

Early rechargeable batteries

Unplugged: Five batteries that gave the world a jolt

From Benjamin Franklin's tinkering with glass jars in 1749 to cells so small and flexible they can be integrated within a credit card. The history of the battery has been one of invention and innovation. However, it has not always been this way. Wikipedia defines it as one of 'successive improvement'; but this is actually misleading.

Technological advances have often been about introducing a chemistry that excelled in a particular aspect rather than creating a battery that was better than all those that had come before. Lithium based batteries made available in 1991 for example, offer the best weight/power ratio and have allowed the progression of ever smaller mobile electronic devices. However, they are unsuited for engine starter applications where lead acid, invented over 150 years ago, still offers more in terms of delivering high currents, taking abuse and low production costs.

The history of the battery is more often than not about advances in certain aspects. Before we look at these events, here is a short summary of what many inventors throughout history were looking to improve on and how some battery chemistries excel over others:

With all these factors to juggle it is not surprising that the history of the battery has not been a non-stop progression of improvements but can perhaps better be described as industry or application specific breakthroughs.

You may also want to try our interactive timeline of the history of the battery.

Benjamin Franklin used the term 'battery' to describe several glass capacitors he had linked together to generate electricity but the technology does not lead anywhere.

While dissecting a frog attached to a brass hook with an iron scalpel Luigi Galvani notices the legs of the frog twitch. He wrongly calls this 'animal electricity'; but his friend Alessandro Volta believes it has something to do with the differing types of metal.

Volta begins to investigate his theory.

After experimenting with different metals and liquids, Volta produces the first battery which would later become known as the voltaic pile. It is constructed from copper and zinc discs separated by fabric soaked in brine.



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Volta's pile design was messy. Brine leaked from the fabric which caused shorts. William Cruickshank solved this by taking the idea and laying it on its side creating a structure still used by some battery types today.

Various other designs followed and some saw commercial use in the railroad and telecommunication industries, but they were large, heavy and could not be recharged.

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