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W. H. W. & Co. 1874. N. 10. Long. 1874.

*Thetis - (one in its most quiescent state,
representing the Derrick and Diving Bell Launch,
+ spots where the Thetis' Crew Lauded.*

NARRATIVE

OF THE

OPERATIONS FOR THE RECOVERY

OF THE

PUBLIC STORES AND TREASURE SUNK IN H.M.S. THETIS,

AT CAPE PRIO, ON THE COAST OF BRAZIL, ON THE 5TH DECEMBER, 1830.

TO WHICH IS PREFIXED

A CONCISE ACCOUNT OF THE LOSS OF THAT SHIP.

BY CAPT. THOMAS DICKINSON, R. N.

At that time Commanding H. M. Sloop Lightning, employed in effecting the above Salvage.

LONDON :

LONGMAN, REES, ORME, BROWN, GREEN, AND LONGMAN.

M.DCCC.XXXVI.

London: Mills and Son, Gough-square, Fleet-street.

P R E F A C E.

IN the following effort to lay before the Public the particulars of a service, which I believe, when all the circumstances under which it was performed are considered, may be allowed to be quite unique, I have laboured under much difficulty ; first, in the want of confidence in my ability to execute the task I have undertaken ; and secondly, in the endeavour, while relating the routine of operations, to introduce matter which might be generally entertaining : for I have felt that if I adhered closely to the former, it might be viewed by the general reader as partaking of the unvarying detail of a ship's journal ; and if I

should go more at length into a description of incidents not forming a part of the actual service, the members of my profession might think that I was wandering somewhat out of the path I had professed to tread in. It has then been my great wish to steer the middle course, by relating a few anecdotes, which I hope will be found amusing, but not introducing them to such an extent as to break the chain of the narrative of the service performed ; while at the same time I have aimed to avoid too minute a detail of the circumstances of the enterprise ; and if, by these means, I have succeeded in producing a little book which will be generally interesting, I shall feel highly gratified, though there are at the same time other reasons which have induced the attempt.

The highly meritorious exertions of those who were employed under me, rendered it a duty to make them known, and it has therefore always been my determination to publish a statement of them in some shape or other ; but my first intention was that it should be a mere pamphlet, for private circulation only, and founded on my public Narrative sent to the Commander-in-Chief, to be forwarded by him

for the information of the Lords Commissioners of the Admiralty; but certain circumstances, to which a protracted litigation gave rise, but to which I shall only thus allude, have given such a very extraordinary feature to a service which I always did, and always shall, consider to be of a purely public character, that I consider it absolutely necessary to my own justification, to put the Narrative in a more extended form, that the Public should be fully acquainted with the matter.

During the legal proceedings an officer of very high rank and eminent services in the profession remarked to me—"Dickinson, there must be a great deal of merit in your work at Cape Frio, since so many wish to participate in it; you ought to publish." I have followed his advice, and I hope in such a manner as will enable the Members of the Profession and Readers at large who may do me the honour of perusing my book, to judge to whom that merit is due.

I have carefully avoided stating any thing for which I have not some documentary testimony. My public and private journals, public and private

letters, and private memoranda, contain sufficient matter, if placed in the hands of a person possessed of more graphic tact, force of style and animation of thought, on which to write volumes ; but I have throughout felt my deficiency in those qualifications, and have consequently been in dread of wading out of my depth ; and am therefore not without apprehension that my Narrative may be considered as being too much “ matter of fact ” ; and I have similar fears as to diction, for which I must apologize by stating that as I entered the Navy at the age of nine years, not, as was too much the case in those days, by being placed on the books of a ship and still remaining on shore to receive all the great benefits of school instruction, but I went immediately to actual and active service, and was therefore deprived of the advantage of a liberal education, so necessary in literary attempts. I had a thought of calling in the aid of some person to correct and improve for me, but on further consideration it appeared to me that from the peculiar nature of the subject, in endeavouring to heighten the description he might perhaps destroy in a measure that appearance of positive veracity which it has been a point of anxiety to me that it should possess. I therefore

send it forth to the world as it is with all its faults, and whatever they may be I must bear all the censure they deserve, for they are my own.

The remarks on the long course of legal proceedings I should have been better pleased to avoid altogether, or rather, that the necessity for them had not existed, but that they were necessary I think they themselves sufficiently prove; and I hope that they may prove useful to those of my brother officers who may hereafter be placed (if possible) in a similarly anomalous situation.

It was my desire to give this little work to the world at a much earlier period, and I fear that the interest which was felt in the operations at Cape Frio while the services were carrying on, and during the hearing of the case in the Admiralty Court and before the Judicial Committee of the Privy Council, may not at this distant period be re-excited, but the delay was occasioned by several points which, subsequently to the great question of award of salvage, had to be decided on, and the results of which I considered it best to wait for. Even now there is a point which I hope I may consider

as being but in abeyance, and that, should those in whose hands it is condescend to read my Narrative, they may thereby be induced to give the subject a more favourable consideration.

THOMAS DICKINSON.

London, June, 1836.

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A

NARRATIVE,

ETC.

LOSS OF THE THETIS.

THE circumstances attending the loss of his Majesty's late frigate *Thetis*, unquestionably place that melancholy catastrophe among the most remarkable of the recorded instances of maritime disasters. And for this reason, as well as from a conviction that to the general reader a concise account of it may prove interesting, I have thrown together the outlines of this event, gathered from the narration of officers of that ship, and from documents which have fallen within my observation. These particulars, imperfect though they necessarily are, in consequence of the suddenness of the accident, and the confusion attendant upon the embarrassing and almost unparalleled circumstances under which it occurred, are yet amply sufficient to convey a vivid impression of the imminent peril of all on board, and of the almost miraculous nature of their ultimate preservation. They will likewise afford an appropriate and almost necessary introduction to the narrative of the operations by which

B

his Majesty's ship *Lightning*, then under my command, was successful in retrieving, to a large extent, the heavy pecuniary loss which those who were interested in the valuable property on board the *Thetis* at the time, had sustained through this lamentable disaster.

It is not my intention to offer any opinion on the calamity itself. All the circumstances connected with it have been submitted to the investigation of the most competent tribunal, a naval court martial; and it would be equally presumptuous in me to suppose that I could either strengthen or weaken the force of the decision of that court, by any opinion of mine; but there is one short remark which I am induced to make, because it may be useful to strangers visiting the neighbourhood of Cape Frio. The currents are always dangerously uncertain, being almost entirely influenced by the winds. In the course of my observations I have known the current run strong to the southward for five consecutive days, then change, and run to the northward for two days, and again change and run to the southward for three days. This sets all computation at defiance; and so strong are these currents, that I have been set about forty miles to the southward in twenty-four hours.

On the morning of the 4th December, 1830, his Majesty's frigate *Thetis*, of forty-six guns, and with a complement of about 300 men, sailed from Rio de Janeiro on her voyage to England, having on board gold and silver bars, and other treasure of various descriptions, amounting in value to about 810,000 dollars; the greater part of which she had brought round from the Pacific to Rio, where she received a small additional quantity; the whole being shipped on account of merchants and others in England. The wind falling light, with occasionally a very thick fog, and a strong tide being against her, she was unable on that day to reach further than Raza Island, which is situated at the outer entrance of the harbour,

about five miles from Rio, and has a light-house on it. From hence she took her departure at half-past one o'clock on the morning of the 5th, the island then bearing N. W. by W. eight or nine miles distant. The wind being from the south-eastward, they stood out to sea on the larboard tack to get an offing; but at seven o'clock they wore ship and stood on the starboard tack; and the wind soon after becoming more favourable, they steered east by north until two o'clock in the afternoon (Cape Frio having, at half-past one, been computed to bear north, distant about forty miles), when the course was altered to east-north-east, on which they ran twenty miles in two hours; and at four o'clock the ship was considered to be abreast of Cape Frio, twenty-four miles distant; and the course then given to be steered was north-east by east, with a fair wind, which enabled them to set the fore-topmast studdingsail, and the ship was going at the rate of ten and a half miles an hour, with every expectation of a speedy and favourable voyage; and, doubtless, all hearts dwelling with delight on the prospect of shortly meeting those whom they held most dear, and from whom they had been for several years separated; a prospect which none can so fully experience or appreciate as those whose station in life, like that of a sailor, severs them, for a long interval, from their home and domestic comforts. But alas! in this instance, all these pleasing anticipations were soon to be blighted. Continuing in their progress onward at this rapid rate, without the slightest apprehension of any danger, much less of the dreadful fate that was so shortly to befall them, eight o'clock arrived, at which time a further distance of about forty miles had been accomplished since the hour of four. The watch*, as usual, was relieved, and had gone to their beds; the customary look-out men were placed in

* Half of the crew.

stations, and the officer who had assumed the charge of the ship had visited them, and given his directions to keep a good look-out, and such others as from the state of the weather he had considered necessary ; but scarcely had he performed this duty and reached the quarter-deck, when the look-out man on one cathead* called out “ Breakers under the bow ! which was immediately followed by the shout “ Rocks above the mast-head ! ” and in an instant the bowsprit came with a tremendous crash in contact with the lofty perpendicular cliffs of Cape Frio, and was broken off just above the ship’s figure-head ; the head yard-arms also pressing against the cliffs ; and the foremast having lost the counteracting support of the bowsprit, it fell aft against the mainmast, which being carried away by the shock, fell on the mizenmast, and carried it away also ; thus all three masts fell fore-and-aft on board the ship, killing and wounding many of the crew, and, “ at one fell swoop,” in the space of a few seconds, the ship was reduced from the grandeur of full sail to a helpless and unmanageable hulk. The falling of the masts occasioned a great deal of wreck ; and as there had not been time to take in the sails, every avenue to the upper deck was so covered by them, that those of the officers and crew who were below were obliged to cut their way through them with knives to get up.

At the instant the breakers were discovered, Mr. Bingham, a midshipman (son of Captain Bingham, who a few weeks before had commanded the *Thetis*, and had been unfortunately drowned at one of the ports in the Pacific), ran down to inform the captain of it ; but so sudden was the disaster, that although Captain Burgess rushed past him at the cabin door, the masts fell at the moment he reached the quarter-deck.

* A strong piece of timber to suspend the anchor to.

No description can realize the awful state of the ill-fated ship and all on board at this appalling moment ; the night was rainy, and so dark that it was impossible to ascertain their position, beyond the fact of their being repeatedly driven with tremendous force against cliffs of a stupendous height above them, and consequently inaccessible, and not offering the slightest chance of escape : the upper deck of the ship, the only part in which exertion could be useful, was completely choked up with masts, sails, and rigging, which presented obstacles that rendered unavailing every attempt at active exertion ; while the ears of all, who were of course using their utmost endeavours for the general safety, were pierced by the cries of the dying and wounded for the assistance which the imperious calls of duty forbade them to give. Nothing but inevitable destruction presented itself to all on board ; and their perfectly helpless state rendered all deliberation useless ; and indeed there was no choice of measures, no point on which to offer an opinion, and they could only await such means as Providence might present.

It might reasonably be supposed that the concussion against the granite coast would have dashed the bows of the vessel in, but this was not the case, in consequence of the bowsprit and head-yards having, in a great degree, checked her velocity ; still the shock could not have been otherwise than terrific : notwithstanding which, she still remained sound below her water-line. The depth of water being great close to the shore, her bottom had not yet touched, and remained uninjured ; and on sounding the well, to their great surprise and delight it was found that she did not leak.

“ That danger past, reflects a feeble joy ;

“ But soon returning fears their hopes destroy.”

Her head having recoiled from the rocks, and turned off shore, an attempt was made to force her out seaward, by

getting out numerous spars against the cliffs, and by hoisting a small sail on the stump of the mainmast, which had broken off at about fourteen feet above the deck ; but these efforts proved unavailing ; the small bower anchor was then ordered to be let go, but it was so covered by the wreck of the masts that it was found to be impossible to accomplish this, but the best bower was immediately prepared and let go. All these efforts, however, and great indeed they must have been in the existing condition of the ship, were fruitless. From some cause the anchor did not readily reach the bottom, and on her swinging round to it her starboard quarter came in contact with the rocks, and every wave that came in caused her to strike against them most violently, making every timber and beam to yield, and it was with the greatest difficulty that any one could keep his legs. Directions were now given again to sound the well, when it was found that she was leaking very fast, and that the water had forced open the hatches of the spirit-room. The pumps were immediately set to work, but all hope of saving the ship was at an end, and preservation of life became the only object of their efforts.

