



## In celebration of the sesquicentennial of the lead–acid battery



**Raymond Louis Gaston Planté**  
22 April 1834 – 21 May 1889

On 26 March 1860, the French physicist Gaston Planté presented a set of nine electrochemical cells to the French Academy of Sciences [1]. This invention was the result of a systematic evaluation he had undertaken during the previous year of those metals that he felt would be possible candidates for the practical conversion and storage of energy via electrochemical processes. Each of the aforementioned nine cells was constructed by loosely rolling a sheet of flannel between two thin lead sheets and then inserting

the cylindrical assembly into a glass jar of the same geometry that contained a 10 wt.% sulfuric acid solution. Planté demonstrated that he had produced a battery ‘of great power’ which, moreover, could be recharged electrically. It proved to be the world’s first practical secondary battery and became a universal means of storing electrical energy in a wide variety of stationary and mobile applications—from providing emergency power to starting automotive engines.

It should be recognized that Gaston Planté did not originate the concept of the lead–acid battery. Carl Wilhelm Siemens (1852) and Wilhelm Josef Sinstedden (1854) had conducted earlier studies of the system, but did not carry their cells forward to a full elaboration. Nevertheless, Gaston Planté deserves to be regarded as the ‘father of the storage battery’, for he showed how to convert the physical and electrochemical phenomena observed by Siemens and Sinstedden into techniques for the production of a useful device for the storage of electrical energy.

This issue of the Journal of Power Sources marks the Sesquicentennial Anniversary of Planté’s seminal announcement of his nine-cell battery by presenting an historical account of his life and work, followed by a series of papers reporting the most recent developments of the lead–acid system. Whereas, for decades, the battery has been the sole means of storing electrical energy in automobiles, it is notable that the design has now been adapted to meet the requirements of certain types of hybrid electric vehicle.

### Reference

- [1] G. Planté, *Comptes Rendus de l’Académie des Sciences* 50 (1860) 640–642.

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