

of very characteristic pale grey Atlantic ooze. The total weight brought up by the engine was—

2,000 fathoms, 2½-inch rope	4,000 lbs.
1,000 fathoms, 2-inch rope	1,500 „
	<u>5,500 lbs.</u>
Weight of rope reduced to one-fourth in water =	1,375 lbs.
Dredge and bag	275 „
Ooze brought up	168 „
Weight attached	224 „
	<u>2,042 lbs.</u>

Much more experience will yet be necessary before we can assure ourselves that we have devised the dredge of the best form and weight for work in the deep sea. I rather think that the dredges, 150 to 225 lbs., which we have been in the habit of using, are too heavy. In many instances we have had evidence that the dredge, instead of falling gently upon the surface and then gliding along and gathering the loose things in its path, has fallen upon its mouth and dug into the tenacious mud, thereby clogging itself, so as to admit but little more. I mean to try the experiment of heavier weights and lighter dredge-frames in the 'Challenger,' and I believe it will be an improvement.

In many of our dredgings at all depths we found that, while few objects of interest were brought up within the dredge, many echinoderms, corals, and sponges came to the surface sticking to the outside of the dredge-bag, and even to the first few fathoms of the dredge-rope.

This suggested many expedients, and finally