At the part of the cliff where she now lay, there was a shelving projecting rock about twenty feet above the sea, which presented a point at which there was a prospect of landing, and here a part of the crew made the attempt by leaping ; about forty of them succeeded ; but others, less agile, or less strong, failed, and falling between the ship and the rocks, were drowned or crushed to death. She again swung a little further from the shore, and orders were given immediately to slip the cable ; which being done, she was again let loose to the mercy of the winds and waves, in the hope that she might be driven to some other part on which they might effect a landing. In taking measures for saving the crew, the boats were naturally the first means to be

tried. Unanimous efforts were now directed to this all-important object; but on examining the cutter, jolly-boat, and gig, which were on the stern and quarters, they were found to be broken to pieces by the falling of the masts. The boats on the booms were then tried, but the launch and a gig which was in her, were found to be crushed; and the remainder, with the exception of the dingy*, were so jammed as to be perfectly immoveable. With this accumulation of peril, all human efforts at this period appeared to be in vain; but meanwhile, the ship having been driven along the coast about a third of a mile from where she first struck, a small inlet now appeared to their view, and a gleam of hope burst upon them, for it was supposed to be the entrance between the island and the main to the harbour of Cape Frio; but in a short period, the discovery of the coruscations, caused by the dashing of the surf against the rocks within, showed that it was only a nook in the coast, into which, after striking violently on the point at the outer extremity, and swinging completely round, by the impulse of the increasing wind and sea, she drifted at a little before nine o'clock; and here she lay, surrounded on three sides by dark, and apparently perfectly inaccessible cliffs. At the inner part of this nook, subsequently denominated "Thetis Cove," and near the cliffs, are some sunken rocks, against which she was propelled, where every succeeding wave raised her to a great height, and reflux let her fall on them with a violent concussion. Every spark of hope was extinguished, and to all human perception nothing but inevitable death stared them in the face. But Providence ordered it otherwise, and a remedy, almost miraculous, appeared at hand. The party who had landed on the ledge before-mentioned, in the faint hope of rendering assistance to their forlorn shipmates, although there was no apparent means of

* A very small boat.

doing so, and notwithstanding they had but just escaped from death themselves, like true British sailors, were still ready to risk their lives in the service of others, had, by dint of persevering exertion, scrambled over the craggy precipices and through the woods, followed the ship as she drifted along the coast, and succeeded in reaching the spot where she now lay, buffeted about by the winds and sea, in the last extremity of distress. On the south-east side of the nook into which she had been driven is a part considerably lower than the rest, and to this they contrived to descend; and the head of the ship having come in juxtaposition with this spot, those on board were enabled to throw a small rope to their companions on the cliff, by aid of which, at nine o'clock, a hawser was hauled up and made fast to a rock. By this means, in a short time lights were sent on shore, and several of the crew were drawn up the rugged face of the cliff, and there appeared to be a reasonable prospect that the remainder would likewise be got safe to land. But the hope of deliverance thus presented was yet doomed to meet with checks and painful suspense. At a quarter past nine the water was up to the main-deck: the ship was now sinking very fast, and, under the influence of the heavy waves that rolled in, was writhing with a vibratory motion, and, as if in a last convulsive effort, gave a tremendous surge and sank; at the same time displacing the rock to which the hawser had been fastened, and thus at once destroying the communication with the shore, and increasing the distance between it and those on board. At this instant, when there appeared no hope that a soul could be rescued, it was discovered that the ship had reached the bottom; the upper part of the larboard bulwark *, the hammock-nettings †, the

* The upper part of the side of the ship.

† Compartments in which the hammocks are placed in the day-time; situated on the top of the bulwark.

tafrail*, and the stumps of the masts, remained above the surface of the water, and these served the crew to cling to, though they were frequently enveloped in surf, which threatened every instant to tear them from their hold. All possibility of general efforts was at an end, and the period for individual exertion and intrepidity had arrived, which was indeed exhibited most conspicuously. Mr. Geach, the boatswain, a very powerful man, whose conduct throughout had been most praiseworthy, happily succeeded in reaching the stump of the bowsprit with a small line in his hand, to the end of which he fastened two belaying-pins†, and having contrived to secure himself in his position, by an extraordinary effort, but not until after repeated failures, he succeeded in throwing the line to those on the cliff, several of whom had by this time managed to get considerably lower down than on the former occasion; and, as before, a large rope was thus hauled up, the end of it made fast, and the means of communication and relief were thereby restored. Captain Burgess now placed himself just within Mr. Geach, encouraging the people, and assisting to sling every man singly, so long as there were any that would go, but there were a few that hesitated, preferring to remain on the wreck until daylight. Finding his persuasions unavailing with them, and that his remaining any longer on the wreck could not be of any possible utility, while every one was urging him to save himself, he consented to be drawn up, and immediately afterwards those whose obstinacy had very nearly been the cause of their destruction, repented, and were saved by the same means; the last man being rescued from this most perilous position just as daylight broke and showed them their real situation and their devoted ship beneath

* The upper part of the stern of the ship.

† Pieces of wood or iron for the purpose of making ropes fast to.

them. Considering the whole of the circumstances, it is most wonderful that there were but twenty-eight persons lost, among whom was young Bingham. This fine spirited young gentleman had been most active during the whole period of the distressing scene, particularly in getting the small sail on the stump of the mainmast. Nearly the whole of those who were saved had their hands and feet dreadfully lacerated by the rocks, and were otherwise much bruised and injured.

In this result it is impossible not to see the interposition of Providence; for this nook, in which the *Thetis* was lost, is the only spot on the whole line of coast on that side of the island where they could possibly have been saved.

I have given in the above sketch a mere outline of the circumstances of this very singular and distressing accident, which, if dwelt on in detail, would extend to a greater length than might be considered consistent with my proposed ostensible object, that of giving a narrative of the subsequent proceedings for retrieving, as far as possible, this heavy loss.

On the 19th of August, 1830, his Majesty's ship *Lightning*, under my command, sailed from Rio de Janeiro, for the purpose of completing her station-time in the Pacific Ocean; and having in her voyage thither touched at Monte Video and Buenos Ayres, arrived at Valparaiso on the 12th of October; where was lying his Majesty's ship *Tribune*, on board of which was deposited a considerable quantity of specie and other treasure, which had been intended to be sent to England in the *Thetis*; but which, from some cause with which I am not sufficiently acquainted to state, was not called for by that ship on her voyage homeward. Captain the Hon. Wm. Waldegrave, of his Majesty's ship *Seringapatam*, the senior officer on that part of the station, arrived a few days after me, and in furtherance of British

commercial interests at that port, immediately ordered me to receive the treasure from the Tribune, to call at Coquimbo for whatever treasure might be there, and thence proceed with the whole, which amounted to about 45,000 dollars in value, to Rio de Janeiro. In the execution of these orders I proceeded with all possible speed, in the hope that I should reach my destination before the Thetis sailed from thence, that I might tranship the treasure to her, so that it should go to England by the conveyance originally intended; but a series of light and adverse winds for the first ten days after I sailed somewhat retarded my passage, which nevertheless was an unusually short one. The Lightning reached to within about fifteen leagues of Rio on the evening of the *fifth* of December; but not having for several days before been able to obtain any observations for determining the longitude, and the weather being squally and precarious, and the night very dark, I did not think it prudent to run in to make the land, but brought the ship to the wind under easy sail, stood off and on during the night, and on the following day arrived in the port. The Thetis, however, was gone, and my endeavours were consequently frustrated.

The Thetis had arrived at Rio de Janeiro a considerable period before me, had undergone the usual refit, and received a small quantity of treasure on board in addition to the large amount brought from the Pacific; and it is observable, from the foregoing account of her loss, that had the Lightning been fortunate enough to complete her voyage one day sooner, that melancholy event, in all probability, would not have occurred, as the transshipment of the treasure to the Thetis would necessarily have caused some delay.

Immediately on my arrival at Rio Janeiro I received orders from Rear Admiral (now Sir Thomas) Baker to refit for sea; and was proceeding in compliance therewith, in

prospect of returning to the Pacific, having been sent from thence for the purpose already specified ; but a different employment very unexpectedly presented itself, which it is my purpose to relate in the following

NARRATIVE.

ON the 10th day of December, 1830, intelligence of the loss of his Majesty's frigate *Thetis* was communicated to Rear-Admiral Baker, C. B., the Commander-in-Chief of the South American station, then at Rio de Janeiro, in a letter from Captain Samuel Burgess, brought over land by Lieutenant Hamilton, late of that ship.

My first information on the subject was derived from the telegraphic signal to that effect from the *Warspite*, the flag ship, to the Admiral on shore, and having been engaged to dine with him on that day, I hastened to his house, where shortly afterwards I met Lieutenant Hamilton, who concisely related to me the circumstances. The subject formed, as may readily be imagined, the only topic of interest and discussion during the dinner and the rest of the day. The consternation occasioned by the dreadful catastrophe was not confined to naval persons, but was universally felt at Rio, particularly amongst mercantile people, since from the tenor of the letter and the description given by the officer who brought it, the ship and every thing she contained were considered as totally lost. The event became a matter of general conversation ; but while every one deplored it, I did not hear of any who seemed disposed to venture on an attempt to recover the property, all appearing to consider the case as perfectly hopeless. At this time there was before me the prospect of being actively employed for two years in the Pacific on the customary duty of collecting treasure at the different ports, and at the termination of that period, of returning to England as usual with a freight, by which I might

realize several thousand pounds ; on the other hand, here was an undertaking, which, if successful, I felt would assuredly lead to professional reputation and fortune, but which every one whom I addressed on the subject thought must fail. Still, the scarcity of the opportunities of obtaining distinction and credit, by an extraordinary act of duty, which present themselves to officers in the navy in these " piping times of peace," offered a consideration which prevailed over the more certain pecuniary advantages of freighting ; and I determined on making the attempt, if I could get orders from the Commander-in-Chief to that effect.

In order to know what would be the means necessary for carrying the project, now the object of my ambition, into execution, I made minute inquiry into the circumstances, and endeavoured to learn the form of the coast and depth of water, and to obtain every other information bearing on the subject. The result of these inquiries was, that the enterprise was practicable, or at least that it was worth the trial, although it was evident that to obtain success, great dangers must be encountered and many difficulties and obstacles overcome ; and that with so few as 135 persons, the complement of the *Lightning*, immense labour and exertion must of course attend it.

On the day succeeding the arrival of the communication of the loss of the *Thetis*, the Admiral put to sea with his Majesty's vessels *Clio*, *Algerine*, *Adelaide* (tender), the *Warspite's* launch, and his own barge ; intending to proceed to Cape Frio to visit the wreck, and afford relief to the distressed crew : but after an ineffectual attempt for three days to beat up against a strong north-east wind, he returned in his barge, and on the following day, the 14th, went over land. On reaching the place, he found that the above-named vessels had arrived* : he remained there for ten days, when

* H. M. frigate *Druid* also arrived while he was there.

he "appointed his Majesty's sloop *Algerine* to guard the wreck, and to save any thing of value which might be driven up ;" and having dispatched the other ships to Rio de Janeiro with the unfortunate surviving officers and crew of the *Thetis*, he returned over land to that place.

