



FIG. 89.—The Current-drag and Watch-buoy.

Various means have been devised for ascertaining the direction and rate of currents of water at different depths below the surface, but none of these can as yet be considered satisfactory. The difficulties may be best explained by describing the method employed in the *Challenger*. It is necessary in order to investigate a deep current, to sink to the required depth some object which will be taken a good hold of by the current and carried along with it; and to measure the movement of this object it must be attached to a float on the surface which shall be affected as little as possible by the surface-drift, by a line which shall be affected as little as possible by intermediate movements. For this we use an instrument composed of the "current-drag," the "line," and the "watch-buoy." The first of these consists of a light frame