B. FORD.

STORAGE BATTERY PLATE.

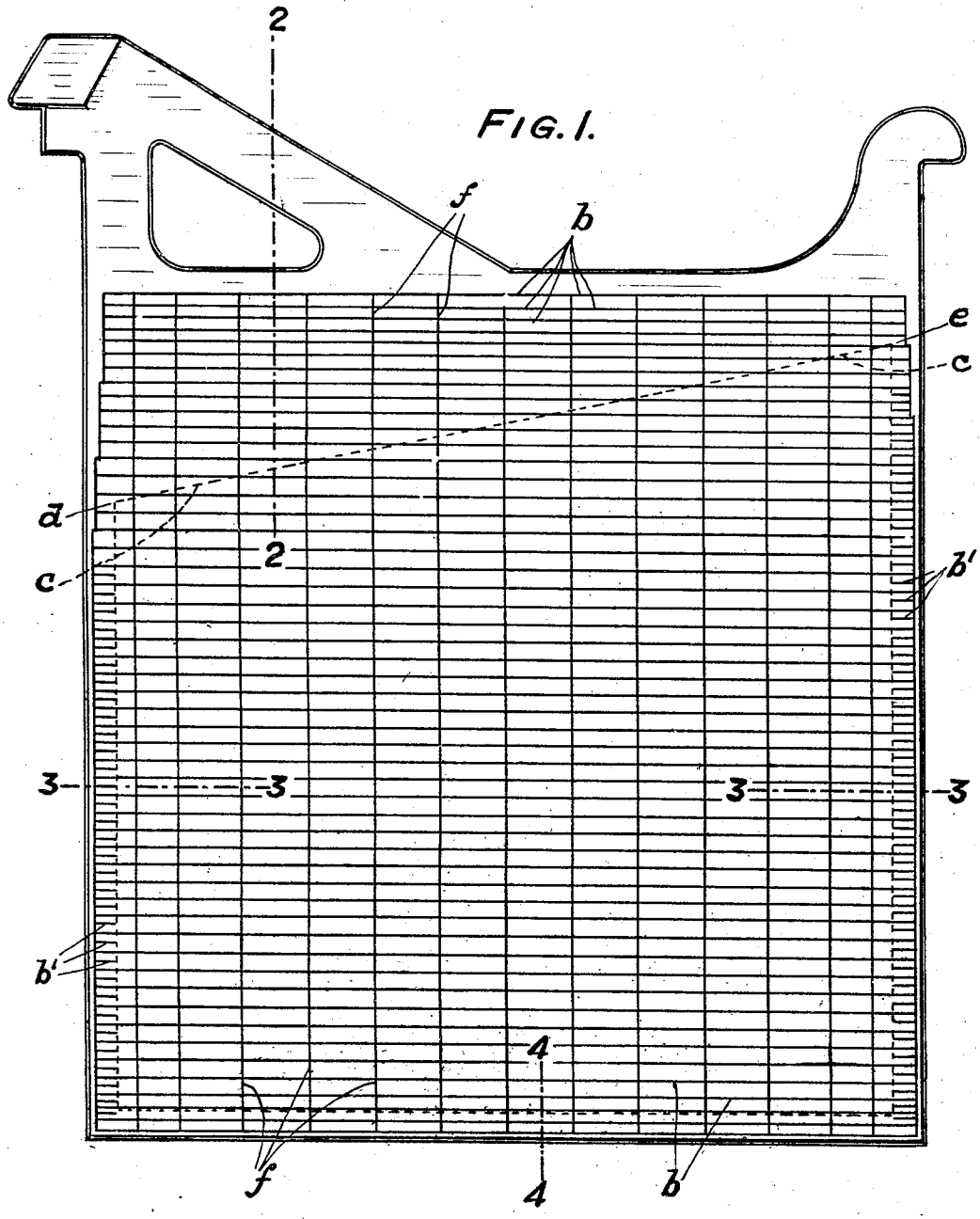
APPLICATION FILED APR. 14, 1910.

977,443.

Patented Dec. 6, 1910.

2 SHEETS—SHEET 1.

FIG. 1.



WITNESSES:

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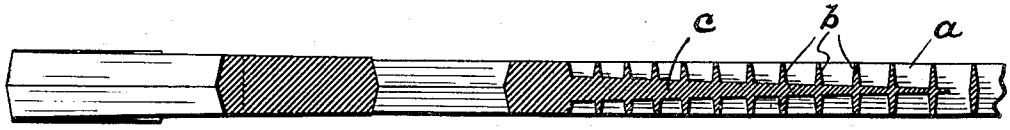

FIG. 2.

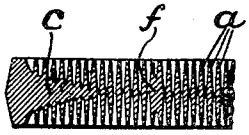

FIG. 3.

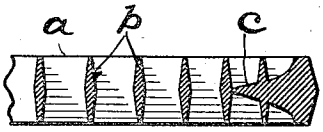

FIG. 4.