On the return of those ships from Cape Frio, I made many inquiries as to whether any plan or contrivance had been suggested, or put in practice, for the recovery of the property ; but to all of them received negative answers. This was certainly the very reverse of encouraging ; and I must confess that it became a matter of serious reflection whether the sacrifice was not too great, in exchanging the pecuniary prospects of a trip to the Pacific for an undertaking which every one appeared to consider chimerical. The hull of the *Thetis* at this time was still entire ; and since with that advantage and the resources of a frigate, two sloops of war, a schooner, and a launch, together with the great numerical force of their crews, and a large proportion of the carpenter's crew of the *Warspite*, and likewise the Commander-in-Chief to direct them, no attempt was hitherto made beyond guarding the wreck and saving any thing that "floated up," it might well be considered temerity in me to venture in the matter. Actuated, however, by the same feelings which had at first prompted me to hazard the attempt, and having a natural repugnance to receding after having, during my inquiries, disclosed my views very freely, I was resolved to persevere.

During the absence of the Commander-in-Chief, I constantly employed myself in inquiring for any persons likely to assist me, searching for implements, and obtaining all the information within my reach, and devised several instruments of minor importance which appeared likely to be useful. On his return from Cape Frio, I showed these to him, of the whole of which he approved ; and they remained at his house for general inspection. They were devised un-

der the impression that the hull of the *Thetis* was still entire, which at that period was the case, and had it remained so until the commencement of our operations, they might have proved very beneficial, for at that time my notion was to cut down into her hold, but as she shortly afterwards went to pieces, they consequently were never used. My sole object in mentioning them at all, is to show that my attention was thus early directed to the mechanical preparation for the undertaking. I considered a diving-bell and apparatus for working it to be indispensable, and had no doubt but one could readily be obtained at Rio. I sought throughout the public establishments, the city, and the contiguous parts, but was surprised to find that neither this nor any other description of instrument likely to be useful could be procured; and I therefore perceived that much assistance must not be expected from those quarters, and that as to machinery I must depend almost entirely on my own resources for invention, and on such assistance as I could obtain for its construction. This disappointment I reported to the Admiral, from whom I learned that Mr. Aston, the *Chargé d’Affaires*, knew of a diving-bell. This for the moment was encouraging; but on waiting on that gentleman, I found that he had been misinformed; and, therefore, concluding it to be impossible to succeed without one, and as there were not the necessary facilities for casting one in the usual way, I consulted every person who was likely to be able to assist me with an opinion as to getting one made; but failing in these means, I was obliged to make an attempt to construct one with such as were within my reach. The difficulty of this at first appeared insuperable, but after much anxious consideration, it occurred to me that it was possible to make such an instrument of iron water-tanks*, strengthened with bars of iron,

* Iron vessels in which the stock of water is kept.

&c. ; and I accordingly mentioned this plan to the Admiral, and requested to be supplied with two two-ton tanks, which he immediately ordered to be furnished from the Warspite, and also authorized me to purchase the iron bars for the bell, and an air-pump.

In the course of my inquiries I heard of a working engineer named Moore, who had been for some years in the employment of the Brazilian Government ; and as at this time, not having seen the situation of the wreck, I had an impression that there would be a great deal of work of a purely mechanical nature to perform, I considered that he might be useful to me in executing it, and therefore sent for him, and told him that I was going to Cape Frio to attempt the recovery of the property sunk there, and that if he would go with me on speculation I would take him, with the clear understanding that his reward should depend on the degree of success of the undertaking. To this, after some consideration, he agreed. I immediately engaged him, and from that moment he considered himself in my employ. I then gave him my idea of a diving-bell, and desired him, with the assistance of Mr. Jones, the carpenter of the *Lightning*, to make a model according to my description, which was speedily done, and I immediately put the bell under construction at the island of Villegagnon, situated at a short distance from and in front of the Admiral's house.

Not wishing to go to the expense of sending Moore over land to Cape Frio, and not being able to take him passenger in the *Lightning* without permission, I took him at this period to the Admiral for the purpose of obtaining it, where it was decided that he should go with me in the ship.

The apparatus next of importance to the diving-bell to be obtained was an air-pump ; which, although I could not find one ready made, there was not much difficulty in getting made, beyond that of the excessively tedious manner in which work is performed at Rio. With the assistance of

Mr. Jones and Moore, a mechanist was procured, and I directed him to construct one, but he required daily visiting to ensure its completion by the time that the other work should be ready, which occupied more of my time than I could well spare from the other preparations. In the mean while my thoughts were turned to the formation of air-hoses, without which the diving-bell and air-pump would be useless, in fact, all that had been done, as it were labour lost. In vain I sought throughout the arsenal and city; it was impossible to obtain them ready-made: there were hoses to be had in abundance, but not one that would retain even water when subjected to the action of a force-pump. Being unable to find a workman in Rio de Janeiro who would undertake to make an air-tight hose, there appeared for a time to be a stop to my preparation; but recollecting that there was Truscott's pump on board the *Lightning*, I attempted to render the hoses belonging to it fit for the purpose, and to my great delight succeeded, by first beating them hard with a broad-faced hammer to render the texture as close as possible, then giving them a good coat of Stockholm tar, afterwards parcelling* them well with new canvass saturated with the same material, and finally carefully serving† them with three-yarn spun-yarn‡ made of new yarns and well twisted. They were used throughout the whole of the operations up to the termination, and answered admirably well, only requiring occasional repair.

Having thus surmounted without assistance the two most formidable difficulties that had yet presented themselves, I entertained a hope that my own resources would prove equally available on future occasions; and hence my confi-

* Narrow strips of canvass bound round a thing in the way we put a common bandage on.

† Wound tightly round.

‡ Several rope-yarns twisted together.

dence in ultimate success increased, in the event of the stores and treasure still remaining where the ship was lost. My officers and crew likewise now began to feel a great interest in all that was doing; and their conduct and expressions afforded me a happy presage that their future exertions would fulfil my most sanguine expectations.

General preparations were now going on with energy and rapidity; but while the exertions of those engaged in them were highly gratifying and encouraging, I could not but feel that the same encouragement was not afforded by some from whom I had most reason to expect both it and assistance; for although I had now been for six weeks engaged in the work, drudging on in the double capacity of carpenter and blacksmith, I had not a single voluntary offer by them of any article that might be useful to me. Nor was the kindness of my friends very encouraging; for they almost universally endeavoured to dissuade me from giving up the prospect that I have already alluded to, and venturing on an enterprise which every one considered hopeless; to all of which remonstrances my only reply was, that my mind was made up, and that I should not withdraw from it.

January, 1831.—The diving-bell was completed on the 22nd of January, 1831, and was constructed in the following manner: One side of a two-ton tank (four feet square) was taken out, another was divided into halves, from one of which halves the side was also taken out, and it was then rivetted to the bottom of the former, thus forming a cubical vessel six feet in height by four feet in breadth each way, and open at the bottom; round the upper square or head, bars of iron two inches broad and a quarter of an inch thick were rivetted, and others were placed down each side of the corners from the head to the lower edge, which was also strengthened in the same way as the head. In the inside, at the upper corners, were diagonal bars to afford additional

support against the external pressure when the bell was suspended. Slings made of the Lightning's top-chain* with shackles were attached at each corner of the head, and the other extremities were united at the point of suspension by a chain-cable shackle. For the purpose of weighting the bell, three loops of bar-iron were placed on each side of the lower half, through which a sufficient quantity of chain-cable was rove, with the addition of four large pigs of ballast, one fixed in each corner, in the inside, to sink it. At eighteen inches from the lower edge, in the inside, were two bars of iron, to answer the double purpose of strengthening the bell and supporting two seats for the men to sit on while descending or ascending, and across the centre of the bottom, at the extreme lower edge, was a flat bar of iron to rest their feet on, which was removable at pleasure, to be put out of the way when the bell was at the bottom, so as not to obstruct their work. On the upper part in the inside were numerous hooks for the purpose of suspending the various implements for boring rocks, digging, &c. It was lighted by six patent illuminators, two on the top and one on each side; and these rendered it so light that a person might see to read at the depth of many fathoms. When weighted it weighed about four tons, but it was afterwards made considerably lighter.

The apparatus to be connected with the bell being also completed, it was taken off to the Warspite for trial, and a *watch* of that ship's crew, superintended at first by the commander, and latterly by one of the junior lieutenants, was appointed to attend the working of it from the cathead† of that ship. It was lowered on trial, but not being sufficiently ballasted, it was taken ashore again to be rectified, and on

* A chain to sling the lower yards with.

† A strong piece of timber on each bow of the ship to suspend the anchor to.

the following day was again sent down in seven and a half fathoms water, with four men in it, and was found to succeed perfectly well. All my people who were present were desirous of descending in it; and not to check the warm feelings that were manifested, I permitted some of them to do so. A number of boats from the shore had come off filled with persons to witness the experiments, and they greeted the successful issue of it with three cheers, at which compliment I could not but feel much gratified; but while these kindly testified their good feeling, there were others who by their absence evinced their apathy, though they fully compensated for it when the dollars began to come up; there was then no want of energy in their endeavours to establish a claim to the benefit to be derived from the recovery of them. I must here notice the fortunate circumstance of having accidentally learned that the Warspite was furnished with that excellent invention, Fisher's watering apparatus, which I immediately applied for, and was supplied with by the direction of the Commander-in-Chief. This was a great acquisition, for a trifling alteration in the force-pump rendered it a powerful air-pump, and some of the hoses answered the purpose of air-hoses, and were used as such. Had they been new, they would all have been well adapted for that purpose; but unfortunately the greater part of them, from want of attention, or through some other cause not known to me, were rotten, and several accidents occurred from their bursting, though happily attended with no loss of life; but it will readily be imagined that this was sufficient to keep me in constant dread whenever they were in use. As I do not suppose that Captain Fisher ever contemplated the application of his invention to such a purpose, I am happy in having this opportunity of offering my humble tribute of commendation to his valuable apparatus. It is remarkable that notwithstanding my increasing inquiries for

any thing of this description, no one ever suggested that it was on board the Warspite, and it was only, as it were, by chance that I heard of it, at the last moment before my departure.

Being now furnished with the necessary mechanical implements, my mind was relieved from the great weight of anxiety which I had felt until they were obtained; and being, at my request, supplied, by order of the Commander-in-Chief, with a Brazilian launch, an anchor, sundry hawsers and rope, and a net which he had caused to be made to be placed outside the wreck, and also two men, George Dewar and John Littlejohns, who had been removed from his Majesty's sloop Clio for the occasion, and who had been used to working in a diving-bell (the former of whom was a very valuable man), and also William Stebbing, a mechanist, from the Warspite, who subsequently proved very useful, I reported everything ready, and received my sailing orders on the 23rd of January, 1831: they were of a very general nature*, which was a matter of much gratification to me, as I was in consequence left at liberty to pursue such measures as a view of the place and other circumstances might suggest as the best to be adopted. This gave me the more confidence in the ultimate success of the adventure, as it is obvious that any attempt, by a person at a distance of seventy miles from the scene of operations, to point out a specific mode of proceeding, would not only have proved futile, but must have fettered my exertions by rendering it necessary to communicate with the Admiral upon every new idea, before it could be put in practice.

Full of that ardour which the magnitude of the undertaking and the prospect of professional reputation, acting on a disposition on all occasions sanguine, would naturally excite;

* Vide Appendix No. I.

