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The young man's book of amusement

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The Animated Feather

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tion, from one hand to the other, even to its whole length. After this operation, which discharges it in a great measure, it will still flash at intervals, though it be held only at the extremity, and quite still; but if it be grasped by the other hand at the same time, in a different place, strong flashes of light will dart from one end to the other. This will continue for twenty-four hours, and often longer, without any fresh excitation. Small and long glass tubes, exhausted of air, and bent in many irregular crooks and angles, will, when properly electrified, exhibit a very beautiful representation of vivid flashes of lightning.

The Animated Feather.

Electrify a smooth glass tube with a rubber, and hold a small feather at a short distance from it. The feather will instantly fly to the tube, and adhere to it for a short time; it will then fly off, and the tube can never be brought close to the feather till it has touched the side of the room, or some other body that communicates with the ground. If, therefore, you take care to keep the tube between the feather and the side of the room, you may drive it round to all parts of the room without touching it; and what is very remarkable, the same side of the feather will be constantly opposite the tube.

While the feather is flying before the smooth tube, it will be immediately attracted by an excited rough tube or a stick of wax, and fly continually from one

tube to the other, till the electricity of both is discharged.

The Candle Lighted by Electricity.

Charge a small coated phial, whose knob is bent outwards so as to hang a little over the body of the phial; then wrap some loose cotton over the extremity of a long brass pin or wire, so as to stick moderately fast to its substance. Next roll this extremity of the pin, which is wrapped up in cotton, in some fine powdered resin; then apply the extremity of the pin or wire, to the external coating of the charged phial, and bring, as quickly as possible, the other extremity that is wrapped round with cotton, to the knob; the powdered resin takes fire, and communicates its flame to the cotton, and both together burn long enough to light a candle. Dipping the cotton in oil of turpentine will do as well, if you use a larger sized jar.

Electrical Air Cannon.

Hydrogen is inflammable, and extinguishes flame. When pure, it burns quietly with a lambent blue flame at the surface, in contact with air; but, if mixed with thrice its volume of air, it burns rapidly, and with detonation. In making this experiment, a strong phial, capable of holding about six ounces of water, may be employed; or the inflammable air cannon,