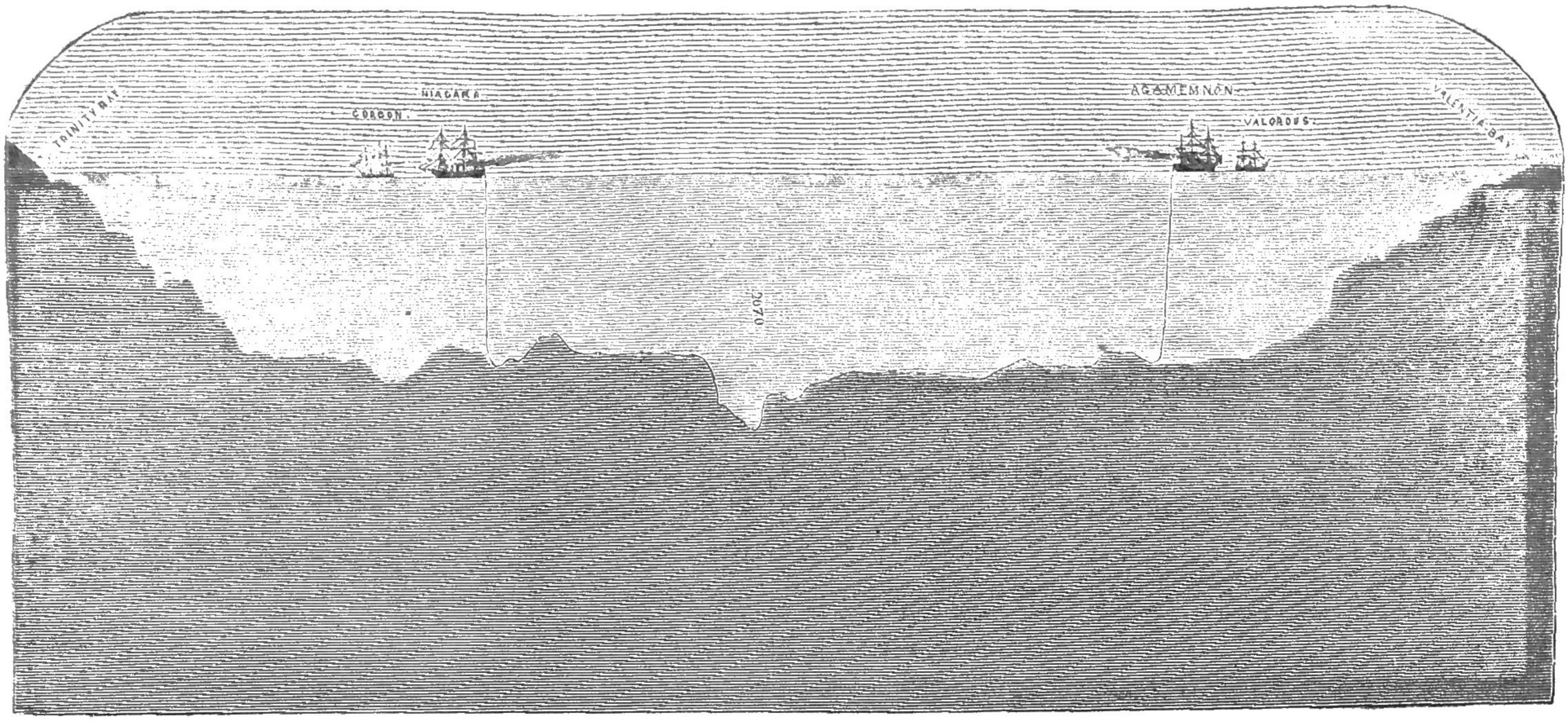
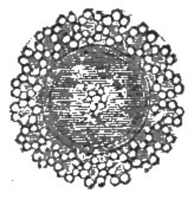
THE TELEGRAPH PLATEAU.