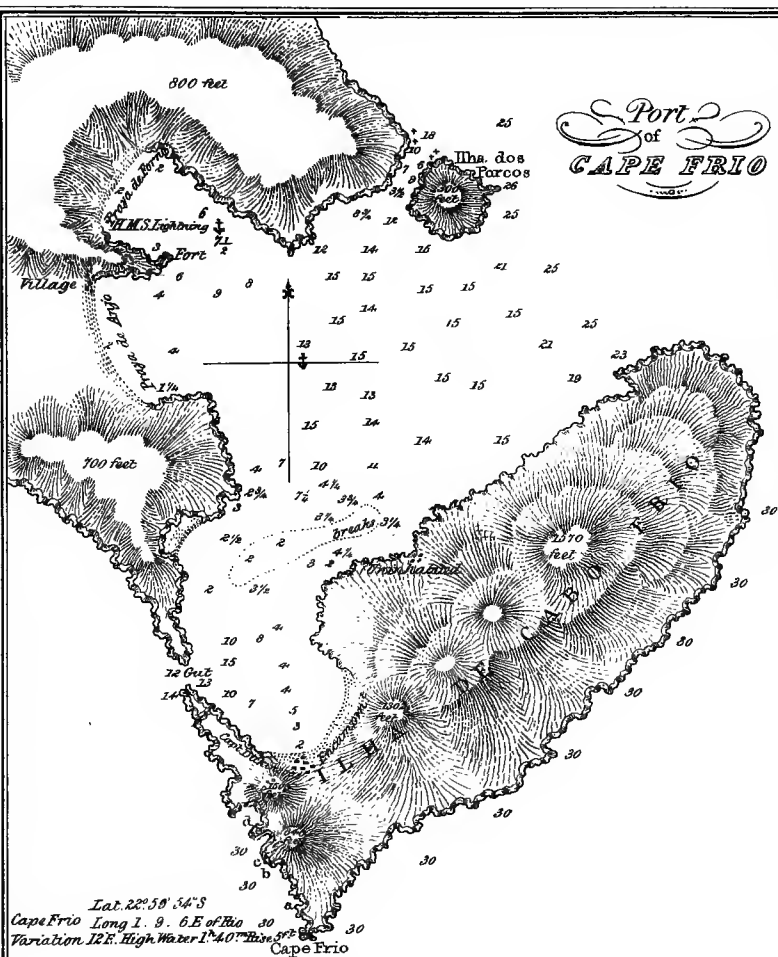
relying on every body about me, and conscious that this reliance was reciprocal on their part, I sailed on the 24th for Cape Frio with the Brazilian launch in tow, and *La Seine*, French frigate, in company, going to visit the place as a matter of curiosity. We had to contend against a strong north-easterly wind, which retarded our passage much, as the launch towed so badly that we could not carry a press of sail : I therefore, on the 28th, stood close in shore, and cast her off with the First Lieutenant H. P. L. Delafons and a good crew in her to work up to the Cape.

We arrived in the harbour of Cape Frio on the 30th. Here I found his Majesty's sloop *Algerine*, Commander Martin ; *Adelaide*, schooner (tender), Lieut. G. Hathorn ; and the *Warspite's* launch, her crew, and some of the carpenter's crew, with the boatswain and carpenter, in charge of Mr. Wood, the master of that ship ; and there were lying scattered on the beach at the island various fragments of the masts and other spars of the *Thetis*, which had been brought in by the boats.

The island of Cape Frio is about three miles long and one in breadth, is the south-eastern extremity of Brazil, and separated from the main land by a narrow strait or gut about 400 feet broad, having very deep water in it, and through which, the land on each side being very high, the wind constantly rushes in heavy gusts, and a rapid current runs. This island is entirely mountainous, and nearly covered with an almost impenetrable forest, and the whole coast on the sea side of it is formed by precipitous cliffs, washed by very deep water close to the shore ; and on the harbour side, with the exception of a sandy bay, is very steep and rugged.

From *Thetis* Cove across to this bay is the narrowest part of the island, being about a quarter of a mile broad ; and as the beach presented the most convenient point for landing and embarking, I determined on occupying a situation near

Port of **CAPE FRIO**



- a. Cove in which *Ithetis* struck & was dismasted.
 b. Points on which she struck after recoiling out of Cove a. & on c. 40 of the Crew landed, climbed the Rocks & steep hill & came down on the neck e. which being 100-80 feet high & the lowest part of the Cliff's a rope was got from the Wreck & the remainder of the Crew saved.
 d. Is where the Derrick was rigged out in length 158 feet over the Wreck & from which the ball was worked, named *Ithetis* Cove.

to it. The island was entirely uninhabited, but there were a few deserted fishermen's huts in a dilapidated state in a small bay on the harbour side.

Immediately on my arrival, I proceeded, accompanied by Commander Martin and Mr. Charles Pope, the master of the *Lightning*, to inspect the coast and ascertain the situation of the wreck, which until that time I had no reason to doubt would be still visible ; but I was much disappointed on discovering that not a vestige of her was to be seen, and that she had either washed out into deep water, or was entirely broken up. I therefore was obliged to have recourse to the uncertain means of sounding with a hand-lead* about the place pointed out as that where she had first sunk. By this method I thought that I could feel in various parts something like rigging, wreck, &c., in the depth of from six and a half to eleven fathoms water ; but of course this mode could not be depended on ; and it was necessary immediately to devise some means of ascertaining whether any part of the ship still remained there.

The situation in which the *Thetis* was lost is a sort of cove or inlet, formed by three sides of a parallelogram on the north-west, north-east, and south-east sides, and consequently exposed to the whole force of the South Atlantic Ocean on the south-west. It extends about 100 fathoms inwards from the sea, and is about ninety fathoms broad ; the depth of water in it varying from three and a half to twenty-four fathoms, the bottom being strewn with huge irregular rocks, so that within a very limited space there is a difference of several fathoms in the depth of water. The part in which the *Thetis* sunk is towards the eastern corner, with her head over towards the south-eastern side,

* A leaden plummet at the end of a line for the purpose of finding the depth of water.

and her stern inclining to the north-eastern side. The coast is formed of rugged and almost perpendicular cliffs, varying from 80 to 194 feet in height, a peak rising at each point and another in nearly the centre of the north-eastern side. On viewing this terrific place, with the knowledge that at the time of the shipwreck the wind was from the southward, I was struck with astonishment, and it appeared quite a mystery that so great a number of lives could have been saved; and indeed it will never cease to be so, for that part at which the crew landed is so difficult of access, that (even in fine weather), after being placed by a boat on a rock at the base, it required considerable strength and agility, with the assistance of a man-rope, to climb the precipitous face of the cliff; and I am certain that in the hour of extreme peril, when excess of exertion was called forth, there must have been a most extraordinary display of it by a few for the benefit of the whole.

Having obtained all the information that a cursory survey afloat could furnish, I returned to the harbour, and landed at the island for the purpose of viewing the scene of future operations from the hills above. When in the cove I was strongly impressed with prospective danger throughout the progress of the work, but on looking down from the heights on the situation in which we were about to be employed, while so great a number of lives would depend on my management in the measures I might pursue, the weight of responsibility came on me with increased force, and, indeed, it was a matter of consideration with me whether the charges of presumption made against me by some persons were not correct; for reflecting that the Commander-in-Chief had already been here with a frigate, two sloops of war, a schooner, and all their resources, and with all the surviving crew of the *Thetis*, for upwards of a week during the time that the wreck remained entire and visible, and that although

nearly two months had elapsed, no plan had yet been devised or attempt made to recover the property, my attempt to accomplish this task with little more means than could be supplied by a sloop of war, and after the entire destruction and disappearance of the sunken ship, was certainly made a subject of considerable doubt. This was a matter for deep reflection ; relying, however, with proper confidence on the zeal and support of my officers and crew, who were ready to submit with cheerfulness to the perils and difficulties which it was now clear we must inevitably encounter, and which would be necessary for the accomplishment of the work before us, I encouraged myself and them with the thought that the merit would be in proportion to the difficulties surmounted ; and recollecting what my late patron, Lord Collingwood, once said to me when I was a very young lieutenant, that “ one of the best means to ensure success in any undertaking is to have a rational confidence that you will succeed,” all other feelings gave place to a determination to persevere.

I devoted the remainder of the day to selecting situations for erecting tents and depositing the stores. The 31st of the month was occupied in landing small sails, studding-sail booms*, and other materials, for forming temporary residences, and store-houses, and in shifting and mooring the Lightning close in shore in perfect safety ; for it was quite apparent that, occasionally at least, all hands would be required at the island, as it will hereafter be seen was the case. It was also necessary to have the ship in a state of readiness for any other service to which on emergency she might be called, so that although engaged in this particular work she might still be eligible as an ordinary vessel of the squadron. The sails therefore were unbent†, the running

* Long poles run out from the ends of the yards.

† Taken from the yards.

rigging† unrove, and the yards and topmasts struck ; the greatest caution being observed in tallying and placing every thing in the most handy manner possible, and all the necessary tackle-falls‡ were stretched along, &c. Under these arrangements I always considered that the *Lightning* could be underweigh in four hours whenever hastily wanted.

I had now to consider in what manner our work was to be accomplished, and felt that it was not easy to determine on it. During my preparations at Rio, I had daily conversations with the Commander-in-Chief as to the means likely to be available in this undertaking, and amongst other hypotheses started was that of a suspension cable from the north-west to the south-east sides of the cove, with a cable-guy§ attached to an anchor laid out seaward ; but on a survey of the place, I found it to be so different in reality from what had been in my imagination, that all hypothetical propositions immediately fell to the ground, as it became clear to me that the work I had undertaken was entirely practical, and could be accomplished only by adapting diversified means to local circumstances as they might occur, for the purpose of obviating and repairing those casualties to which, from the exposed and very peculiar situation of our operations, we were liable ; and I foresaw a chain of obstacles in the enterprise before us which threatened to continue up to its termination. Hence it was most satisfactory to me that the orders I had received did not point out any specific plan to be pursued ; for as it was already apparent that success in the service must depend entirely on foresight, personal activity and promptitude in deciding and acting, it was obviously impossible for any person not immediately on the spot to give such advice or direction as could prove practically

† Ropes which are used for the management of the sails.

‡ That part of a tackle on which the people pull.

§ A rope used for pulling aside any article which is suspended.

serviceable, since every thing must depend on local and transient circumstances arising from change of wind or weather, or other temporary causes.

On examining the cliffs to ascertain how far it might be practicable to suspend a cable across, I immediately saw that from the nature of the positions in which the ends must be secured, from the great length requisite (one hundred and twenty fathoms at least), the small means we had for accomplishing such an undertaking, the great length of time it would require (perhaps six or eight months), if possible to do it at all, from the effect of the sea on the cable-guy, and consequently on the cable, which must inevitably cause a very great oscillation of the diving-bell when suspended to it, as well as from the great expense it would involve, I could not undertake it excepting in a case of extreme necessity: I was therefore induced to relinquish that plan; and the idea of erecting a derrick* having struck me on my first visit to the cove, I determined to adopt it if the materials for making one could be found; but in this I anticipated great difficulty, for on penetrating into the woods, it was found that all the trees of any considerable magnitude grew high up the hills, and would require great labour and time to get them down; and even if obtained, the great weight of the wood, which on examination was all found to be as heavy as oak, and being green was consequently liable to shrink, presented such objections to making a derrick of these materials, that with my scanty means and anxiety to get to work as soon as possible, I could not venture on the attempt. I then thought of making it of the Lightning's mizen-mast and main top-mast, but these were found to be too short. A resource, however, remained; for on consulting with Mr. Batt, the carpenter of the Warspite, and Mr.

* A sort of crane.

Daniel Jones, the carpenter of the *Lightning*, they both gave their opinion that a derrick sufficiently strong might be made of the fragments of spars saved from the wreck. On this therefore I decided at once, and on the 3rd of February set a party to work on it under the immediate superintendence of the former officer, while another party under the latter was employed in making bollards* and other fastenings, and crabs† to be placed on and about the heights above the cove for securing and working it; while a part of the crew, under Moore the engineer, were employed in cutting roads through the woods to the summits and down the faces of the cliffs, in levelling the peak of the north-east cliff for a platform, for the main purchases‡, one over the northern corner, and another over the eastern corner for guy-topping-lifts§, and various others in different parts for working the guys and other gear, and in fixing bolts in numerous parts of the cliffs for miscellaneous fastenings. On this day also the preventer net already alluded to was laid down, although there was no prospect of its ever being of the smallest utility: it was composed of one-and-a-half inch and two-and-a-half inch rope, with meshes of from four to six inches, not knotted but seized with raw rope-yarns; the head-rope was a six-inch hawser, and the *Algerine's* chain cable extended along the foot of it. The *Thetis* when she sunk was about sixteen hundred tons weight, and after deducting in round numbers two-thirds for diminution of gravity under water, we should still have a weight of five hundred tons to be resisted by this net had she remained entire, a pressure which it could no more have resisted than

* Strong pieces of timber placed vertically in the ground to fasten ropes to.

