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**The young man's book of amusement**

**Halifax, 1848**

The Electrified Cotton

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der be exhausted and insulated, and when the upper part is electrified, the electric matter will pass from one plate to the other, when they are at the greatest distance from each other that the cylinder will admit. The brass plate at the bottom of the cylinder will also be as strongly electrified, as if it were connected by a wire to the prime conductor.

The electric matter, as it passes through this vacuum, presents a most brilliant spectacle, exhibiting sparkling flashes of fire the whole length of the tube, and of a bright silver hue, representing the most lively exhalations of the aurora borealis.

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#### *To Illuminate Water.*

Connect one end of a chain with the outside of a charged jar, and let the other end lie upon the table. Place the end of another piece of chain at the distance of about one quarter of an inch from the former; then set a decanter of water upon these separated ends, and on making the discharge, the water will be illuminated.

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#### *The Electrified Cotton.*

Take a small lock of cotton, extended in every direction as much as can conveniently be done, and by a linen thread about five or six inches long, or by a

thread drawn out of the same cotton, tie it to the end of the prime conductor: then set the machine in motion, and the lock of cotton on being electrified, will immediately swell, by repelling its filaments from one another, and will stretch itself towards the nearest conductor. In this situation let the cylinder be kept in motion, and present the end of your finger or the knob of a wire towards the lock of cotton, which will then immediately move towards the finger, and endeavour to touch it: but take with the other hand a pointed needle, and present its point towards the cotton, a little above the end of the finger, and the cotton will be observed immediately to shrink upwards, and move towards the prime conductor. Remove the needle, and the cotton will come again towards the finger. Present the needle, and the cotton will shrink again.

#### *The Electric Sparks.*

When the prime conductor is situated in its proper place, and electrified by whirling the cylinder, if a metallic wire, with a ball at its extremity, or the knuckle of a finger, be presented to the prime conductor, a spark will be seen to issue between them, which will be more vivid, and will be attended with a greater or less explosion, according as the ball is larger. The strongest and most vivid sparks are drawn from that end or side of the prime conductor which is farthest from the cylinder. The sparks have the same appear-

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