

water-tight into the top. To this nozzle inside the bottle is attached an elastic vessel capable of collapsing under slight pressure, and returning to its original volume when the pressure is relieved. For most purposes a piece of india-rubber tube, closed at the end as represented in the cut, suffices. Before sending the bottle down, the inside of the india-rubber tube and nozzle is filled up with water. When it reaches the required depth the

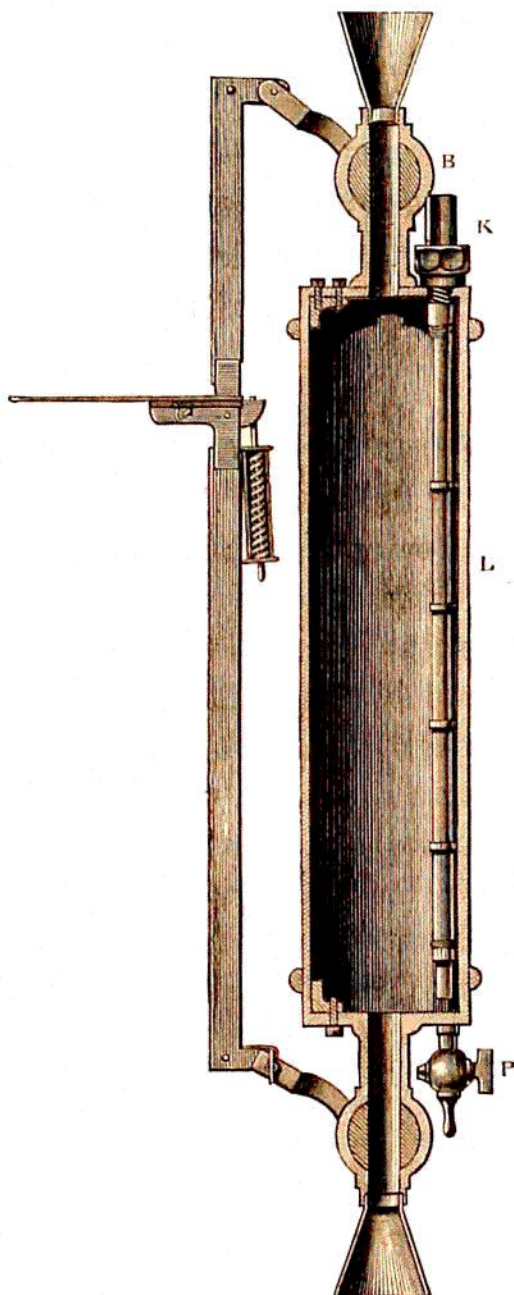


FIG. 42.—Buchanan's Improved Stop-cock Water-Bottle in section.

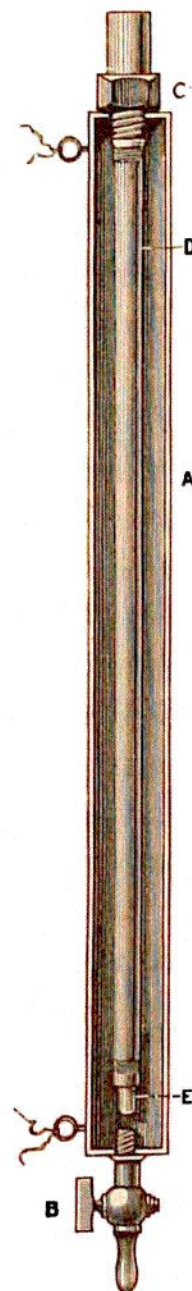


FIG. 43.—Depth Gauge.

bottle closes on its own volume of water. As it rises the water expands, and the collapsible vessel easily makes room for the increased volume. After having arrived at the surface, the small pet-cock P is opened, and the water escaping is caught in a graduated vessel. Water runs out of this cock until the internal india-rubber tube has dilated to its original