† Portable machines used as capstans.

‡ A series of large pulleys. The principal are here meant.

§ Ropes used for raising or lowering, as well as the purpose of guys.

a gossamer web could that of an elephant, in arresting her progress outward ; but as she had been rent to pieces by the effects of the sea, it is clear that the same force which could produce the destruction of the ship could drive any one timber of her against the net with an impetus that must inevitably tear it to pieces. The head-rope was broken on the first day a heavy swell set into the cove ; it was speedily repaired, but the net was very soon forced from its position and torn to rags.

The distance between the ship and the place of the operations being upwards of two miles, and a dangerous bar* intervening, to save time, and avoid the danger of passing to and fro, it was necessary that all the crew that could be spared, consistently with the safety of the ship, should live on shore : therefore, a sufficient number of tents for their reception being now completed, three fourths of them, and a proportionate number of officers, with a large quantity of provisions, were landed, and we were soon completely domiciliated at the island ; the regulations being that a quarter watch† should be relieved every fortnight, and the same system of discipline kept up on shore as if on board the ship. But in making arrangements for our subsistence, one of the great necessities of life, water, was likely very soon to fail us, since the only source of supply discovered at the island at this period was one shallow stagnant pool, not more than a foot deep in any part, and the water that was obtained therefrom was of the colour of weak coffee, which it will readily be imagined was not very wholesome ; during the mealtimes of the people, therefore, I personally undertook the task of searching for a spring or stream, but without

* A bank or shoal under water, generally at the mouth of a river or harbour.

† One-fourth of the crew.

success ; nor, on inquiry, could I learn from the fishermen or other persons who had frequented the island, that either one or the other was ever known there. However, in the course of my search, small quantities of water were found in the gullies between the hills : but it is remarkable, that however high the situation, it invariably had a saline taste, the cause of which I subsequently endeavoured to trace, but could not succeed in discovering any that was satisfactory to me. On the subject of water, I applied to several of the principal inhabitants of the neighbouring village of Praya de Anjo on the main, but the only answer I received was, that there was but one little hole on the beach from whence the supply was obtained for the whole population, and that the quantity it produced was so small, that if I took any from it it would distress them very much ; I therefore declined the attempt, concluding that if a spring, or rather a soak, which this was, existed in one spot, another might be found contiguous to it when time and circumstances would admit of making a trial.

My great anxiety to keep the ship ready for any service induced me to resolve not to trench on her water-tanks except in case of great necessity. Thus circumstanced, I took the earliest opportunity of clearing the first discovered pool of a great quantity of decayed vegetable matter and rubbish, and deepening one part of it, so as to allow the water to deposit its sediment, and thus to obtain a supply more clear and pure.

Up to the period of my arrival the only work doing was that of creeping in the cove from six A. M. until two P. M., whenever the weather would admit, by the Warspite's launch, and bringing in whatever might be so obtained, or float up. For the present I employed the Brazilian launch in the same way, and thus considerable quantities of the ship's equipment were recovered. Nearly all that the

launches obtained were in a very damaged state ; the cables were cut into short pieces ; chain-plates* and hammock-stanchions † were twisted ; water-tanks crushed flat ; and bolts and other iron-work so bent into various shapes that it was scarcely possible to recognise what they had been, but all demonstrating that the hull was entirely demolished ; and this, as she had disappeared, I considered a favourable circumstance, for it afforded a fair ground for hope, that as the ship had not drifted out entire, the treasure might be deposited, with other heavy articles, at the part of the bottom where she sunk.

Being strongly impressed with the necessity of making the most of our time, I gave written general orders that “ the hands should be turned up at half-past four, breakfast at five, dinner at twelve, and work to cease at sun-set ;” myself and the officers to take our meals at the same time as the ship’s company ; but I afterwards altered the periods of turning the hands up and breakfast to an hour earlier. From the nature of the work, however, it rarely occurred that we could act up to the orders, as regarded refreshment, and we were obliged to catch our meals whenever and wherever we could.

Immediately on determining on the derrick, and the plan of rigging it, I consulted with Mr. Wood, the master of the Warspite ; Mr. Pope, the master of the Lightning ; and Mr. Chatfield, the boatswain of the Warspite, as to what rope would be required for it ; for the expense was a matter of serious import while success was so very doubtful ; and when we had fixed on the quantity and size, I wrote to the Commander-in-Chief for such supply of rigging for it as was necessary beyond what the Lightning could afford, and sent

* Iron links to which the rigging is attached.

† Certain frames of iron which form the hammock-nettings.

the Adelaide for it, with which she returned on the 13th, and bringing a letter from the Admiral, giving his "cordial sanction to the plan," and expressing his opinion "that it was likely to succeed in recovering the stores and treasure should they be still in the cove."

The launches had continued creeping, and on the 9th brought the rudder in, the whole of the pintles* being broken off, and it was placed on the beach. The recovery of this afforded a further and more positive proof that the ship was broken up. On the 12th they recovered numerous other articles, and amongst them the stream chain cable and a slipping shackle, both of which, as well as many other articles, were very useful to us. But this, although we were doing a great deal of work of the kind, was making but little progress towards the great object in view, and did not at all accord with the ardour which pervaded us all; and as, by information derived from the fishermen, we learned that at this season of the year the north-east winds, which blow directly off the land, and consequently least disturb the sea, prevailed more than at any other, I was anxious not to lose the benefit of these winds if it were possible to secure it; and as a considerable time must elapse before the derrick could be brought into operation, I determined on the experiment of working a diving-bell from a boat; and therefore, on the 16th, set to work to construct a small one out of a one-ton tank, and the remains of a two-ton tank, which had been cut to make the large bell; it was very similar to the large one already described. While it was in progress the Warspite's launch was hauled up on the beach and prepared for working it. She was fitted with a davit† stepped on the keel, supported by a spur‡, on each side resting on the tran-

* Metal pins, by which the rudder is hung in its place.

† A piece of timber used as a crane.

‡ A shore.

som*: it projected over the stern at a sufficient angle to admit of the bell, when suspended above the water, hanging clear of the boat, and was of a height to allow of a small boat passing under the bell for the men to get in and out. To relieve the stern in a measure from the great weight of the bell, a short, strong mast was stepped in the usual place, and steeking forward; from its head to the head of the davit was a span†, which set up with two thimbles‡ and a lanyard§, and the whole was supported by a strong stay || from the mast-head to the stem of the boat, and two shrouds on a side, leading forward. The bell-purchase was the Lightning's jeer-blocks**, and six parts of four-inch rope led completely round the boat through four leading blocks, one on each bow†† and quarter‡‡, and thus admitted of thirty men to work at it, independently of those who attended the air-pump, hoses, and signal-line. There was also a preventer runner§§ and tackle fitted to heave up the bell in the event of the purchase giving way. I prepared a sketch of the boat as she was thus fitted, and sent it to the Admiral by Moore, to whom I gave a week's leave of absence to attend to his affairs at Rio.

We were now suffering very much from sand and rain alternately; the former, being composed of the most minute particles, was blown up in clouds from the beach and the

* A timber placed across the stern of the boat or ship to strengthen it.

† A rope placed between two points to afford support from one to the other.

‡ A sort of iron ring.

§ A piece of rope serving to connect two articles.

|| A strong rope.

** The blocks through which the ropes which support the lower yards are rove.

†† The rounding part of a ship's side, forward.

‡‡ That part of a ship's side towards the stern.

§§ A strong rope used to increase the mechanical powers of a tackle.

contiguous hillocks above, which formed the whole line of coast of the bay, forced its way through every crevice of our slightly-constructed habitations, and mingled itself with both victuals and drink ; and in fact with every thing, at once blinding the eyes and filling the ears ; while the rain descended in torrents too heavy for the pervious canvass to resist, and we were consequently wet in our beds every night in which it fell, a circumstance particularly distressing after a long and hard day's work under an almost vertical sun, rendered still more intolerable to those employed on shore, by the reflection of the rays from the snow-white sand ; and it was quite distressing to witness the effect produced by this cause on the eyes of some of those who were most exposed to it. It became in consequence absolutely necessary to build dwellings more effectually wind and water-proof ; and therefore as large a party as could be spared from the other works was employed in constructing them, the materials being composed of such wood and grass as the island produces ; but the latter was of so bad a description that our huts required constant repair ; and notwithstanding great labour and attention were bestowed on them, we were never able to make them sufficiently weather-proof to resist the wind and rain ; consequently, colds and rheumatism were very frequent amongst us, which induced me to apply to the Commander-in-Chief for an assistant surgeon ; for not having one in the *Lightning*, it was impossible, with the ship at so great a distance, that the surgeon alone could attend to the sick on board and at the island too ; and it was now obvious that casualties were very likely to occur, and probable that the cases of sickness would be numerous. Against those ills, however, we had one palliative ; I had taken the precaution, as soon as the pool before-mentioned was empty, to deepen it considerably by digging the mud out ; and as the rains filled it, although they distressed us in one way, they

compensated us in some degree, for a short time, by affording us a supply of tolerable water in this reservoir; and this always proved most acceptable, for it prevented a further reduction of the stock on board the ship, and relieved my mind in a great measure on the subject of the health of the people. We had had one sudden and rather severe case of cholera, and others of less moment, from which I did not entirely escape personally, and which I was apprehensive was caused by the use of stagnant water. We were, however, at present tolerably healthy.

Our encampment and the adjacent parts of the island now presented a bustling, and, I flattered myself, a rather interesting scene. There were parties of carpenters building the derrick, making, carrying to the selected situations, and placing the securities for supporting and working it. Riggers were preparing the clothing* for it, sawyers cutting wood for various purposes, rope-makers making lashing and seizing stuff from the pieces of cable crept up from the bottom, and two sets of blacksmiths at their forges†; those of the Warspite making hoops, bolts, and nails, from various articles of iron-work which had been crept up; and those of the Lightning reducing the large diving-bell and constructing the small one; five gangs of excavators levelling platforms on the heights above the cove, cutting roads to lead to them, and fixing bolts in numerous parts of the faces of the cliffs; some were employed in felling trees and cutting grass for, while others were building and thatching, the huts; water-carriers were passing to and from the pool with breakers of water, and the Brazilian launch was still employed creeping whenever the weather would permit; the

* The fixed part of the rigging.

† Captain Thibault, of *La Seine*, had been kind enough to lend me the forge of his ship, which was very useful for small work.

officers were attending to the different parties assigned to them for their immediate guidance. To the whole of this I gave my personal superintendence from morning till dark; and the early part of the night I devoted to writing reports, journals, and memoranda, and in making arrangements for the ensuing day; which, altogether, will be readily admitted gave me occupation of no ordinary magnitude; but at this period I possessed a degree of bodily activity which but few enjoy, and therefore bore the fatigue very well.

A report at this time spread amongst the people that there were tigers and alligators on the island, and although I doubted the fact, I was induced to give an order that not less than six persons together should penetrate into the woods. There was very little necessity, however, for this precaution, since constant employment was alone a sufficient preventive for the wanderings of any of us for pleasure.

Our carpenters' and blacksmiths' work was now very heavy, and I was apprehensive that fatigue and disease might probably deprive us of some of the artificers; I therefore chose some of the most apt of my ship's crew as apprentices, and selected for particular duties those amongst them whose abilities in each could be most serviceable; and this arrangement turned out to be most beneficial, for the severely great extent of sickness which we subsequently endured, supplied a most distressing proof of the correctness of my anticipations; and the apprentices so chosen afforded a good illustration of what proficiency may be made in a short time by ardent application; having at the end of a year become really good workmen for ordinary work. By the end of the month sickness, arising from exposure and exertion, began to prevail to an extent which caused me serious forebodings as to the future: there occurred amongst the officers and crew several cases of diarrhœa, and many were suffering from rheumatism.

