

mine with precision the composition and temperature of sea-water at great depths. An investigation of this kind is beyond the ordinary limits of private enterprise. It requires more power and sea skill than naturalists can usually command. When, however, in the year 1868, at the instance of my colleague Dr. Carpenter and myself, with the effective support of the present Hydrographer to the Navy, who is deeply interested in the scientific aspects of his profession, we had placed at our disposal by the Admiralty sufficient power and skill to make the experiment, we found that we could work, not with so much ease, but with as much certainty, at a depth of 600 fathoms as at 100 ; and in 1869 we carried the operations down to 2,435 fathoms, 14,610 feet, nearly three statute miles, with perfect success.

Dredging in such deep water was doubtless very trying. Each haul occupied seven or eight hours ; and during the whole of that time it demanded and received the most anxious care on the part of our commander, who stood with his hand on the pulse of the accumulator ready at any moment, by a turn of the paddles, to ease any undue strain. The men, stimulated and encouraged by the cordial interest taken by their officers in our operations, worked willingly and well ; but the labour of taking upwards of three miles of rope coming up with a heavy strain, from the surging drum of the engine, was very severe. The rope itself, 'hawser-laid,' of the best Italian hemp, $2\frac{1}{2}$ inches in circumference, with a breaking strain of $2\frac{1}{4}$ tons, looked frayed out and worn, as if it could not have been trusted to stand this extraordinary ordeal much longer.