



HistoLab

Start > Electricity > Leyden Jars

Leyden Jars

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branch of study: electricity / electrostatics

inventors: Ewald Jürgen von Kleist and (independantly from him) Musschenbroek, both around 1745

A newly developed instrument shocked (most literally) scientists researching electricity in 1745: the Leyden Jar or Amplifying Jar. The Prelate Ewald Jürgen von Kleist and the Leyden based physicist Musschenbroek described the initial version of the device and its effect independently. However, Kleist's findings could initially not be reproduced by his correspondents.

The Leyden Jar is basically a condensator where the glass of the bottle serves as a dielectric. Initially, the hand of the experimenter formed the outer coating, soon after the initial experiments, a metal coating was introduced instead. The inner coating was initially water, soon to be replaced either by metal filings or a metal foil glued to the inside of the glass and connected with the rod inserted into the (wooden) lid of the jar.



further reading

Silva, C. C., & Heering, P. (2018). Re-examining the early history of the Leyden jar: Stabilization and variation in transforming a phenomenon into a fact. *History of Science*, 56(3), 314-342.

Winkler, Johann Heinrich (1746): *Die Stärke der Electricischen Kraft des Wassers in gläsernen Gefäßen*. Leipzig: Breitkopf.

[Back to top](#) [Page # 16732](#) [Permalink](#) 06/17/2019 [Feedback](#)