

1 foot in diameter at the centre, tapering towards the ends, and was capable of supporting in the water a weight of 70 lbs. If necessary, two or more buoys were used.

A boat was generally used to obtain the current observations. The first operation was to find out the direction and rate of the surface current by attaching the boat to the dredge rope and letting it go from the ship; the boat thus became anchored by the dredge. The surface current log was now hove and allowed to run out for from six to twelve minutes. The current log ship was made of a triangular piece of wood, with a weight at its apex, and it was kept close to the surface by an oar lashed across its base; the current log-line was marked to fathoms. When the log-line had been running a certain time it was checked, and the bearing of the log ship taken, which gave the direction of the current; the number of fathoms run out, divided by the time it was running (expressed as a fraction of an hour), gave the velocity per hour.

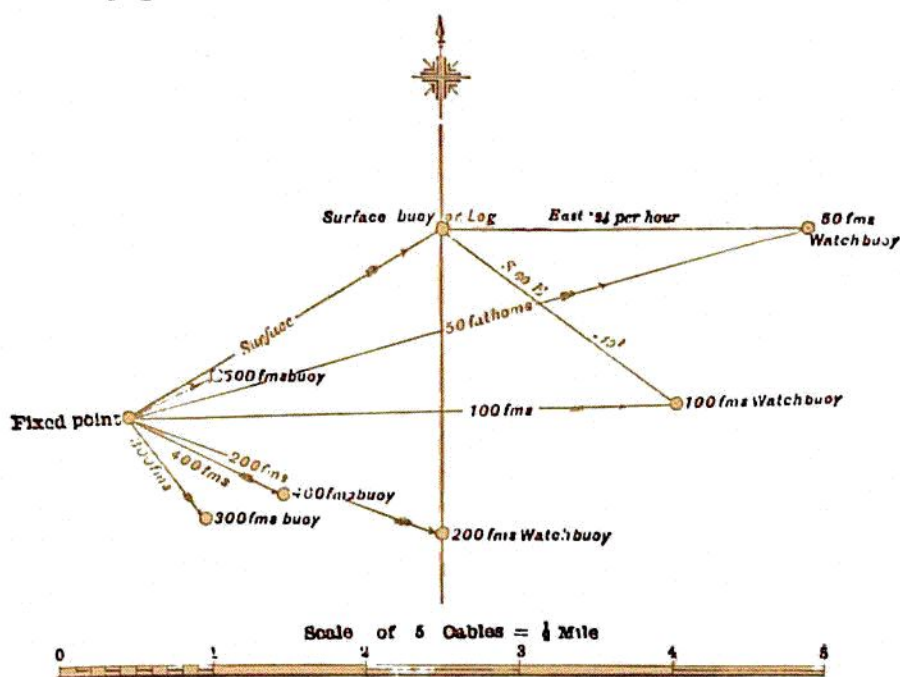


FIG. 26.—Diagram to illustrate the action of the Current Drag.

The current drag was next lowered to a depth of 50 fathoms, and the watch buoy attached. The boat now followed the buoy, keeping close to it, but taking care not to touch it in any way. The surface current log was next put over the boat's side, with a line attached, and the time when it was put over noted. This log was now perfectly stationary with reference to the surface water, moving exactly as the surface water moved, whilst the watch buoy of the drag was affected by the movement of the water at 50 fathoms. The boat continued to follow the watch buoy for from six to twelve minutes after the surface log had been put over, paying out line to the surface log. After a given interval the line to the surface log was checked, its bearings taken, and the number of fathoms run out, with the time it took to run out registered; this gave both the direction and rate of the movement of the watch buoy of the drag through the *surface water*; but