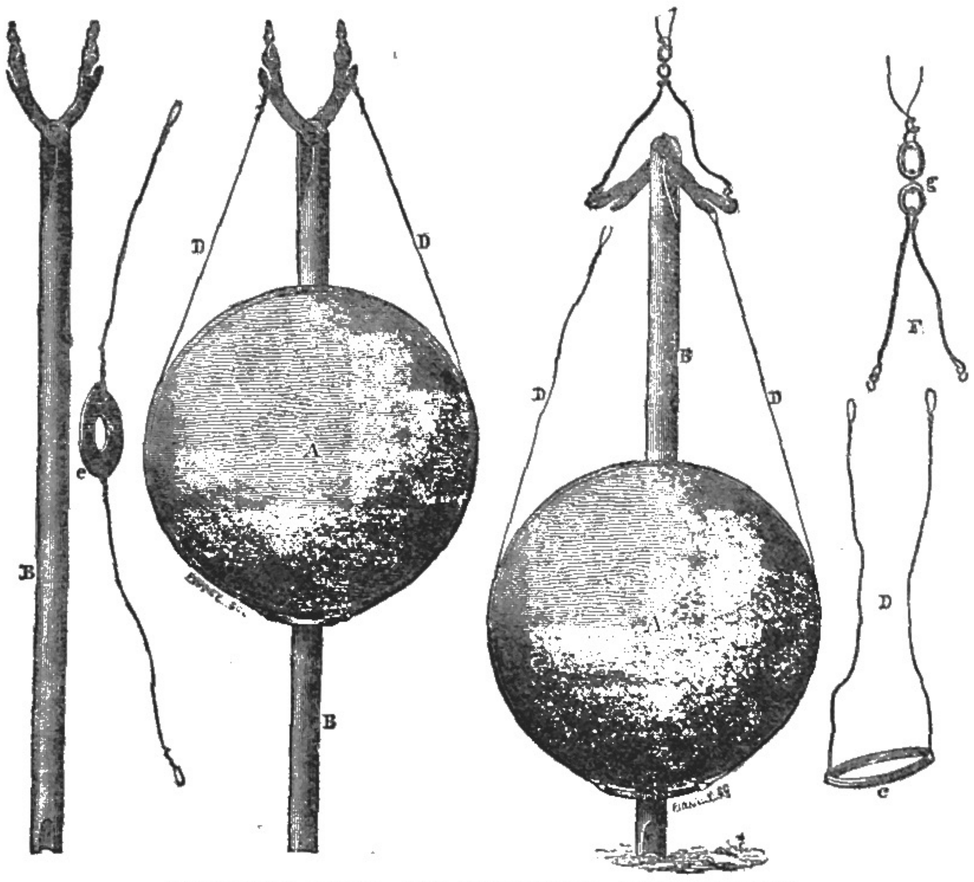
SECTION, EAST AND WEST, OF THE BED OF THE ATLANTIC—LAYING THE CABLE ON THE TELEGRAPH PLATEAU.

THE first of the two illustrations on this page presents a view of the surface of the great oceanic plateau, or table-land, along which the telegraph wires have just been successfully laid. The last is a sectional view of the bed of the Atlantic (north and south), showing the relation of the elevated ridge to the remainder of the ocean bed.

The soundings across the Atlantic between England and America, first begun by the United States Government, and since verified by a British expedition, demonstrated satisfactorily two most important facts bearing upon the possibility of successfully laying the oceanic wire. These were, first, the existence of the elevated level we here illustrate, which at once took the name of "Telegraphic Plateau;" and, second, the remarkable fact that in the ocean depths there is an absolute absence of current or motion of any kind—so that the wire, however small, being once laid, there is no danger of its destruction by abrasion or chafe against the bottom surface. From the series of soundings obtained by Lieutenant Berryman, in the United States Steamer *Arctic*, stretching from the coast of Newfoundland to Valentia Bay, in Ireland, it appears that the depth of water on the plateau nowhere exceeds two miles; and that there is, from a point a little to the eastward of the middle, a gradual slope toward each terminus, with but few irregularities. Along this ridge, so providentially arranged to facilitate the greatest



THE CABLE.

