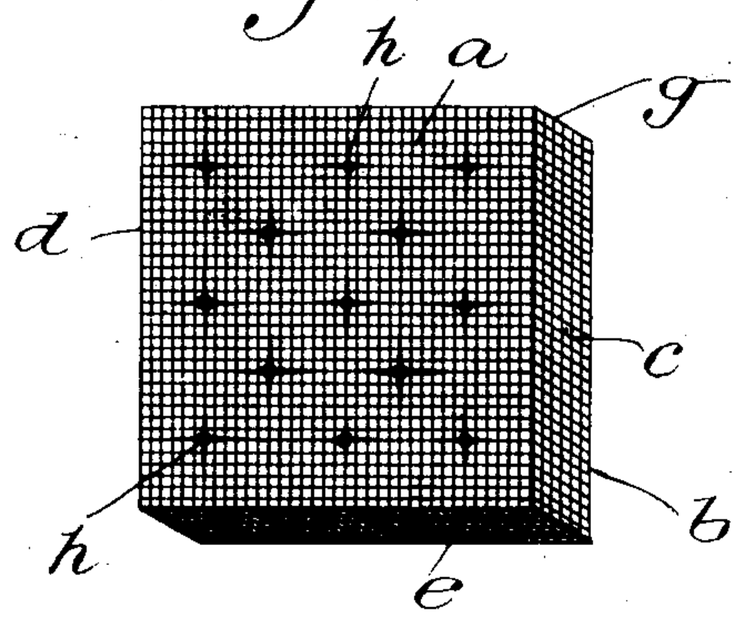


Fig. 3.

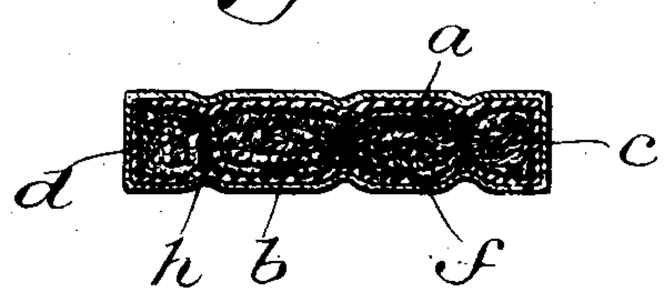
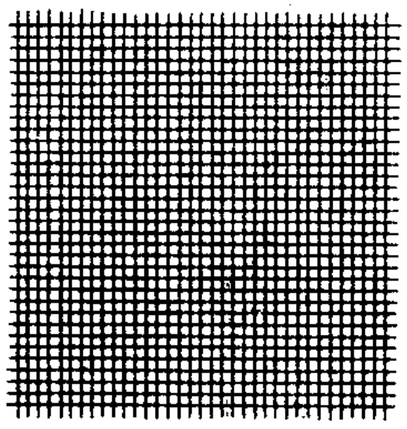


Fig. 4.



Witnesses:-
George Barry Jr.
Henry Thieme

Inventor:-
Nathan T. Daboll
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his Attorneys

UNITED STATES PATENT OFFICE.

NATHAN T. DABOLL, OF NEW LONDON, CONNECTICUT.

STORAGE-BATTERY PLATE.

SPECIFICATION forming part of Letters Patent No. 711,481, dated October 21, 1902.

Application filed February 19, 1902. Serial No. 94,735. (No model.)

To all whom it may concern:

Be it known that I, NATHAN T. DABOLL, a citizen of the United States, and a resident of New London, in the county of New London and State of Connecticut, have invented a new and useful Storage-Battery Plate, of which the following is a specification.

My invention relates to a storage-battery plate, with the object in view of reducing the weight, while at the same time maintaining or increasing the electrical energy of the plate, and also with the object in view of materially reducing the number of chargings and dischargings required in the process commonly known as "forming" to bring the plate to its highest efficiency.

With these ends in view my invention consists in a storage-battery plate composed of wire-gauze coated with finely-divided carbon covered with white-lead paint.

In the accompanying drawings, Figure 1 is a view of the foundation of the plate as it appears before it is stuffed. Fig. 2 is a view of the same as it appears when completed ready for coating. Fig. 3 is a sectional view through the plate with the coatings applied thereon, and Fig. 4 is a view of a modified form of foundation.

The foundation for the plate when made up in the preferred or mattress-like form is composed of wire-gauze, steel or iron gauze being commonly employed, although gauze formed of other metal than iron or steel might be used, the sides *a* and *b* of the gauze foundation being separated and having their edges turned over on three sides, as at *c*, *d*, and *e*, forming a thin pocket open at one end. In this open end I insert finely-shredded steel—such, for example, as is commonly known as "steel-wool," denoted in Fig. 3 by *f*—and then close the fourth side *g*. To hold the parts in place for the completion of the plate and during its active operation as a battery-plate, I tack the opposite sides *a* and *b* together at intervals, as indicated at *h*, through the stuffing of shredded steel, in a manner similar to that in which mattresses are tacked, preferably using for this purpose a malleable steel or iron wire. The foundation of the plate having been thus completed, I apply thereto a coating of finely-divided carbon. This may be applied by making it into a stiff paste by mixing it in a water solution of any hydrocarbon—sugar, for example—as a binder, and after it has been applied in this paste form the plate is submitted to the action of heat sufficient to carbonize the binder of the finely-divided carbon, leaving the surface of the carbon coating hard. This surface is then painted with white lead, using for this purpose a stiff paint-brush, and allowed to dry to complete the plate. In the simplest form of plate, where the foundation is a simple sheet of gauze, as shown in Fig. 4, this sheet is coated in the same manner as the mattress-like foundation hereinabove described with finely-divided carbon, and then after carbonizing it it is furnished with a coating of white-lead paint. I have found that storage-battery plates constructed in this manner are very light in proportion to the electric energy obtained by their use in a battery, and I have further found that where the plates in common use require to be charged and discharged some twenty times, more or less, in the process known as "forming" before the highest efficiency of the plate is reached a plate constructed in the form hereinabove set forth, particularly with the mattress-like foundation, requires only one or two chargings before the plate reaches its highest efficiency.

What I claim is—

1. A storage-battery plate consisting of wire-gauze coated with finely-divided carbon and this in turn covered with white lead.

2. A storage-battery plate consisting of a mattress-like case of wire-gauze stuffed with finely-shredded metal and coated with finely-divided carbon, covered on the outside with white lead.

In testimony that I claim the foregoing as my invention I have signed my name, in the presence of two witnesses, this 15th day of February, 1902.

NATHAN T. DABOLL.

Witnesses:

A. C. FULLER,

B. L. ARMSTRONG.