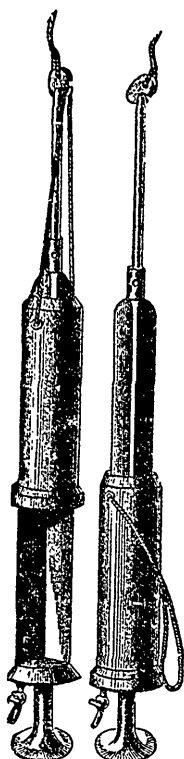


to the sounding-rod to which is attached the number of iron weights required to sink it rapidly.

The sinkers are of cast iron, and average one hundredweight each. They are cylindrical in form, having a hole through the centre; through this hole the rod is placed, and as many weights are put on as are deemed necessary (generally speaking, one for every thousand fathoms). At the bottom of the last weight a small iron ring is rove on the rod, to which is attached a piece of iron wire about 12 feet in length. The bight of the wire is passed over the projection, and the rod being lifted, the weights rest on the ring, which is supported by the wire sling. As long as the pressure of the weights continues on the ring at the bottom, the wire remains in its place. When the weight of the sinkers is relaxed, by their reaching and resting on the bottom, a spring pushes the wire off, and the rod, being hauled up by the line, leaves the weights at the bottom. (See previous page.)

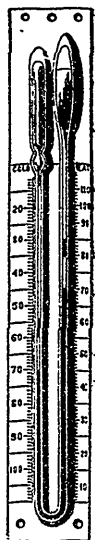


SLIP WATER-BOTTLES.

The line used for sounding is one inch in circumference, and is specially prepared for this service (having a breaking strain of 14 cwt.) Coloured worsted, red, white and blue, is used to mark the line.

The slip water-bottle consists of a brass rod with three radiating ribs to strengthen it, and to act as a guide for a brass cylinder which incloses the water. Directly the strain is released on the sounding-line above, through the bottle reaching the bottom, the tumbler falls over, and thus effectually inclosing a specimen of the bottom water.

The thermometers used to ascertain the temperature at the bottom or at any intermediate depth are self-adjusting maximum and minimum instruments, and are so constructed as to resist the pressure of the water at very considerable depths. They consist of a curved tube with a bulb at each end, one of which is filled with creosote, the expansion and contraction of which



THERMOMETER.