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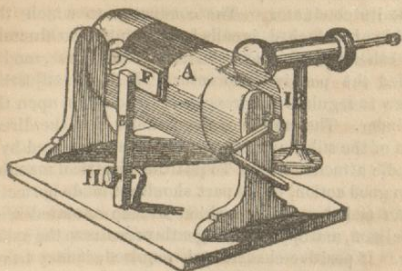
Digitale Sammlung der Badischen Landesbibliothek Karlsruhe

The young man's book of amusement

Halifax, 1848

Electrical Machine

[urn:nbn:de:bsz:31-100120](https://nbn-resolving.org/urn:nbn:de:bsz:31-100120)



Electrical Machine.

The best electrical machine for experimental purposes is represented in the above Fig. It consists of a glass cylinder, A, about ten or twelve inches in diameter, and fifteen or twenty inches in length, turning between two upright pieces of wood, fixed to a stout mahogany base. Two smooth metal conductors equal in length to the cylinder, and about one-third of its diameter, are placed parallel to it upon two glass pillars B, B, which are cemented into sliding pieces of wood, by which their distance from the cylinder may be adjusted. One of the conductors has a cushion, F, attached to it by a bent metallic spring, nearly as long as the cylinder, and about one inch, or an inch and a half wide, to the upper part of which is sewed a flap of oil-silk, which should reach from the cushion over the upper surface of the glass cylinder, to within about

an inch of a row of points attached to the side of the opposite conductor. The conductor to which the cushion is attached, is called the negative conductor; the other collects the electricity of the glass, and is called the positive conductor. H is an adjusting screw to regulate the pressure of the cushion upon the cylinder. The motion of the cylinder is in the direction of the silk flap, and may be communicated by a handle attached at I. To put this electrical machine into good action, every part should be made perfectly clean and dry. The cushion is then anointed with amalgam, and applied by a gentle pressure to the cylinder. If positive electricity is required, it may be received from the conductor bearing the points, that supporting the cushion being uninsulated by a wire passing from it to the stand; if, on the contrary, negative electricity is required, it may be obtained from the insulated cushion cylinder, the other being uninsulated.

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Plate Electrical Machine.

The plate electrical machine consists of a circular plate of glass revolving on an axis which passes through its centre, the excitation is effected by two pairs of cushions placed at opposite parts of the circumference of the plate. The cushions are loosely attached to thin pieces of mahogany, and the pressure upon the plate is adjusted by screws which pass through the opposite pieces. A brass conductor, supported by a glass arm, is fixed to one pillar, or in