

No. 655,883.

Patented Aug. 14, 1900.

J. MIDDLEBY, JR.

RECEPTACLE FOR SECONDARY BATTERIES.

(Application filed Apr. 24, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig 1

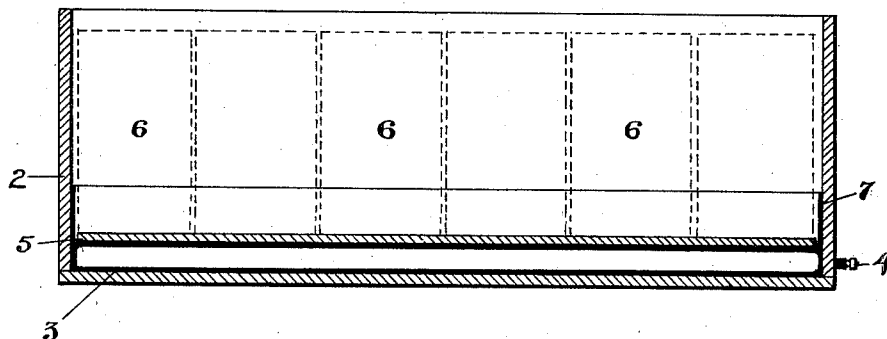
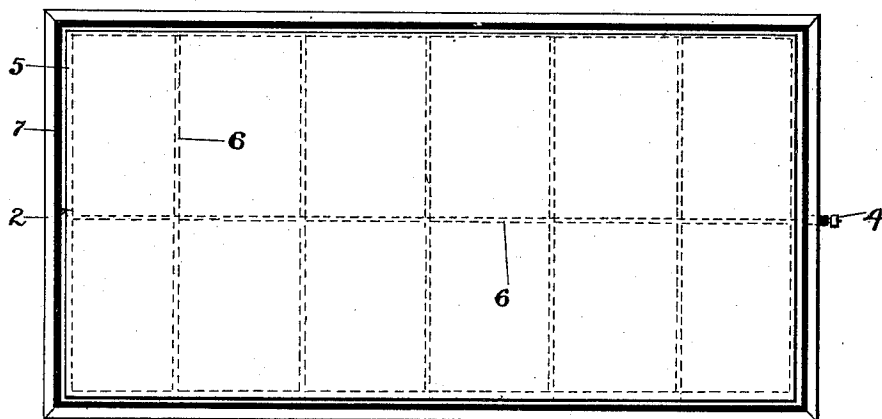


Fig 2



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Fig. 3

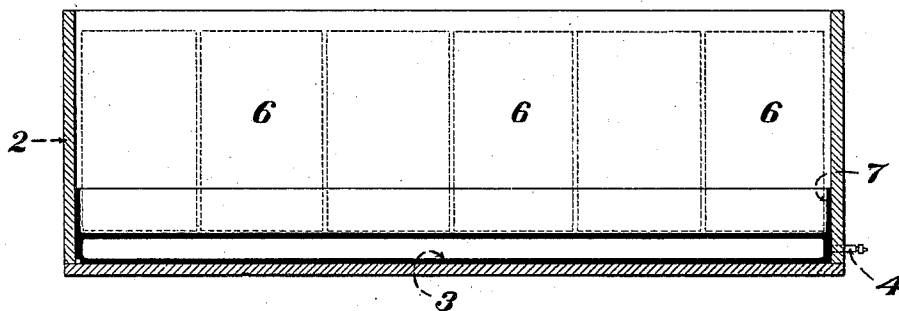
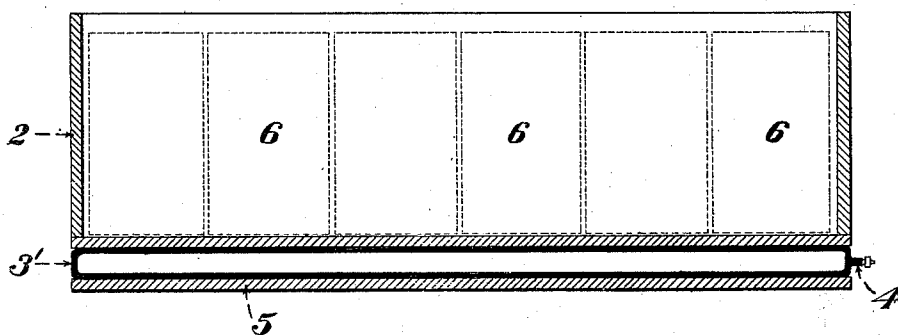


Fig. 4



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH MIDDLEBY, JR., OF MALDEN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO GEORGE E. HATCH, OF QUINCY, MASSACHUSETTS.

