The young man's book of amusement

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Initative Water Spout

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finds the heat at the bottom of the vessel exquisitely painful.

To shew that Water is contained in the Atmosphere in the driest Weather.

Take a tea-spoonful of dry muriate of lime, or acetate of potash, or sub-carbonate of potash, spread it in a saucer, and suffer it to be exposed to the open air for a few days, the dry salt will thus be rendered completely liquid, by the watery vapour which always exists in the atmosphere.

Imitative Water Spout.

The phenomenon of the water spout may be illustrated by a very easy experiment.

In a stiff paper card make a hole just large enough to insert a goose quill; after cutting the quill off square at both ends, lay the card upon the mouth of a wine-glass filled with water to within the fifth or sixth part of an inch from the lower orifice of the quill; then applying the mouth to the upper part, draw the air out of the quill, and in one draught of the breath draw in about a spoonful of water; and this you may repeat, the water remaining as before. The water will not ascend to the mouth in a stream, which it would do if the quill reached to it, but broken, and confusedly mixed with the air which

ascends with it. The usual phenomena of water-spouts are exactly agreeable to this theory.

To render visible the opposite Currents in which Fluids are thrown, while they change their Temperature.

Fill a common eight-ounce phial, or cylindrical glass jar, about two inches or more in diameter, and five or six inches long, with cold water, and diffuse through it a small portion of pulverised amber: let the phial of water be immersed into a tumbler, containing hot water: this being done, two currents, going in different directions, will be observed in the inner vessel, the one ascending, the other descending; that is to say, the minute particles of amber, which were diffused through the fluid, and were at rest before the heat was applied to the water in the inner vessel, will be seen in motion; those particles that are situated towards the sides of the glass, or which are the nearest to the source of heat, will move upwards, whilst those that are in the centre move downwards: and thus two distinct currents are formed in opposite directions. These currents gradually diminish in velocity; and when the water in the inner vessel has acquired the same temperature as that in the outer one, the particles of amber will again be brought to a state of rest.

If the position of the two glass vessels be reversed, namely, if the glass containing hot water be im-