MARCH.—The launch and small diving-bell being completed on the 2nd of March, they underwent a first trial in the harbour, to ascertain if any alteration was necessary. The bell was lowered at the depth of four and a half fathoms, with two persons in it; they remained down upwards of half an hour, during which time the launch was removed from one place to another, and the bell-men could readily have obtained any article within their reach. It is generally the case in first experiments that some defects are discovered; on this occasion, however, I had the satisfaction of finding that all that was required was a trifling improvement in the launch's davit, the leading of the purchase-fall, and in weighting the bell; these were completed in two days, and the whole did great credit to Mr. Jones, the carpenter, in whose particular department, under my own inspection, I had placed the fitting and constructing of them.

I was also highly gratified in ascertaining that the bell, which had been originally intended only for one person, would answer very well for two, which proved of immense advantage.

At this time a colonel of engineers, named Guasque, a Spaniard, in the Brazilian service, arrived with seven caboclos (Indian divers), sent by the Admiral; from the extraordinary professions of this gentleman great results might have been expected, and I therefore readily afforded him and his party all the facilities in my power; the armourers were employed in making various implements for them, and amongst others small grapnels, to be carried in the hands of the divers, so that on occasion they might hook on to a rock, or otherwise at the bottom, to hold themselves in any particular position. Oil was also provided, to be taken in the mouth and discharged when requisite, to clear the water (as they said) and assist the vision, or, as it appeared, to be *swallowed, as circumstances or appetite might demand.*

For some days past there had been so much swell in the cove as entirely to prevent our working there; but in the afternoon of the 4th it had sufficiently subsided to admit of our going out with the launch and small bell for trial. And now I had arrived at the great point which must determine on the future prospect of success in the undertaking. There was evidently great danger in this first attempt, which was to decide whether it was possible for a diving-bell to be worked at all from an open, and by no means a large boat for the purpose in so exposed a situation, and on such a frightful coast; for although the immediate surface of the sea, when the wind blew off the shore, was perfectly smooth, still there was continually that swell which always exists, to a greater or less degree, in the open ocean; while this attempt was likewise to decide, if possible, whether, subsequently, any commensurate benefit could be obtained.

We had hitherto succeeded in all our attempts, and I did not fail to avail myself of this success to impress the officers and people with confidence in me; and this I was happy in knowing they entertained to the fullest extent: indeed, I had overheard many expressions amongst them to that effect, so that consequently there was not the slightest hesitation or apprehension discoverable in any one of them; and it was a great happiness to me to find that they were such men as seemed particularly fitted to the arduous task I had undertaken.

I had, by cross-bearings, marked the spot pointed out to me by those who had seen the wreck when entire as that wherein she sunk, the depth of water being six and a half fathoms. There the launch was placed and secured by warps* made fast to the bolts which had been previously fixed in the lower parts of the cliffs, four points on each

* A rope used for hauling the ship or boat from one place to another.

bow ; others at corresponding angles on each quarter, and a breastfast from the starboard beam to the foot of the north-east cliff, so that she might be removed in any direction at pleasure.

The boat's crew consisted of thirty men, exclusive of a commissioned officer, a midshipman, the boatswain, and the man appointed to attend the bell-signals, which were to be communicated by pulling a line which extended from the bell to the boat, or by writing on small pieces of board, with which the bell-men were provided for that purpose, to be sent floating up whenever occasion required.

The little code of signals we adopted was as follows : one pull, for more air ; two pulls, hold-fast ; three, hoist-up ; four, lower ; four, haul the boat to starboard ; six, to port ; seven, ahead ; eight, astern ; and a quick shaking of the line, attention : but it was considerably extended until by pre-arrangement we could hold a dialogue, and I subsequently discovered that by a private code established on this foundation between the bell-men, those in the bell were informed of almost every thing that was going on above ; they knew whether I was in the cove or not ; they could ask a question, or hold any other kind of short communication ; they were informed of the state and appearance of the weather, and any opinion I might have expressed thereon as to ceasing from work, &c. &c. In addition to this, there was a small line from the bell to the surface, for the purpose of hauling up or down any article that might be necessary.

In the use of these signals there were two points especially necessary to be attended to ; first, the keeping of the boat's head exactly in one direction ; and second, the keeping of the bell-purchase clear of turns ; for it is obvious that if there was a quarter of a turn in it, the signal which would be intended by the bell-men to haul-ahead would, when acted on, take them in a direction which they considered to be

starboard or port, and if half a turn was in it, they would be removed in the very opposite direction from that which they intended.

I attended in my gig* close to the launch, whence I might watch the air-hoses and progress of the bell. Lieutenant Hathorn, of the *Adelaide*, expressed a wish to descend on this occasion, and after strongly urging attention and silence, I directed him and one of the men to get into the bell, and every thing was now prepared.

I must acknowledge that at this moment I was much excited by alternations of hope and fear as to success, for at this period I had strong reason to apprehend that odium awaited me in the event of a failure. It was, then, under the influence of such feelings that I gave orders for the bell to be lowered; the launch at this time was surging six or eight feet, from the effect of the swell, which caused me the most painful anxiety for the safety of the bell-men. At the depth of three fathoms, the signal to hold fast was made, and immediately after that, for more air, which being supplied by a quicker action of the pump, the bell was lowered to within a short space of the bottom; notice being given to the bell-men, the boat was then gradually removed from place to place, crosswise, to enable them to search for the wreck; this was continued for about two hours, when the swell having so much increased as to render the risk of life excessive, I gave directions to raise the bell, and returned to the harbour. During the operation I was kept in constant dread from the vibratory motion of the boat and bell, which were frequently in opposite directions, and consequently the more alarming, lest the latter should be upset by being driven against the projecting rocks at the bottom. The trial, however, was most gratifying, for the bell was found to be per-

* A light long boat.

fectly adapted to the work, and the bell-men were satisfied with it, though nothing was discovered beyond various bolts and pieces of rope.

On the 7th we made another attempt, and some of the implements required by the Colonel for his divers being completed, I gave one of them an opportunity of showing his aquatic powers by placing him with Richard Heans the carpenter's mate, in the bell, in order that while the latter was searching from within it, he might emerge from it, by which means a large space could be examined in a short time : his efforts were, however, very futile indeed. Heans could not persuade him to quit the bell but once, as he by far preferred remaining in company. Dewar was therefore appointed in his place.

The swell was now rapidly increasing, and its influence on both the boat and the bell was so great as to affect the air-hoses.

The water, considering its disturbed state, happened to be particularly clear, which afforded me an indistinct sight of the bell although in the depth of eight fathoms, and I had with almost breathless anxiety been watching it for a long time, when suddenly a small line of air-bubbles rose from about the middle of the hose. I instantly gave the word prepare, when every man in the boat, with earnestness depicted in his countenance, stood with the purchase-fall in both hands, and at the same moment I made the signal to call the attention of the men in the bell ; but the supply of air being kept up by an increased action of the air-pump, they were enabled to continue the search, and did not evince any desire to come up. The agitation of the sea became greater every minute, and there was a rise and fall of eight or ten feet against the cliffs ; the danger had become most extreme, and I was on the eve of directing the bell to be raised when the order was hastened by the appearance of

an immense column of air rising from it. It had been driven violently against the rocks, by which cause it was thrown on its side and filled with water. The next moment I discovered the two men emerge from the bell and swim up. Heans at first had his foot entangled in the signal-line, but quickly released it, and notwithstanding this detention, being particularly buoyant, he rose very rapidly, and was the first to reach the surface and was taken into the pinnace ; Dewar being some seconds longer, I was apprehensive was much hurt. The gig had been removed while he was rising, which enabled me to seize him by his dress the instant he reached the water's-edge. The bell was up, and there was a pause, a profound silence, save the roaring of the surf against the rocks, until it was broken by Heans calling to his partner "Never mind mate, we haven't done with it yet ; all right." Poor Dewar was too much exhausted to reply. Of course this accident put an end to our work in the cove for this day, but I felt it necessary before quitting it to address a few words to the people, which I did to this effect, "That it must not be supposed that such a work as we were engaged in could be carried on without accident ; that what had now happened afforded us a fair earnest of what we might expect throughout our operations ; it therefore was incumbent on every one of us to act in his situation with attention, promptitude, and alacrity, so as to avert casualties as much as possible, and to counteract them when they might occur." This was well received by all hands, and if for a minute there had been a little feeling of doubt, it quickly subsided, and the minds of all were so made up to persevere, that when we reached the harbour at two in the afternoon, there was not a man who appeared at all disconcerted.

On this occasion I found that I had no reason to regret the not having been able to obtain a cast-iron bell, and had abundant subsequent proof that if I had been provided with

one, it would have been broken against the rocks, and most likely some lives would have been lost in consequence; for even those of my own construction, made entirely of wrought-iron, were repeatedly split and turned up for several inches from the lower edge.

On the 8th, although I was sure the swell was too heavy to admit of our working in the cove, the Colonel urged me to let him have a boat exclusively for his divers; and I accordingly supplied him with the pinnace, but he found it impossible to make even an attempt, and speedily returned.

The 10th was more favourable than either of the preceding days, and there was a prospect of a long day's work. We were out with all boats, accompanied by the Colonel and his caboclos, shortly after daylight; and as they were now furnished with every thing they required, and as the Colonel had never ceased to extol their abilities, and to assert that remaining under water for several minutes was but an *amusement* to them, I determined to put them to the test; and this intention I expressed to him, and proposed that while the bell was sent down with Heans and another man, his party should "amuse" themselves by diving from my gig or the rocks with their grapnels &c., and make them fast to whatever they might discover. To this he consented, but urged that I should not be precipitate with them, as they were a peculiar sort of people, and required to be humoured and encouraged; I therefore offered them a reward of ten milreis*, to which ten more were added by Lieutenant Hathorn, if they would remain under water two minutes. They then complained that while my people were protected from the sharks by the bell, they, when diving, would be exposed to them. After a good deal more of this description of parley, I found that I could make no progress with them,

* Equal at that time to about 30s.

and therefore for the time gave it up. I must acknowledge, however, that sharks were so numerous as to present a formidable objection to remaining long under water without some kind of protection : we frequently saw five or six at a time in the cove, but none very large, nor are they of the voracious nature of those in the West Indies, but appear to live principally on the small fish which abound in these seas ; still the presence of a shark is always dreaded ; and on one occasion subsequently, we were led to form a more unfavourable opinion of them. One of my people was washing his clothes in the surf on the beach, and standing about up to his knees in water, when he suddenly observed a shark close to him ; he instantly ran to my gig, which was near at hand, and got a turtle peg* from her, and returning to the shark, which continued slowly passing along just without the line of surf, drove it into him ; but on hauling on the line attached to it, it broke out, and he swam away to a considerable distance, but soon returned to the charge, and was again struck with the peg. By this time several of the crew had come to the spot, and while the shark was plunging in the surf, they approached him near enough to get a rope fast to his tail, and by that means dragged him on shore. He measured eight feet in length. This was the only instance evinced of an inclination to attack any one, notwithstanding the men frequently bathed.

The bell had been down with the same men in it for several hours, during which time the launch was removed, first across the cove, to near the north-west cliff, then outwards and across towards the south-east cliff, inwards towards the north-east cliff, again towards the north-west cliff, and latterly diagonally over the square so formed.

On being raised to the surface, the men reported to have

* A barbed spear used for catching turtle.

discovered a chain-cable and part of a hempen one, and a very large indefinable mass of rope, canvass, wood, bolts, and a great many other articles which Heans thought likely to be part of the body of the Thetis. Here was the first gleam of encouragement; for little doubt remained as to the wreck having been broken up at or near the ground we had examined. It was therefore absolutely necessary to obtain not only an accurate knowledge of the situation of the various parts of the wreck, but also an acquaintance with the general formation of the bottom, consequently I determined to continue this mode of searching until these points were ascertained.

When the bell was again ready for lowering, the Colonel urged me to allow two of the caboclos to have it to themselves to descend in, to which, as wishing to give them every chance, I consented; and in order that they might have something specific to do, desired them to make a large rope fast to the cable which had previously been found. This they failed in doing effectually, for the moment we brought a strain on it, it became disengaged, and the labour was lost. We continued searching until one o'clock in the afternoon, when the swell became so heavy that we could proceed no longer: I therefore buoyed the principal articles we had discovered, and returned to the harbour; all hands being delighted with the success of the day, and the perfect adaptation of the bell to the work.

