GAS SEPARATOR FOR STORAGE BATTERIES.
APPLICATION FILED AUG. 16, 1904.
To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a citizen of the United States, residing at Llewellyn Park, Orange, Essex county, New Jersey, have invented a certain new and useful GAS-SEPARATOR for Storage Batteries, of which the following is a description.

In my improved storage battery I make use of a gas-separator, the function of which is to separate mechanically-entrained globules of the electrolyte from the escaping gases. In constructing this separator I make use of a small puppet-valve normally closing a vent from the can or vessel in which the active materials are supported and arranged to be automatically opened when a sufficient gas-pressure accumulates to thereby allow gas to escape against a liquid film at a sufficiently high velocity to overcome the surface tension thereof, whereby the entrained globules will coalesce with the film to be separated from the gases. Such a method is described and claimed in my patent of the United States granted July 5, 1904, No. 764,183.

I find in practice that sometimes when excessive foaming of the electrolyte takes place the amount of liquid which passes upward past the valve is so great as to cause an accumulation of liquid above the valve-seat, gradually filling the space between the valve-seat and the gauze and sometimes actually overflowing the latter. This gradual accumulation of liquid is due to the fact that the valve by its weight closes very quickly, and during excessive foaming the rate of flow of the liquid passing upwardly is greater than that possible in the opposite direction during the short intervals that the valve may be open.

The object of my invention is to overcome this objection, and to this end the invention consists in constructing a gas-separator of the type described wherein the valve will be light enough to float on the solution, so that so long as there may be any considerable accumulation of liquid above the valve-seat the valve will remain open and the liquid be allowed to flow back into the cell.

The invention also relates to the employ-
2. In a gas-separator for storage batteries, the combination with a can or receptacle, of a seat surrounding a vent therefrom, and a hollow floatable valve normally engaging said seat, substantially as set forth.

3. In a gas-separator for storage batteries, the combination with a can or receptacle, of a seat surrounding a vent therefrom, of a hollow spherical glass valve normally engaging said seat, substantially as set forth.

4. In a gas-separator for storage batteries, the combination with a can or receptacle, of a seat surrounding a vent therefrom, and a floatable valve having a spherical head normally engaging said seat, substantially as set forth.

5. In a gas-separator for storage batteries, the combination with a can or receptacle, of a seat surrounding a vent therefrom, and a floatable valve having a hollow spherical head normally engaging said seat, substantially as set forth.

6. In a gas-separator for storage batteries, the combination with a can or receptacle, of a seat surrounding a vent therefrom, and a floatable glass valve having a hollow spherical head normally engaging said seat, substantially as set forth.

This specification signed and witnessed this 18th day of July, 1904.

Witnesses:

Frank L. Dyer,
Mina C. MacArthur.