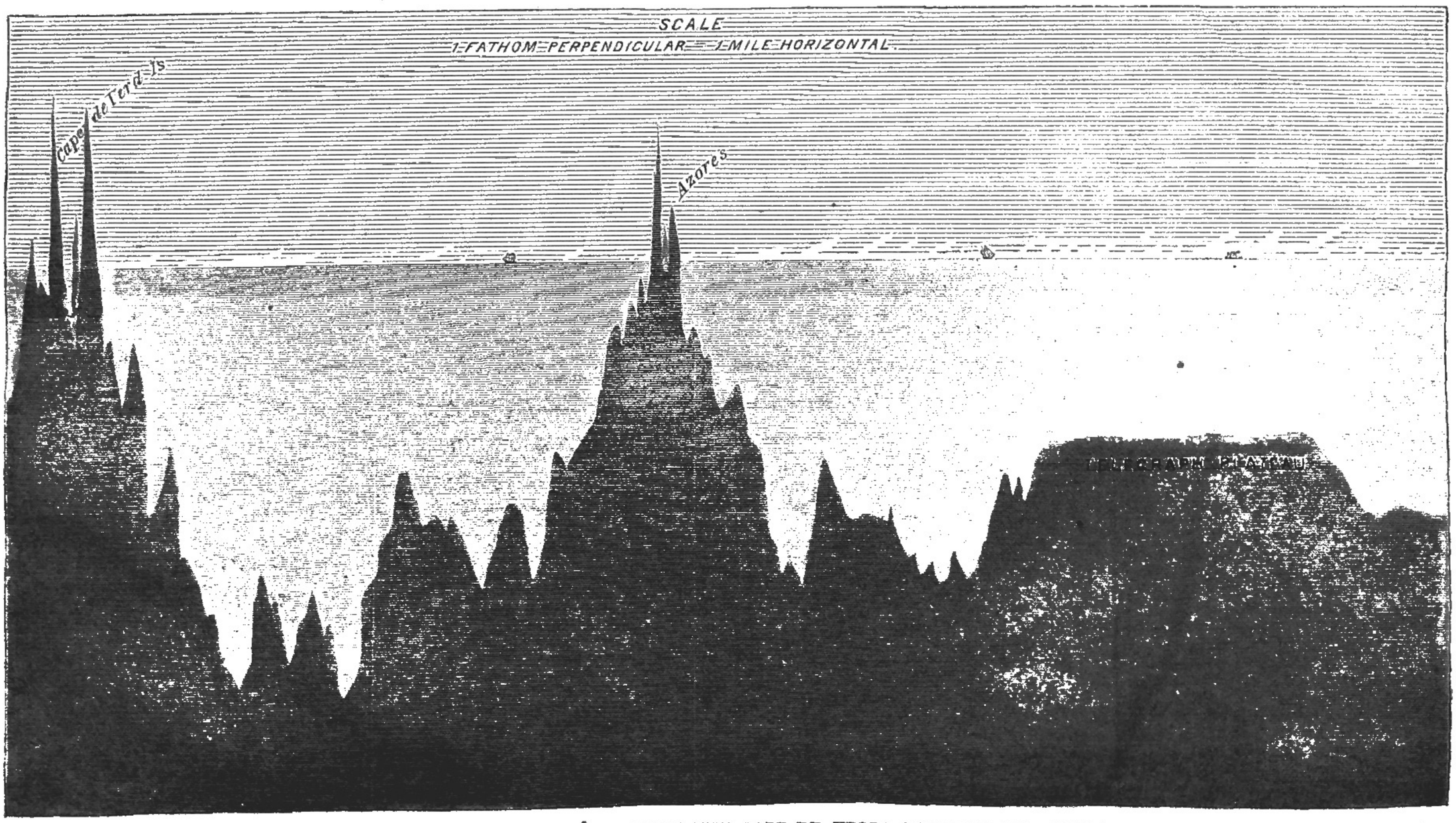


BROOKE'S DEEP SEA SOUNDING INSTRUMENT.

achievement of modern science and energy, there appear to be no rocks or jagged points to endanger the safety of a cable; nothing, in fact, but a deposit of soft mud, which under the microscope proves to be composed of myriads upon myriads of minute shells, each separate and entire—thus proving that there is not, in those depths, even sufficient current or motion to destroy, by abrasion, these fragile structures.

Not least remarkable, in connection with this subject, is the ingenious contrivance invented by passed midshipman (now Lieutenant) John M. Brooke, by means of which it first became possible to obtain samples of bottom from any depth of water at which the lead could reach bottom. The accompanying illustrations will sufficiently explain the operation of this machine, which is known as "Brooke's Deep Sea Sounding Apparatus." Hitherto it had been possible to obtain depths or soundings, but impossible, owing to the necessary slightness of the line and heaviness of the shot, to bring up specimens of the bottom, the shot being always detached.

B, in our illustration, is the staff "armed" at its lower end, where there is a small cavity, C, for the purpose, with soap or tallow, to which armature a sample of the bottom clings. A is a common cannon-ball, which has a hole pierced through its centre. It is held in its place on the rod by the slings D D, which slings detach themselves when the machine strikes bottom—



SECTION, NORTH AND SOUTH, OF THE BED OF THE ATLANTIC, FROM THE CAPE DE VERDS THROUGH THE AZORES AND THE TELEGRAPH PLATEAU.