The Colonel, who lived with me, again took occasion in the course of the evening, to extol with great earnestness the merits of his divers; and insisted on their being able to remain under water for a quarter of an hour at a time.

"Those are the very fellows for me, Colonel," said I, "because that is the longest period I can afford for dinner, so while we take our meal we may leave them at the bottom to *amuse* themselves, and relieve them after we have dined,

and thus no time will be lost." The Colonel's risible muscles were not at all excited by my joke—I gave him clearly to understand, however, that I considered that up to the present time great labour and attention had been wasted on them, and as it was probable that on the next day we might be able to work in the Cove, I expected that he would insist on their doing something that I should consider conclusive; in answer to which he made great promises, but which, as will be seen, ended in very small performances.

The excavators had now made considerable progress with the platforms and roads, and a great quantity of wood having been procured, the crabs, bollards, and other descriptions of securities for the derrick, which were in a forward state, were put, as soon as finished, into their places; the Lightning's spare bower and stream-anchors were landed; which, as well as the store-anchor I had brought from Rio, having been got up the cliffs by great exertion, were subsequently buried in the main or north-east cliff, for the gear to be attached to for the support of the derrick.

The Brazilian launch continued creeping daily, and recovered numerous articles of iron-work and other stores and equipment, a great part of which was most acceptable to us; for the very small supply of extra stores I had received, when compared with the magnitude of the undertaking, which was still in a state of great uncertainty, rendered the most rigidly economical application of them necessary. The 13th was a very favourable day, and we were in the Cove with all the boats, the warps laid out, and every other arrangement made for a thorough day's work, and the bell ready for lowering at day-light. Dewar and Heans having sufficiently recovered from their accident went down, and after a search, conducted by removing the bell launch in a similar manner to that before described, they came up and reported to have found a piece of the ship's-side, which from the paint was

known to have been a part of the captain's cabin and quarter-deck bulwark, and had five cannonades and two long guns attached to it; it was lying considerably outside of any other fragments of wreck that we had hitherto discovered, being in eleven fathoms water.

Between this and the heap before mentioned was the capstan*. During the time the people were thus employed, I continually urged the Colonel to send his divers down, and he as strenuously pressed them to comply, but my somewhat angry arguments, though accompanied by offers of liberal rewards, and his entreaties, were alike unavailing, they would not stir from the boat, and I ceased to say anything more to them until dinner time arrived, when I again proposed to the Colonel, that as I should allow myself and people a quarter of an hour for refreshment, he might send the caboclos to *amuse* themselves at the bottom during the time, and I backed the proposition by an offer of a greater reward, as high as five pounds; this was subsequently increased by Lieutenant Hathorn, to ten pounds for every minute after the first minute that they should remain down, but it was all in vain, and I told the Colonel plainly that although I would not prevent any exertion they might be disposed to make, I should not request anything further of them. The fact was, that from the first attempt, I was convinced they never could be of any use, and if they had been engaged by myself, I should speedily have discharged them, but as they were sent by the Commander-in-Chief, I felt a delicacy on the point, and therefore patiently gave them every assistance in my power, although heartily tired of them.

Our exertions by means of the bell were continued

* A machine for heaving the anchor up, and other heavy work; its mechanical power is gained by the application of a lever to a strong wooden roller fixed vertically in the deck.

throughout the remainder of the day, and the result was very satisfactory, for we found about twenty-five feet of the keel, with about two feet of the starboard and five feet of the larboard floor-timbers* attached to it, which on examination was considered to be the part immediately before the mainmast, it was nearly covered with iron ballast, in a very disordered state. At about sixty feet from this was a part of the stern-post† with a transom fast to it; and an anchor and numerous other articles were likewise discovered, from the positions of all which I was induced to think that the confused heap or mass we found on the 10th, was the part of the ship somewhere about the spirit-room‡, in which the treasure had been stowed; and I therefore determined on a thorough examination of it on the first opportunity. The fact of the total destruction of the ship was now placed beyond doubt.

I will here mention a rather ludicrous circumstance which occurred in the afternoon. The bell was in the act of being lowered, and my attention being directed to it, was for the moment diverted from other points; at which instant one of the caboclos slid over the side of the boat, unobserved by me, and disappeared. In a few seconds the signal was made to hoist up, and fearing there was something the matter, I hastily gave the order to do so. As the bell approached the surface, something of a brownish hue was observed hanging to its bottom, and on being raised above the water, this object turned out to be the caboclo, who had essayed to join company with the bell-men; but as they mistook him for an evil spirit uncalled for "from the vasty deep," they gave him proof with their feet that there

* The timbers attached to the keel.

† A long straight piece of timber which stands vertically on the keel, and terminates the ship behind.

‡ A compartment in which the ship's stock of spirits is kept.

was no admittance for him, and he was therefore obliged to content himself with hanging on by the foot-bar with his head only above the water.

Littlejohns, and Williams a quartermaster, were the bell-men, the former of whom declared "he thought it was the devil;" and the latter said "he thought so too, or else one of them big sharks they saw t'other day;" and in good sooth he might have been taken for either one or the other, for he was of a colour about midway between the two. This was the last attempt of the divers, and it afforded a good deal of amusement to the people during the whole of the day.

In the evening I told the Colonel that I was supporting his party at a considerable expense without having any adequate return for it; he immediately took the hint, and after consulting with them decided on quitting the following morning. I accordingly started them off at an early hour, and thus got rid of an encumbrance with which I had suffered myself to be pestered for eleven days; their efforts throughout were utterly contemptible, and not worth my stock of salad oil, which they entirely consumed, and I felt regret that so much labour and attention as had been bestowed upon them should have been so completely thrown away.

From the 13th the cove continued in a very agitated state for four days, and we failed in our attempts to work; various small pieces of wreck floated up, which caused me some apprehension lest that which I considered to be the spirit-room should be washed away, but favourable weather on the 18th set my mind at ease on that point by enabling me to re-examine this part, when various indications confirmed my former opinion, and I resolved to go to the proof on the morrow, by commencing to take it up; with this view it was carefully buoyed, and the rest of the day was occupied in searching and buoying the other arti-

cles we had observed with buoys both at the bottom and on the surface, denoting each by numbers, those at the bottom being of a very bright colour, that they might be the more readily seen from the bell.

During the search several guns and large quantities of ballast and shot were seen. By the evening of the 18th we had thoroughly examined a space of about 300 feet square, and I felt satisfied there could not be any part of the wreck of considerable magnitude in the cove, the position of which we were not acquainted with. I therefore drew a rough sketch of it, and sent it to the Admiral. We had strengthened the pinnace, and fitted her with a very strong davit; and having supplied her and the Brazilian launch with runners and tackles, and other necessary gear adapted to the work we had in prospect, on the morning of the 19th, although the weather was rather threatening, yet as the sea was smooth, we seriously attacked, with a resolution to demolish, that part of the wreck which we had strong reason to hope could but for a very short time longer conceal the treasure.

The launch being of the greatest burthen and strongest, was of course employed in removing the largest and heaviest articles, and those most difficult to extricate; and the pinnace was used for the smallest, and those most easily taken up, and by frequent reliefs of the bell-men they were enabled to work very hard; by these means we made a rapid reduction of the heap, and in doing so uncovered part of the chain cables; but at eleven a. m., our progress was arrested by the south-west swell setting in so suddenly and heavy, that the danger became excessive, and we were obliged, though very reluctantly, to desist.

When I first arrived and determined on the plan to be pursued, I carefully measured the distance from the face of the north-east cliff to the spot where Messrs. Batt and

Chatfield said the ship had sunk, and found the distance to be one hundred and twenty feet to her outer side; the derrick was, therefore, constructing of that length, and was now in a tolerably forward state; but our recent discoveries having induced me to ascertain the distance from the cliff to the place where I had reason to hope the treasure was deposited, I had the mortification to find that it was one hundred and fifty feet from the nearest point. I would not allow this disappointment to present an obstacle, and directly ordered the spar to be lengthened to one hundred and fifty-eight feet; fortunately we had just wood enough to do so, but it expended every foot we could possibly find that was fit for the purpose, and instead of stepping it at about forty feet up the cliff out of danger from the sea according to my original intention, I was obliged to fix on the most projecting part, which was the extreme corner of a flat rock forming the base of the cliff, and near the water's edge.

The state of the sea and the weather continued so very unfavourable for five days after this time, that it was impossible even to attempt to work the bell, but there was no want of occupation; our whole energies were directed to other employments equally necessary, not only for the furtherance of the undertaking, but for the preservation of the health of us all; which latter object began to cause me some anxiety, since the number of cases of sickness had so greatly increased, that a separate hut expressly for their reception became necessary, and one was accordingly built, which we denominated the hospital. This effect of our exertions and constant exposure occasioned me considerable alarm, lest disease and casualties should render us too weak for our work, in which case it might prove difficult to augment our numbers. During the absence of fine weather, or rather of such as would admit of our working in the cove, numerous parties were dispersed in various directions, and

employed in different kinds of work, such as felling trees, and getting them down from the hills ; cutting grass, and repairing the huts with it ; building the hospital, hauling the *Thetis's* rudder higher up the beach, landing the *Lightning's* capstan, and getting it with the bower anchor * and the *Thetis's* stream cable † on the main cliff, &c. In fact, the whole neighbourhood of our domicile presented a lively scene of exhilarating, and to me most interesting bustle ; and it was very gratifying to observe that both officers and men joined heart and hand in every act.

We now had some heavy rains, which replenished the pool from which we drew our supply of water, and I took an opportunity of going to Praya de Anjo with a party of men, and after digging in numerous places, at length succeeded in finding water ; and as the natives were now much better off in this respect than formerly, I induced them to spare us a little from the hole from which they were supplied, so that altogether we obtained a sufficient quantity for the daily use of the ship, and occasionally, for those at the island ; and from this time we had always a tolerable though irregular supply, but never could succeed in rendering the pool clear ; there were obvious marks that animals of some kind disturbed it during the night, and prevented its becoming wholesome ; however, on the whole, having succeeded thus far, my next object was to obtain some fresh provisions, for which purpose I sent Mr. Smith the purser into the country ; at first he met with many difficulties, but ultimately succeeded in making arrangements for a partial supply of bullocks, sheep, and vegetables, and as the fishermen brought us fish occasionally, and we sometimes caught

* One of the largest anchors of the ship.

† The cable belonging to the stream anchor, which is the anchor next less in size to the bower.

a few ourselves, the people had frequently a fresh meal. These supplies were of great assistance in enabling me to keep the Lightning in a state ready for any service at a very short notice.

An amusing occurrence took place about this time. We were drawing the sean*, and had enclosed a large quantity of fish, when, as the net approached the beach, a tolerably large turtle was discovered in it, making great efforts to get through; which being observed by Mr. Chatfield, who was standing in the bow of the boat, and perhaps already in imagination enjoying a basin of soup, he became alarmed lest the turtle should escape; and on the impulse of the moment, forgetting that he could not swim, he plunged into the water to seize it, and in the next instant was struggling to save himself, thus adding to our draught the "oddest fish" of all. He was speedily taken into the boat, where he continued to puff and blow for a time, but without having received any injury, and afforded a good deal of merriment to all the spectators.

The situation of the various fragments of wreck being now well ascertained, I declined for the present making further search in that way; but on the 25th again explored the heap, and took up from it some pieces of a messenger †, and large quantities of rope, canvass, wood, copper-bolts, dead-eyes ‡, iron, lead, and a variety of other things, by which operation it was so much reduced, that on making fast the runners of the launch and pinnacle to several of the undermost articles, and heaving on both windlasses at once, we succeeded in turning over and pulling it completely to

* A large net.

† A large rope, which being lashed on to the cable, and passed several times round the capstan, the anchor is hove up by it.

