No. 779,693. PATENTED JAN. 10, 1905.

F. J. DELAVIE.

BATTERY ZINC.

APPLICATION FILED JULY 1, 1904.

FIG. 1

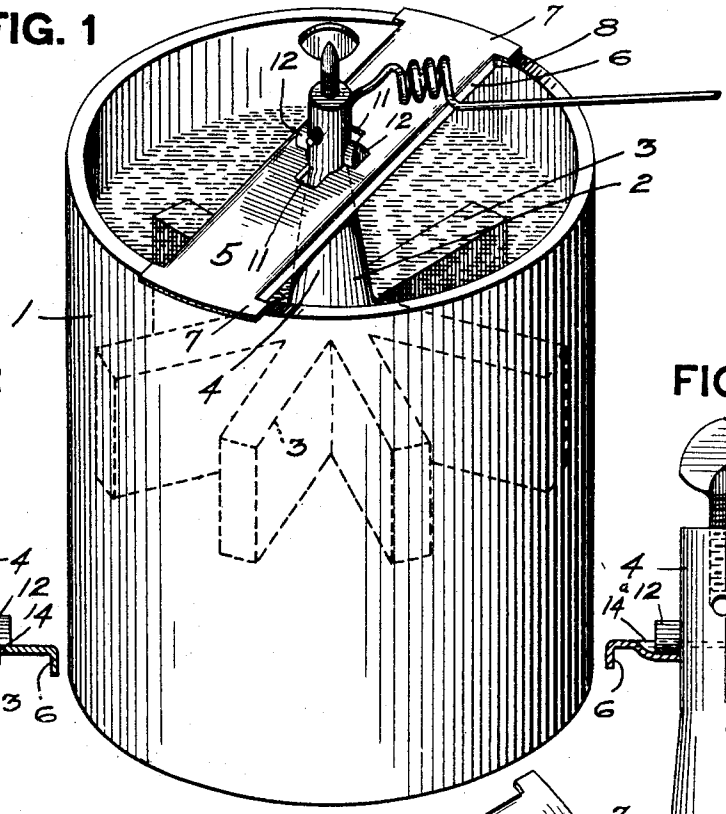


FIG. 2

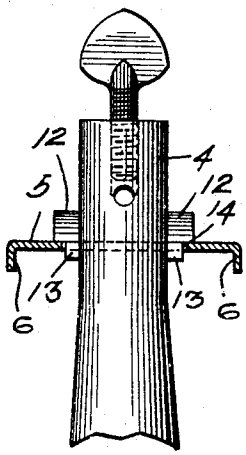


FIG. 5

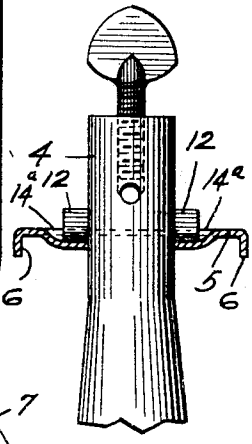


FIG. 3

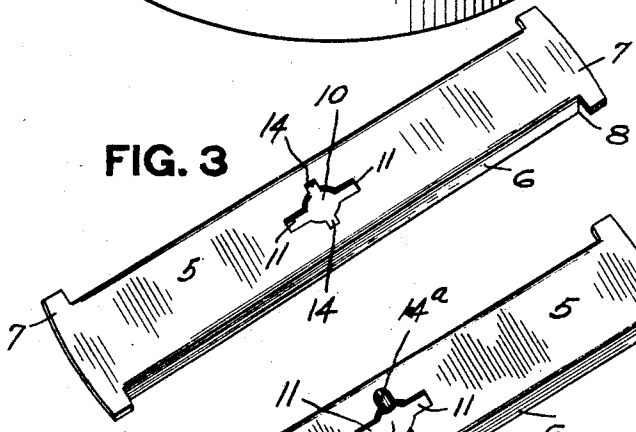
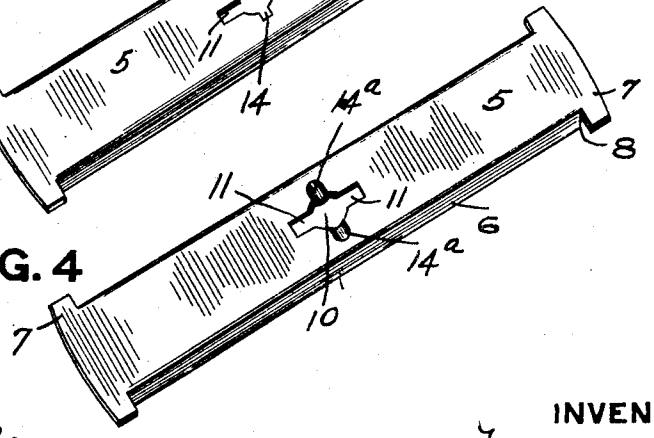


FIG. 4



WITNESSES.

