



HistoLab

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Barlow's Wheel

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branch of study: electromagnetism

inventor: Peter Barlow, 1822

Barlow's Wheel is the prototype of unipolar engine. Peter Barlow published its description in 1822 in the article "A curious electro-magnetic experiment".

The star-shaped copper wheel extends into a reservoir of mercury, which allows for higher currents (several Ampère) to pass through the wheel.

By applying a strong external magnetic field with appropriate orientation, a Lorentz force is exerted onto the wheel, which sets it in rapid motion.

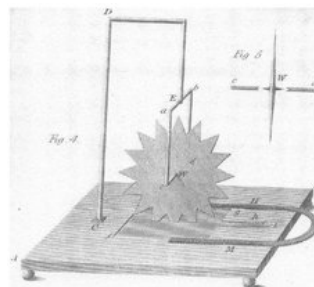


Abbildung 1: Zeichnung des Barlowschen Rads von 1822

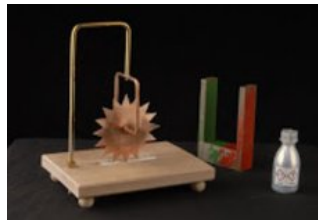


further reading

Baade, Patrick (2011): Das 'Barlowsche Rad': Nachbau, experimentelle Untersuchungen und physikalische Beschreibung. Bachelorarbeit. Universität Flensburg, IPCD, unveröffentlicht.

Barlow, Peter (1822): A curious electro-magnetic Experiment. in: The Philosophical Magazine and Journal (59).

Mills, Allan (2010): Barlow's Wheel. in: Scientific Instrument Society (107).



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