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The young man's book of amusement

Halifax, 1848

Electrical Orrery

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person may put his hand on it without suspicion, at the same time that his feet are upon the other wire.

The whole company may be made to partake of the shock, by joining hands, and forming a circle. The experiment may also be varied if they tread upon each other's toes, or lay their hands upon each other's heads. It might happen, by the latter method, that the whole company would be struck to the ground; but it will be productive of no danger, and very little inconvenience; on the contrary, it has happened that they have neither heard nor felt the shock.

Electrical Orrery.

A great diversity of other experiments have been contrived to shew the power of points, one of them is the *Electrical Orrery*, represented at Fig. 12. The sun and earth go round their common centre of gravity in a solar year, and the earth and moon go round their common centre of gravity in a lunar month. These motions are represented by an electrical experiment as follows; the ball S represents the sun, E the earth, and M the moon, connected by wires *a, c*, and *b, d*; *a* is the centre of gravity between the sun and earth, and *b* is the centre of gravity between the earth and the moon. These three balls and their connecting wires are hung and supported on the sharp point of a wire A, which is set upright in the prime conductor B of the electrical machine; the earth and moon hanging upon the sharp point of the

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wire *e*, in which wire is a pointed short pin, sticking out horizontally at *c*; and there is just such another pin at *d*, sticking out in the same manner, in the wire that connects the earth and moon.

When the working of the electrical machine is commenced, and consequently these balls and wires are electrified, the fluid that flies off horizontally from the point *c* and *d*, causes *S* and *E* to move round their common centre of gravity *a*; and *E* and *M* to move round their common centre of gravity *b*: and as *E* and *M* are light when compared with *S* and *E*, there is much less friction on the point *b* than upon the point *a*; so that *E* and *M* will make a much greater number of revolutions about the point *b*, than *S* and *E* made about the point *a*. The weights of the balls may be adjusted so that *E* and *M* may go twelve times round *b*, in the same time that *S* and *E* go once round *a*.

Brilliant Electrical Star.

If a plate of tin be cut into the form of a star, and be supported on its centre by a wire projecting from the prime conductor, as soon as the wheel of the machine is turned, and this apparatus electrified, a flame will appear at the extremity of every angle of the star, which will be very beautiful; and if the star be made to turn swiftly on its centre, an entire circle of fire will be seen in the dark. This experiment will appear very surprising to persons unacquainted with