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The young man's book of amusement

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The Electric Aurora Borealis

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the bells attract the insulated clappers, and having communicated to them a little electricity, immediately repels them. The clappers now fly to deposit the electricity, they have received upon the centre bell. They are then again in a condition to be attracted by the suspended bells, and again return to the centre bell on being repelled, and this alternate motion continues, accompanied of course by the ringing of the bells till the electrification of the ball C, is discontinued, or the communication of the bell B with the earth cut off.

The Electric Aurora Borealis.

Make a Torricellian vacuum* in a glass tube, about three feet long, and hermetically sealed.† Let one end of this tube be held in the hand, and the other applied to the conductor; and immediately the whole tube will be illuminated from one end; and when taken from the conductor will continue luminous, without interruption, for a considerable time, very often about a quarter of an hour. If after this, it be drawn through the hand either way, the light will be uncommonly brilliant, and without the least interrup-

* A Torricellian vacuum is made by filling a tube with pure mercury, and then inverting it, in the same manner as in making a barometer; for as all the mercury runs out, the space above will be a true vacuum.

† A glass is hermetically sealed by holding the end of it in the flame of a candle, till it begins to melt, and then twisting it together with a pair of pincers.

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