

half minutes it was hauled up in a wrecked condition. The wings were battered and bent, and the compass was gone; it was clear that the apparatus had been bumping against the stones on the bottom. The propeller had made 280 revolutions, implying a velocity of 11 cm. per second (0.2 knot per hour), so that the water had moved along the bottom at that rate at least, probably faster, as the propeller must have revolved too slowly after being injured. This separate measurement gives the interesting result that there may be an appreciable current even along the bottom.

Now, in what relation do these currents stand to high and low water? The tide-tables show that at Cadiz and Algeciras high water and low water on 30th April 1910 occurred at the following hours:

	High Water.	Low Water.
Cadiz . . .	4.51 A.M., 5.16 P.M.	11.04 A.M.
Algeciras . . .	5.15 A.M., 5.40 P.M.	11.28 A.M.

In the straits high water may with sufficient accuracy be referred to about 5 A.M., low water to a little after 11, and the next high water to about 5.30 P.M. It follows that the water ran fastest into the Mediterranean about four hours after high water, *i.e.* at falling tide, and that it ran fastest out from the Mediterranean three or four hours after low water, that is, with a rising tide.

In Figs. 195 and 196 the current-conditions between the surface and the bottom are shown, in the first for the 30th April at 9 A.M., when the current into the Mediterranean was running at its maximum, and in the second the mean for the movements at 2 A.M. and at 3 P.M., when the current out of the Mediterranean attained its greatest velocity. The velocities at the different depths have been calculated with regard to the longitudinal direction of the strait, the varying directions of the current having been taken into account; the actual velocities are shown in Fig. 194. The two diagrams give a good picture of the relation between the upper and the lower current in the middle of the straits, the former about four hours after high water, the latter three or four hours after low water. It is seen that the boundary between the two currents lay at a depth of about 160 metres when the inflow into the Mediterranean was greatest, and