

rod with three radiating ribs to strengthen it, and to act as a guide for a brass cylinder which incloses the water. At the bottom, and halfway down the radiating ribs, are two finely ground seatings, and the brass cylinder is so arranged that its upper and lower surfaces fit with great accuracy on these seatings, thus inclosing anything that may happen to be between them. At the top of the rod is a brass tumbler, with a slit in it; to this tumbler is attached a lanyard to fasten the bottle to the sounding line, and over the slit of the tumbler is placed the bight of a piece of small line (the ends of which are secured to the cylinder), by which the cylinder is kept suspended above the seating while the bottle is descending, and being in this position quite clear of the radiating ribs, it allows the water to pass freely through it.

Directly the strain is released on the sounding line above, through the bottle reaching the bottom, the tumbler falls over, pushing off the line that suspends the cylinder, leaving it free to fall on the two seatings, and thus effectually inclosing a specimen of the bottom water. A tap is arranged at the lower end to facilitate the emptying of the bottle when again on board.

Other bottles (Fig. 6), but of different construction, for carrying out similar results were employed with equal success; they consisted usually of a brass tube about 3 inches in diameter and from 2 to 3 feet in length, fitted at either end with stop-cocks connected