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The young man's book of amusement

Halifax, 1848

Curious Peal of Bells

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this experiment consists in making the form of a human head, (See the Fig.) with hair on, and placing this image upon the electrified conductor, the hair immediately stands up like "quills upon the fretful porcupine."

Curious Peal of Bells.

From a small pedestal A, (Fig. 10.) rises a stem, F, which supports a small bell, B. From this bell rises a glass tube, to the top of which is cemented a brass ball, C, with four wires of the same metal fastened in it at equal distances. From each extremity of these wires, which terminate in small knobs, hangs, by a brass chain, a small bell, like a bell B. From the middle of each wire, hangs, by a silken thread, a small brass ball. The bells are all suspended in the same plane, and the balls *a, b, c, d*, are at such a height that they will, if caused to vibrate, equally strike near the base, the bell in the centre, and their respective bells hanging from the wires. From this construction it will be understood, that the brass balls *a, b, c, d*, are insulated, because they are suspended by silk; but the bell B has a communication with the earth, because its support is a conductor, while it is separated from the brass knob C and the wires, by the non-conductor or glass pillar. Connect the knob C with the machine, by means of a chain or wire, and electrify it; the wires and bells suspended from them will be electrified at the same instant. As soon as this is done,

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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.