

THE ATLANTIC.

CHAPTER I.

THE EQUIPMENT OF THE SHIP.

The Causes which led to the Dispatch of the *Challenger* Expedition.—The Staff of Officers, Naval and Civilian.—The Special Arrangements for Scientific Work.—The Natural History Work-room.—The Chemical Laboratory.—The Apparatus for boiling out the Gases from Sea-water; for determining the Carbonic Acid; for Gas Analysis.—The “Slip” Water-bottle.—“Buchanan’s” Stop-cock Water-bottle.—The Hydraulic Pressure-gauge.—The “Baillie” Sounding-machine.—The “Valve” Sounding-machine.—Improvements in the Dredge, and in the Mode of handling it.—The Steam-pinnacle.

APPENDIX A.—Official Correspondence with reference to the *Challenger* Expedition, extracted from the Minutes of Council of the Royal Society.

APPENDIX B.—List of the Stations in the Atlantic at which Observations were taken during the year 1873.

It may perhaps be well, before going into the story of our own experiences, to sketch in a few words the train of circumstances which led to the dispatch of H.M.S. *Challenger* on a voyage of scientific research and discovery “round the world.” The wonderful project of establishing a telegraphic communication between the Old World and the New directed the attention of practical men to a region about which up to that time but little had been known with certainty, and about which there had been a great deal of hazy misconception—the bottom of the deep sea. To procure information sufficient to enable them to prepare for the laying of a telegraph cable, sounding expeditions were organized, by both of the Governments specially