five of No. 1. *Henly's electrometer* is a straw suspended and furnished with a small pith ball: each of the degrees of Henly's is equal to 100° of No. 1 of Volta's. These electrometers are all suspended from the cross-arms. *A discharging apparatus*, furnished with a long glass handle, measures the length of the spark, and serves also as a conductor to carry the electricity collected to the earth, and is also connected by a chain and iron rod passing outside of the observatory for about twenty yards, and buried under ground.

Various forms of *Distinguishers* are used to distinguish the kinds of electricity. The Volta's electrometers may be rendered self-registering, with great facility, by the photographic process. By placing a piece of the photographic paper behind the straws, and throwing the light of a good lens upon them, the expansion is easily depicted, and serves well for a night register. There is also a Peltier's electrometer, and another form of electrometer, consisting of two gold leaves suspended to a rod of copper two feet long; the upper end being furnished with a wire box, in which is kept burning some rotten wood (touch-wood.)

The *Anemometer* consists of a *direction shaft* and a *velocity shaft*: to the top of the direction shaft is placed the vane, which is eighteen feet in length. The shaft is made of three pieces, to insure lightness and more easy motion: each piece is connected by means of small iron-toothed wheels. The two shafts are six feet apart, and work on cross-arms from a mast firmly fixed in the ground. The vane passes some six or eight feet above the velocity shaft, and does not in any way interfere with the other movements. The lower extremity of these shafts are all furnished with steel points, which work on an iron plate or a piece of flint, and pass through the roof of the Observatory; the openings being protected by tin parapluies fixed to the shaft, and revolving with them. Near the lower extremity is placed a toothed-wheel, eight inches in diameter, connected to another wheel of the same diameter, which carries upon its axis a wooden disc, thirteen inches in diameter, upon which is clamped a paper register (old newspapers answer very well) washed over with whiting and flour paste. Upon the surface of this register is traced by a pencil the direction of the wind. This register is renewed every twelve hours.

The *velocity* shaft is in two pieces, connected by means of the toothed wheels and steel pivots, as in the direction shaft; and, practically, the friction is *nil*. At the top of the velocity shaft are fixed