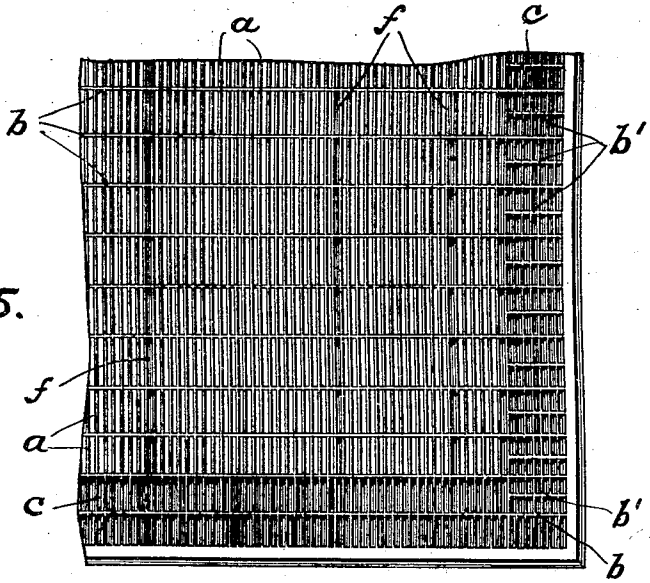

FIG. 5.

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UNITED STATES PATENT OFFICE.

BRUCE FORD, OF PHILADELPHIA, PENNSYLVANIA.

STORAGE-BATTERY PLATE.

977,443. Specification of Letters Patent. Patented Dec. 6, 1910.

Application filed April 14, 1910. Serial No. 555,404.

To all whom it may concern:

Be it known that I, BRUCE FORD, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Storage-Battery Plates, of which the following is a specification.

There are storage battery plates which consist of leaves usually arranged in parallel groups and united at intervals by supporting ribs. In addition at one or more marginal parts of the plate there are provided supporting or stiffening webs arranged in the plane of the plate. In practice it has been found that in the parts of the plate, where there is no web and where the spaces between the leaves extend clear through the plate, there is little trouble from detachment of the leaves, but the leaves strip off to a greater or less extent from the central web and to the extent to which this occurs, it constitutes a defect.

It is one object of the present invention to overcome this defect and to prevent leaves from stripping off, and I accomplish this object in a manner which will be presently described and of which one embodiment is shown in the drawings forming part hereof, and in which—

Figure 1, is a facial view of a plate embodying features of the invention with the leaves omitted. Figs. 2, 3, and 4, are enlarged sections on the lines 2—2, 3—3, and 4—4 of Fig. 1, and Fig. 5, is an enlarged detail view of a portion of the plate.

In the drawings *a* are the leaves, *b* are the ribs and *c* is the web. According to my invention at a margin of the plate, for example at the top or bottom, more especially at the top, the ribs *b* are spaced closely together in respect to the ribs at the central portion of the plate. Thus the span of the leaves from rib to rib at a portion of the plate where the web *c* is present, is shorter than the space from rib to rib of the leaves at the other portion of the plate where the web *c* is absent, and in consequence of the relatively short length of span of the leaves where they are attached to the web when the leaves are peroxidized or formed, their tendency to grow does not produce sufficient shearing strain to separate them from the web, which is little affected by the formation in comparison with the leaves. Furthermore since the ribs tie the leaves at closer intervals in the parts of the plate where the web is present, it follows that the tendency of the leaves to grow lengthwise when formed and strip off from the web is satisfactorily opposed and prevented by reason of the described advantageous support which the leaves receive from the ribs. Furthermore the web *c*, extends inward from the top margin of the plate and terminates along a line arranged at an angle to the top edge of the plate, so that the supporting effect of the web is greater at the conductor lug side of the plate than it is at the other side, which is clearly advantageous since the conductivity and strength of the plate are thereby increased at the appropriate part thereof. The edge of the web is indicated by the dotted lines *d*—*e*, but its exact position will of course vary with the size and character of the plate.

On the side edges of the plate and projecting inward therefrom between the ribs *b*, are arranged short auxiliary ribs b^1, the purpose of which is to perform the same function at the points where the web extends along the marginal sides, that is to say, these auxiliary ribs b^1 shorten the length of the span of the leaves from rib to rib and thus prevent them from detachment from the web which extends around the margin in the manner described.

f, are portions connecting adjacent leaves and arranged in continuous lines to stiffen the plate.

What I claim is:

1. A storage battery plate consisting of groups of leaves united by ribs and having a marginal web, the ribs adjacent to web being spaced nearer together than the rest of the ribs whereby the length of the span of the leaves which are attached to the web is decreased and the leaves are supported at closer intervals by the ribs to prevent their detachment from the web, substantially as described.

2. A storage battery plate having a lug and consisting of groups of leaves and ribs by which they are united and having a web

adjacent the lug and terminating on an angle to the top of the plate.

3. A storage battery plate consisting of a plurality of leaves, a portion of the plate being open from face to face and a portion of the plate being supplied with a web, ribs tying the leaves together at intervals, said ribs being spaced more closely at the web portion than at the opening portion, substantially as described.

In testimony whereof I have hereunto signed my name.

BRUCE FORD.

Witnesses:
GEO. M. HOWARD,
HAROLD M. MARTIN.