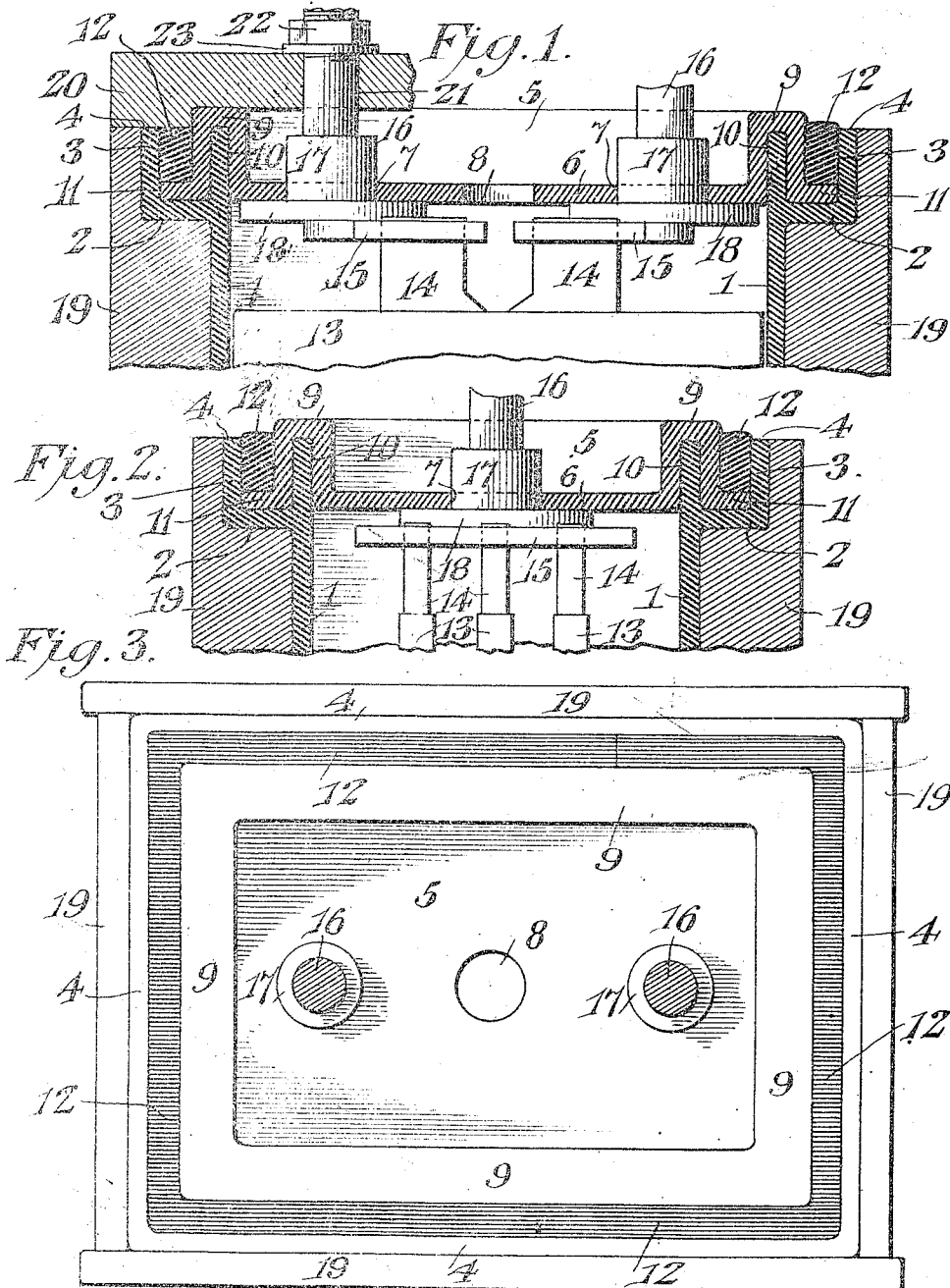


J. D. WHITE.
STORAGE BATTERY.
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1,050,887.

Patented Jan. 21, 1913.



Witnesses
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JAMES D. WHITE, OF NIAGARA FALLS, NEW YORK.

STORAGE BATTERY.

1,050,887.

Specification of Letters Patent.

Patented Jan. 21, 1913.

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To all whom it may concern:

Be it known that I, JAMES D. WHITE, a subject of the King of Great Britain, residing at Niagara Falls, in the county of Niagara and State of New York, have invented a new and useful Storage Battery, of which the following is a specification.

My invention relates to storage batteries, and particularly to an improved form of closure and mounting therefor.

The invention has for its object the provision of a more efficient and convenient sealing of the jar and contents than has heretofore been obtained.

Having these objects in view, the invention consists in the constructional features, particularly pointed out in the appended claims, and described in detail in connection with the preferred embodiment of the invention, illustrated in the accompanying drawing.

