

or two occasions when an enormous load, once nearly a ton, came up in the dredge-bag, it delivered the rope steadily, at a uniform rate of more than a foot per second, for the whole summer.

A powerful derrick projected over the port bow. A large block was suspended at the end of the derrick by a rope which, as in the case of the sounding-line, was not directly attached to the spar but passed through an eye, and was attached to a 'bitt' on deck. On a bight of this rope was lashed a powerful accumulator, the machine already described (p. 222) as of so much use in the management of the sounding-line. In dredging from a large vessel the 'accumulator' is invaluable. From the great strength of the springs the dredge is usually drawn along without stretching them to any great degree; they become tense and taut, and yield, with a kind of slight pulsation, to the rise and fall of the vessel. Whenever they run out it is a sure indication that either the dredge has caught or the weight in it is becoming too great, and that the dredge-rope ought to be relieved by a turn of the paddle-wheel or screw. Care should be taken not to have the bight of the rope to which the accumulator is attached more than about twice the length of the unstretched springs. Springs in good order ought to stretch to much more than double their length; but it is unsafe to try them too far, as a lash from one, if it were to give way, would be most serious. When a great strain comes upon the rope, it acts first upon the accumulator, pulling down the block and stretching the elastic bands; and a graduated scale on the derrick, against which the accumulator plays, gives in