tion It consists of a glass tube about six inches long and three quarters of an inch in diameter, having a bulb at one of its extremities. Into the open end are fitted a piston and rod, both of which are perforated so as to be opened o closed by a screw at the top, the piston being kept in th perpendicular by moving through a cork. A handle is attached by a brass ring to the tube. When the instrument is to be used, a small quantity of water must be placed in the bulb, and raised to the boiling point by a spirit-lamp, the aperture being left open until the air has been expelled. Then close the opening, and raise the steam until it forces the piston upward; immerse the tube in cold water, and the vapour being condensed, a vacuum will be formed, and the pressure of the atmosphere will force the piston downward. This little instrument shows the application of steam as a moving power; but it is not our intention to refer to this beautiful application of a natural agent, as our principal ob ject in this volume is to explain the natural phenomena which depend upon the laws of material existence.

We have spoken of the boiling point of water as being 212° of Fahrenheit's thermometer; the reader is, however, probably aware, that the boiling point is not stationary, but varies according to circumstances. Among other things, it may be mentioned that the boiling point has always a relation to the height of the barometer, or, in other words, to the atmospheric pressure. Now, as the atmospheric pressure varies even at the same place, there will also be a slight variation in the boiling point. But if we measure the pressure at different heights, the variation will be found very considerable, and in those places there will be a proportionate difference in the temperature at which water boils. To show that the boiling point of a fluid is lowered as the pressure is decreased, place a flask containing water at about 200° under the receiver of an airpump, and before the receiver is exhausted the water will boil, for a less pressure is exerted upon the liquid. The same result may be obtained in another way. Boil a small quantity of water in a thin flask, and while the steam is passing off, cork up the mouth of the flask, and remove it from the source of heat. The boiling will almost immediately cease; but if the flask be plunged into cold water, the ebullition will recommence. This singular result is produced by the condensation of the