In this drawing:—Figure 1 is a vertical longitudinal section through the upper portion of a battery jar and of the closure, constructed according to my invention. Fig. 2 is a transverse sectional view of the same parts. Fig. 3 is a plan view with a binding post in section.

In this drawing, the numeral 1 designates the jar-body having around its upper portion a continuous flange, extending outwardly at 2 and upwardly at 3 parallel to the jar body and terminated at 4 in the same horizontal plane as the upper edge or rim of the jar. This flange is preferably formed integral with the body and of hard rubber, or other composition suitable for the purpose.

Arranged to overlie the mouth of the jar is the closure 5 of the same material as the jar, or it may be of porcelain or glass to afford a view of the jar interior. This closure comprises a horizontal portion 6, wherein is provided the usual binding post apertures 7 and vent 8, and is formed with a continuous rib 9, within which is a groove 10 in register with and arranged to snugly receive the upper rim of the jar. Outside the rib 9 the horizontal portion of the closure plate is continued as a lip 11, which extends around the closure and is designed to rest at the bottom of the continuous recess, formed between the rim of the jar and the vertical portion 3 of the flange. Within this recess is forced a sealing strip or endless band 12 of acid resisting resilient ma-

terial, such as rubber, which serves to most effectually seal the cover against leakage of the electrolyte, and is not only more readily applied than a fused seal, but is also easily removed and produces no waste particles to enter and contaminate the jar contents.

Within the jar, which may have one or more compartments, are positioned the usual electrode plates 13, connected by their shanks 14 with the feet 15 of the binding post 16 of lead, or other suitable material. About each binding post is arranged a flanged sleeve of rubber, or other resilient acid resisting material, the neck 17 of which encircles the post above and at the point where it passes through the aperture 7, and the flange 18 underlies the portion 6 of the closure plate between the latter and the foot of the binding post. This flanged sleeve not only seals the space between the post and the closure plate, but protects the binding post proper from the electrolyte, if by any chance it gets above the horizontal portion 6 of the closure.

The sealed jar 1 is arranged to be placed within a case 19 of wood, or other available material and secured therein by a lid or cover 20, having a downwardly extending flange resting upon the upper edge of the case and upon the upper face of the seal 12. This cover is provided with apertures 21 for the accommodation of the binding post 16, which latter may be advantageously threaded for the reception of nuts 22 bearing upon washers 23, whereby tension may be applied upwardly to clamp the flange 18 between the foot of the post and the closure plate, and to simultaneously compress the resilient seal 12 and at the same time to connect the cover 20 securely with the case 19.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a storage battery, a jar provided about its mouth with an integral flange shaped to define an exterior recess having the outer wall uprising, a stiff closure plate provided with a marginal raised rib with an exterior lip adapted to rest in the recess, and a resilient seal adapted to the recess in overlying relation to the lip.

2. In a storage battery, a jar having formed about its rim below the upper edge thereof an outwardly and then upwardly extending flange forming a recess with the

upper edges of the rim and upper extension of the flange occupying substantially the same horizontal plane, a closure plate having in its lower face a groove to receive the upper rim of the jar, and an outer lip resting within the recess, and a continuous seal overlying the lip within the recess.

3. In a storage battery, a jar having formed about its rim below the upper edge thereof an outwardly and then upwardly extending flange forming a continuous recess about the mouth of the jar, a closure plate having a central horizontal portion, a rib bounding such portion with a groove in the lower face of the rib to receive the rim of the jar, and a lip projecting horizontally beyond the rib and resting within the bottom of the recess, and a resilient sealing strip embedded within the recess above the lip.

4. In a storage battery, a jar having formed about its rim a continuous recess, a closure plate having a lip resting within said recess, and a resilient seal overlying the lip within the recess, in combination with a case for the jar, a cover overlying the jar and its closure, and a connection between the closure and cover, whereby to draw the cover downwardly upon the resilient seal to compress the same.

5. In a storage battery, a jar having formed about its rim an outwardly and upwardly extending flange forming a recess, the upper edge of the flange occupying the

same horizontal plane as the rim of the jar, electrode plates within the jar, binding posts connected therewith, a closure plate having a central horizontal portion, a rib formed on the upper surface of the plate and surrounding the central portion, a groove in the lower face of the rib to receive the rim of the jar, and a lip extending horizontally beyond the rib and resting within the bottom of the recess, and a resilient sealing strip embedded within the recess above the lip, the binding posts extending through the closure plate, and flanged sleeves of resilient acid-proof material arranged between the feet of the binding posts and the bottom of the closure and surrounding the binding posts and extending above the closure plate, in combination with a case arranged to receive the jar, a cover overlying the jar and its closure and provided with holes for the accommodation of the binding posts, said cover arranged to bear upon the resilient sealing strip, and means to apply tension upwardly upon the binding post to clamp the flanged sleeves between the closure and binding post and to simultaneously compress the sealing strip within its recess.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES D. WHITE.

Witnesses:

FRANK NORRIS,
HENRY WHITE.