RECEPTACLE FOR SECONDARY BATTERIES.

SPECIFICATION forming part of Letters Patent No. 655,883, dated August 14, 1900.

Application filed April 24, 1900. Serial No. 14,082. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MIDDLEBY, JR., a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Receptacles for Secondary Batteries, of which the following is a specification.

My invention is intended to provide a device by means of which a secondary battery may be carried by a motor-vehicle without danger of being broken or otherwise injured by the violent shaking and jolting to which such vehicles are often subjected while running.

My invention also relates to means for protecting the vehicle itself from being defaced or otherwise injured by the electrolyte used in such batteries in case it slops or is spilled from the cells thereof.

A preferred form of my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of the device, and Fig. 2 is a plan view thereof. Figs. 3 and 4 are sectional views similar to Fig. 1, showing slight modifications.

The receptacle shown in the drawings consists of a box 2, adapted to contain any desired number of battery-cells and provided with a double bottom, between the two portions of which is placed a pneumatic cushion 3, conforming thereto in its general outline. The cushion 3 is preferably made of rubber and is provided with a suitable valve 4, through which it may be inflated. Said cushion rests upon the true bottom of the box 2, and upon it is placed a false bottom 5, on which the cells 6 of the battery (shown in dotted lines) rest and are supported. The cells 6 are thus carried as by springs, sudden jars and vibrations imparted to the vehicle by which the battery is carried being taken up by the cushion 3 and wholly prevented from reaching and injuring said cells. If desired, the false bottom 5 may be omitted and the cells may be set directly on the cushion 3, as shown in Fig. 3; but I prefer to use said false bottom, because it serves to distribute and equalize the resilient action of the cushion 3, so that a shock which if transmitted directly to the battery might affect one cell only will be resisted by the combined inertia of all the cells and its effect

will be correspondingly diminished. It will be obvious that the false bottom 5 may itself form the true bottom of a receptacle adapted to contain the cells 6, or, what is the same thing, the box 2 may be supported on the cushion 3, as shown in Fig. 4, and the latter may be supported on the false bottom 5 or its equivalent.

In order to prevent any electrolyte which may be spilled from the cells 6 from leaking from the box 2, to the injury of the vehicle, I prefer to provide a flap 7, extending upward from the edges of the cushion 3 and forming a continuous strip around the inside of the box 2. This flap 7 is best made of the same material as the cushion 3 and formed integral therewith, the top of the cushion being thus made to form a liquid-tight acid-proof tray within which the cells 6 set and which serves to catch any liquid spilled therefrom and to prevent it from leaking through the box 2. I prefer to give the flap 7 such a height that the tray thereby formed will have sufficient capacity to hold the entire liquid contents of a number of cells 6 in case one or more of them should accidentally be broken while the vehicle is in use.

I claim as my invention—

1. A receptacle for the cells of a secondary battery, comprising a box adapted to contain said cells, and a pneumatic cushion on which said cells are supported, for the purpose set forth.

2. A receptacle for the cells of a secondary battery, comprising a box provided with a double bottom, and a pneumatic cushion located between the parts of said bottom, for the purpose set forth.

3. A receptacle for the cells of a secondary battery, consisting of a box, a pneumatic cushion resting on the bottom of said box and provided with an upwardly-extending flap forming with the top of said cushion an impervious tray, and a false bottom resting on said cushion within said tray, for the purpose set forth.

In testimony whereof I have hereunto subscribed my name this 21st day of April, 1900.

JOSEPH MIDDLEBY, JR.

Witnesses:

E. D. CHADWICK,
GEORGE E. HATCH.