J. R. Keller

G. Kremer.

INVENTOR.

Frank J. Delavie

By Kay, Fox & Minter

Attys

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No. 779,693. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

FRANK J. DELAVIE, OF PITTSBURG, PENNSYLVANIA.

BATTERY-ZINC.

SPECIFICATION forming part of Letters Patent No. 779,693, dated January 10, 1905.

Application filed July 1, 1904. Serial No. 214,941.

To all whom it may concern:

Be it known that I, FRANK J. DELAVIE, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Battery-Zincs; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to electric batteries, and more especially to means for suspending the zincs thereof.

The object of my invention is to provide a battery-zinc support which is simple and cheap of construction, which will securely hold the zinc centrally in the jar, and which will permit the ready removal or replacement of the zinc.

The zinc of wet batteries is usually suspended from a top or bridge piece resting on top of the jar. In most devices of this character heretofore in use the bridge-piece has been rather complicated and expensive to make, and in most cases the zinc is secured thereto by means of a screw or nut or other connecting means which require time for removal and which, due to rust and the like, are often difficult to loosen. Many zinc-supports also had the fault of permitting the zinc to get out of center in the jar.

My zinc-support is intended to obviate all of the foregoing objections; and it consists, generally stated, in a bridge-piece composed of a stamping of sheet metal provided with shoulders near its ends to hold the same centered with reference to the jar and provided at its middle with a key-slot or similar opening to receive the stem of the zinc, the latter being provided with lateral projections or wings which can be passed through the key-slot in the zinc and then by giving it a partial turn will rest upon and be supported by the upper face of the bridge-piece.

In the accompanying drawings, Figure 1 is a perspective view of a battery provided with my improvement. Fig. 2 is a detail sectional view through the zinc-support and showing the upper portion of the zinc. Fig. 3 is a perspective view of the bridge-piece. Fig. 4 is a similar view of a modified form of bridge-piece, and Fig. 5 is a transverse section showing the modification.

The battery-jar is shown at 1, and this may be of any desired shape or size. 2 represents the zinc, which also may be of any desired or known form, that shown in the drawings having a base 3 of star shape, together with a stem 4, by means of which it is suspended. Obviously, however, these details may be varied within wide limits.

The bridge-piece 5 is made from sheet metal stamped up into shape, it being provided with downturned flanges 6 at its edges for strengthening the same. These flanges do not extend quite to the ends of the bridge-piece, the end portions 7 being left flat, so that the ends of the ribs 6 form shoulders 8, which bear against the inside faces of the jar, and thus prevent movement of the bridge-piece and hold the same centered with reference to the jar.

At its middle the bridge-piece is provided with an opening 10, and communicating therewith are lateral slots 11, at least one such slot being employed, although preferably two will be used, the same being arranged on diametrically opposite sides of the opening 10 and being of less width than said opening. The opening 10, with the lateral slots 11, forms, in effect, a keyhole-opening. The upper end of the zinc or of the stem 4 thereof is provided with a pair of lateral projections or wings 12, which are of such length and size that when the stem 4 is passed through the opening 10 these projections will pass through the lateral slots 11 in the bridge-piece. Then by giving the zinc and bridge-piece a partial turn relative to each other the projections 12 on the zinc will rest upon the upper face of the bridge-piece and be supported thereby. To prevent the zinc from turning when so held, and thus from dropping down into the jar, I provide on the zinc one or more projecting nibs 13, preferably located just underneath the projections 12, so that they will also pass through the lateral slots 11 in the bridge-piece, these nibs being arranged to take into notches, openings, slots, or depressions 14, formed in the bridge-piece. The notches or openings 14 are not of sufficient size to allow the projections 12 to pass through, and as a consequence the zinc will be supported by the projections 12 and will be held against turn-

ing by the nibs 13. It is not necessary that the notches 14 be cut entirely through the bridge-piece; but they may be formed merely as seats or depressions 14^a therein, as shown in Figs. 4 and 5, for receiving either the nibs 13 or the lateral projections 12 themselves, the latter being illustrated in Fig. 5.

