The young man's book of amusement

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Electric Chase

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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

wire *c* is fixed in the prime conductor, and so soon as it is electrified, the flies begin to turn with great rapidity, each in a contrary direction to that of its point, and in the dark the course of each fly will be marked by a line of fire. With a sufficiently powerful machine, the number of flies may be considerable, and by varying their sizes, distances, and position, an interesting spectacle will be produced

The flies, in this experiment, turn the same way, whether positively or negatively electrified. This must be evident, when the cause of their motion is considered. When they are positively electrified, the electric fluid issuing from the points strikes the air, and causes their motion in a contrary direction to the points: and when they are electrified negatively, the stream of electricity which they solicit, impels them in the same direction. Under an exhausted receiver no motion is produced, because the medium which still remains is not dense enough for the electric fluid to act upon with so much force, as to overcome the friction of the flies upon their centres. Also, under an insulated receiver, containing only common air, the motion soon ceases, because the air and the glass soon become so much electrified, that the electric fluid ceases to escape from the points.

Another.

On the top of a finely-pointed wire, rising perpendicularly from the conductor, let another wire, sharp-