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The young man's book of amusement

Halifax, 1848

To pierce a Card [...] by Electricity

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tween one and two inches, then pass from one to the other a strong charge of a large electrical battery: the plate of tin will be found pierced by two holes, with their bars in opposite directions. That the experiment may succeed, the tin-foil should be thin, and the charge strong, otherwise only two impressions will be seen on the plate.

The Electrical Fountain.

Suspend a vessel of water from the middle of the brass arch, and place in the vessel a small tube. The water will be one continued stream; and if the electrification be strong, a number of streams will issue, in form of a cone, the top of which will be at the extremity of the tube. This experiment may be stopped and renewed almost instantly, as if at the word of command.

To pierce a Card, &c. by Electricity.

Take a card, a quire of paper, or any similar material, and place it against the outside coating of a charged jar: keep the card in its situation by pressing against it one knob of the discharged rod, and with the other knob of the rod touch that of the jar. The discharge which will immediately follow, to restore the equilibrium of the two sides of the jar, will be found to have made one or more holes entirely

through the card; and each hole will have a bur or raised edge on both sides, unless pressed rather hard against the sides of the jar. This double bur shews that the card is not perforated in the direction of the passage of the fluid, but by the expansion of its substance in every direction.

If, instead of paper, a very thin plate of glass, sealing-wax, rosin, or the like, be interposed between the knob of the discharging rod and the outside coating of the jar, the discharge will break these substances to pieces.

A small insect interposed, in the manner of the card, though not pressed, will be instantly killed by the discharge: and a discharge of six square feet will deprive a man of sensation for a time, if the head be made part of the circuit.

Electric Chase.

The experiment called *The Electric Flies*, shews the effect of points in an amusing manner. Fig. 11, shews a combination of two of these flies, which consist of brass wires fastened, in the same plane, in a small brass centre-piece or cap; these wires are finely pointed, and bent at right angles near their extremities; and those of each fly are bent in the same direction, though the two flies with respect to each other have their points in a contrary direction. Each fly *a, b*, is exactly balanced, and will turn on its centre by the slightest impulse. The supporting