The bridge-piece described is very simple and cheap to manufacture. It can be formed from sheet metal of the required thickness by simple die-stamping, a single operation of the dies serving to cut and turn the flanges 6 and to punch the opening through the same for the stem of the zinc. The edge flanges 6 stiffen the bridge-piece, so that very light sheet metal may be employed, and at the same time the ends of said flanges form shoulders to hold the bridge-piece centered on the jar. The zinc and bridge-piece can be readily assembled or disassembled by merely giving them a partial turn relatively to each other, it not being necessary to manipulate nuts, screws, or the like. At the same time the zinc is securely held and cannot rotate, so that there is no liability of it becoming displaced and dropping down into the jar.

It will be obvious to those skilled in the art that various modifications can be made in the details of the invention without departing from the spirit thereof.

What I claim is—

1. In an electric battery, the combination of a jar, a bridge-piece therefor provided with a key-slot opening therethrough, a battery-zinc having a stem provided with a lateral projection or projections arranged to pass through the keyhole-slot of the bridge-piece and when given a partial turn to rest upon the upper face thereof.

2. In an electric battery, the combination with a jar, of a bridge-piece therefor provided with an opening therethrough and two slots extending laterally therefrom, and a battery-zinc having an end adapted to pass through the opening in the bridge-piece and being provided with two lateral projections or wings adapted to pass through the lateral slots in the bridge-piece and when given a partial turn to rest upon the upper face thereof.

3. In an electric battery, the combination with the jar, of a bridge-piece therefor provided with a key-slot opening therethrough and with a seat or seats in the upper face thereof, and a battery-zinc having a stem arranged to pass through the opening in the bridge-piece and provided with a lateral projection or projections adapted to pass through the key-slot in the bridge-piece and when given a partial turn to rest in the seats formed in said bridge-piece.

4. In an electric battery, the combination with a jar, of a bridge-piece therefor provided with an opening therethrough and with a pair of lateral slots communicating with said opening and also with a seat or seats formed therein, and a battery-zinc provided with a stem arranged to pass through the opening of the bridge-piece and having a pair of lateral projections or wings arranged to pass through the lateral slots of the bridge-piece and when given a part turn to rest on the upper surface thereof, and also having a nib or nibs arranged to engage the seat or seats formed in said bridge-piece.

5. In an electric battery, the combination with a jar, of a bridge-piece therefor provided with downwardly-projecting shoulders near its ends to hold the same centered with reference to the jar and provided with an opening therethrough and with a slot or slots intersecting said opening, and a battery-zinc provided with a stem arranged to pass through said opening and provided with lateral wings or projections adapted to pass through the lateral slots in the bridge-piece and when given a partial turn to rest on the upper face thereof.

6. A support for zincs of batteries, comprising a stamped-up sheet-metal bridge-piece having ribs formed on its lower side but not extending to the ends of said bridge-piece, thereby forming shoulders to keep the bridge-piece centered on the bar.

7. A support for zincs of batteries, comprising a sheet-metal stamping having its edges turned downwardly to form flanges but with the ends left flat, whereby the ends of said flanges form shoulders to center said bridge-piece.

8. A support for zincs of electric batteries, comprising a sheet-metal stamping having its edges turned down to form strengthening-flanges but terminating short of the ends of said support and being provided at its middle with a keyhole-slot for receiving the zinc.

9. A support for zincs of electric batteries, comprising a sheet-metal stamping provided with an opening therethrough and a pair of lateral slots intersecting said opening and having seats in the upper face thereof for receiving a locking projection of the zinc.

10. A support for zincs of electric batteries, comprising a sheet-metal stamping provided with strengthening-ribs on its lower side terminating short of the ends of said bridge and being provided with an opening for receiving the zinc, said opening being provided with a pair of lateral slots, and a locking seat or depression formed in the upper face of said stamping.

In testimony whereof I, the said FRANK J. DELAVIE, have hereunto set my hand.

FRANK J. DELAVIE.

Witnesses:
MARGARET C. KEEBLE,
G. C. RAYMOND.