‡ A round flattish wooden block, with three holes in, to receive a rope called a lanyard, by which the rigging is made fast.

pieces ; but this effort terminated for the present in disappointment ; for instead of finding underneath, as we had anticipated, a part of the bottom of the ship, nothing but large rocks was presented to our view. The launch was therefore employed as before for the rest of the day in exploring the surface of the bottom, and we found some guns, ballast, and shot, but no other part of the keel or timbers. This tended to impress me the more strongly with the conviction that extraordinary efforts would be necessary to accomplish the object of finding this part of the wreck. Alternations of hope and doubt were evident in all countenances, according as the result of any particular attempt presented a prospect of success or failure ; but in no instance could I discover the slightest relaxation of their desire to use every effort to obtain a successful issue. I was now satisfied that it was in vain to expect to find the treasure attached to, or resting on, any part of the wreck ; and having to such an extent explored the surface of the bottom, made it a matter of serious consideration to me whether it had not gone out seaward with that part of the ship on which it was stowed ; and it seemed that our endeavours should now be directed to the recovery of such articles as we had discovered. In order, however, that on the first opportunity a more minute examination might be made between the rocks, I had the necessary implements made for digging among them ; and to give further encouragement to the bell-men, I offered a reward of 50 milreis for the discovery of the treasure, and subsequently 30 for the first bar of silver.

For the purpose of conducting such stores as we might recover to a place of deposit, I had intended to rig two short derricks on the face of the main cliff to raise them from the boats instead of rowing with them into the harbour ; but on cutting the zig-zag paths down, for the purpose of levelling a platform at the point where each derrick was intended to

be fixed, I found that the expenditure of labour and time would be too great, and therefore had rope-ladders made merely for the purpose of ascending and descending at those parts where we could not cut a path, and thus completed a line of communication between the cove and the summit of the cliff.

On the 27th we were thrown into considerable alarm. When we left off work on the evening of the 25th, the swell had begun to set in; it continued to increase till it reached to such a height that the cove was in a state of awful commotion; and when I considered the abrupt declivity of the bottom, I feared that all the wreck might be washed out seaward. The tides had hitherto been tolerably regular as to their rise and fall, and even strong winds had not made any material difference in them. This day commenced with light variable winds, and heavy thunder, lightning, and rain; there was a terrific sea in the cove and all along the outside coast; but it remained smooth in the harbour, and there was not the least apparent reason for apprehension until nearly noon. As it was Sunday, we had mustered the ship's company, by divisions, according to routine, and performed divine service; and I was glad of the prospect of giving the people a day's rest, but an hour determined that it was not to be so. The tide rose with great rapidity, and caused such devastation on the beach that the exertions of all hands were necessary for the preservation of every thing which was on it. The first object of our care was the derrick, which, with great alacrity, was parbuckled* higher up, and secured by fastenings from the bank above.

While we were thus employed the Brazilian launch broke from her moorings, was driven broad side on to the beach,

* Rolled along by means of ropes passed round, having one end made fast, while the others are pulled on.

forced close up to the bank, and with great difficulty saved from being wrecked. We next gave our attention to the removal of things of less consequence, most of which were ultimately saved ; but several articles of useful iron-work were irrecoverably sunk in the sand ; the sawpits were destroyed ; the *Thetis's* rudder buried entirely out of our sight, and was afterwards dug out at a considerable distance from the place in which it had been lying, and the whole appearance of the beach was entirely changed.

A dead body likewise was discovered in the surf and taken up ; it proved to be that of the late captain's clerk, of the *Thetis*, who was drowned at the time of the wreck, and had been buried in the beach ; and it was remarkable, that notwithstanding upwards of three months had elapsed since the time of its interment, decomposition had not taken place in the slightest degree. It was re-interred ; the funeral service being performed on the occasion.

In prospect of the completion of the derrick, which it was computed would, with its gear, weigh about forty tons, I applied to the Commander-in-Chief for the assistance of about 100 men expressly for the purpose of erecting it, who were to return immediately that this was accomplished. It will readily be imagined that a party of good sailors of the full number requested were necessary for such a work, wherein an accident in one part would, in all probability, be fatal to the whole. I was consequently much disappointed on the arrival of the *Adelaide*, on the 30th, to find that she had brought but 74 persons ; amongst whom were 25 ordinary seamen, 6 landsmen, and 8 boys. However, as I had no remedy, I made the best of them that I could. They exerted themselves to the full extent of their abilities.

The *Adelaide* brought also the rigging I had demanded for the derrick, and the day was employed in getting it on shore, and placing it in the store. The incessant south-west

swell setting into the cove, rendered the working of the bell at all times more or less perilous ; but practice had inured the men to it, and given them judgment to direct their exertions ; so that although there was no remedy for the violent concussions against the rocks, yet there was less danger of broken legs or arms, or other injuries to them ; and I had the satisfaction of seeing them go to their work just as they would to any ordinary duty that might be required. Still the exertion of working hard in so small a space, and in so great a depth of water, was distressingly fatiguing, which induced me to determine, in order to render it less so, that all the petty officers of the ship should become bell-men, and accordingly I appointed them in turn to that duty.

The 31st was a remarkably fine and bright day, and we were in the cove by day light. The sea was less disturbed than on any preceding day since we commenced our work ; and so clear, that rocks at the bottom could be seen at the depth of seven fathoms, and every thing seemed auspicious for rigidly exploring the interstices between them ; and if not successful in that way, the bell-men were prepared for digging with the implements with which they were provided. It had from the outset been my study to keep up the interest which all the people felt in the undertaking, by occasionally using a few encouraging words bearing on the reward and merit which would accrue in the event of success. On this morning it was somewhat remarkable that I had a strong impression, or rather presentiment, that the system of work I had concerted would succeed. So forcible was this feeling, that I rose at three o'clock and commenced writing a long dispatch to the Commander-in-Chief, and at half past five left it unfinished, in the hope that I might have to insert a report of the anticipated good fortune. On reaching the cove, when every thing was prepared, I gave very minute directions to the bell-men, and added, " Now my lads

be alive ; let every man be attentive in his station, for I mean to find the dollars to-day." This produced a universal smile of satisfaction, though, perhaps, in some instances partaking a little of the incredulous ; and "good luck to you," was addressed to the bell-men by all the boats' crews, some of whom remarked that I had never disappointed them yet.

My arrangement for the day was to commence near the north-east cliff, in five fathoms water ; next, to move out seaward to ten fathoms, and then diagonally to cross the whole of the ground on which we had seen any wreck. But so strongly was I impressed with the conviction that the situation in which the heap of materials had lain was the most probable spot, that I could not abstain from searching there first ; and was the more induced to do so, as I judged that the heavy sea on the 27th might have cleared away a great deal of rubbish. This proved to be the case to some extent, for on examination of the bottom, it was found that a great part of the remains of the heap which we had turned over on the 25th had disappeared and left the rocks partially clear. This induced me to alter my plan, and to direct the bell-men to keep very close to the bottom, while the movements of the launch were confined to about ten fathoms each way, occasionally stopping and lowering the bell on the bottom, to enable the men to look into the crevices, and turn over the smaller rocks. This method had been pursued with great earnestness for some hours, when the signal of attention was made from the bell, and immediately afterwards a tally-board floated up with the cheering words written on it, "Be careful in lowering the bell to a foot, for we are now over some dollars." These directions being complied with, they remained on the bottom for a considerable time, the depth of water being about seven fathoms, when they came up with their caps full of dollars and some gold. They were received with three as hearty cheers from all of us in

the cove as ever were given, the effect of which was increased by the reverberation from the surrounding cliffs ; and they were as enthusiastically returned by those who were on the heights above, some of the natives who happened to be there joining in the shout.

The treasure was so strewed about and mixed with pulverized granite, splinters of wood, and the various materials and contents of the ship, that it was impossible to form an idea as to the extent or quantity of it ; still our efforts were at last crowned with success. We had persevered through discouraging difficulties and obstacles of no ordinary nature, and had found means to surmount them often contrary to all expectation ; but further and great exertions must still be used ere we could reach the point which we were ambitious to attain ; namely, the recovery of all the property that could by any means be rescued. A part at least of the treasure was now found, and the next consideration was to devise the best and most expeditious mode of taking it up, and to prevent its being washed away by the action of the sea during the operation.

By sounding with a hand-lead, I found that the declivity of the bottom at this part was at an angle of about twenty-three degrees with the horizon ; and from this circumstance, it was to be presumed that on every occasion of a heavy swell setting in (which experience had shown always disturbed every thing moveable at the bottom), it would settle further out into deep water.

My orders to the bell-men were therefore as follows :— They were first to go to the outermost dollar, or other article of treasure they could discover, and to place a pig of ballast, with a bright tally-board fast to it, against, and on the inner side of, the nearest fixed rock they could find ; from this they were then to proceed in taking up all that lay immediately on the surface, but not to remove any thing else until

all that was visible was obtained ; this being done, they were to return to the place first commenced at, and passing over the same ground, remove the small rocks and other arricles, one by one, and progressively take up whatever might, by such removal, be discovered, but not on any account to dig without express orders from me. In furtherance of this, the pinnace was employed in weighing and carrying into deep water the small rocks as fast as they were slung by the bell-men. Pursuing this mode, by half past eleven we had recovered about 3000 dollars ; and I went on shore for a few minutes, finished my dispatch to the Admiral, and having sent the *Adelaide* with it, returned to my post in the cove ; and we continued our labour until dark, when, having well buoyed the place, we, with great reluctance, desisted. But the ardour of the officers and people was raised to the highest pitch, good fortune had given such a spur to their zeal as inspired them with a perfect contempt of danger ; and this was manifested by the utmost alacrity and cheerfulness with which every proposal I made, and every order I gave, was received and executed.

Appreciating this on their part, and convinced that such a set of fine fellows would attempt the performance of any thing that man dare undertake, it was impossible that I should not experience corresponding feelings, and I determined on evincing them by venturing out of the ordinary track in an experiment entirely novel ; that of working a diving-bell in the open sea by torch-light. What I have already recited renders the great danger with which we were constantly surrounded during the progress of the work so apparent, that perhaps I may be thought to have exceeded the bounds of prudence on this occasion in exposing the lives of so many persons ; but it must be recollected that the enterprise was novel and unique in its nature, and that this was only following up a series of perilous experiments

which had all proved successful, none of which would ever have been attempted had I been guided by a cool calculation of what might be prudent in the general acceptance of the term. On reaching our encampment, I directed that while we who had been in the cove were taking some refreshment, others should prepare a number of large torches, and get the boats ready for resuming work. We were in the cove again by nine o'clock, and matters were arranged in the following order. The bell-launch was placed over the spot we had previously been working in, and secured with the usual warps, having two torches over the stern, and one on each quarter; the Brazilian launch was placed at about three fathoms off on her starboard quarter, with four torches over her side. The pinnacle was similarly situated on the other quarter, also with four torches, and the cutter right astern, with two torches, thus forming a square, and this arrangement of the torches produced a very strong light.

The great caution I had used in buoying was now turned to good account, for as we could not use any cross bearings, the buoys enabled us to place the bell-boat to a nicety, and the bell was on the first attempt lowered exactly on the spot we had left at dark. There was a lighted wax-candle taken down in the bell, but it consumed the air so fast that it was necessary to extinguish it as soon as the bell-men got a fair sight of the place they were about to work in.

To depict the scene now presented, is a task beyond my powers of description. Thetis Cove on this occasion would have supplied a fine subject for the artist. The strong glare cast from the torches on every projection of the stupendous cliffs, rendered the deep shade of their indentations and fissures more conspicuous—their darkness more visible; and notwithstanding there was a flickering brightness thrown upon some parts, a solemn gloom pervaded the whole, which was much heightened by contrast with the brilliant whiteness of

the foam on the rocks beneath. The rushing of the roaring sea into the deep chasms, produced a succession of reports like those of cannon, which were multiplied by echoes from the surrounding cliffs; and the assembled boats, containing groups of persons employed in their various occupations, kept in constant motion by the influence of the swell, completed a scene which, when viewed from the heights above, might suggest the idea of looking into Pandemonium. This experiment succeeded to admiration, and we continued taking up treasure until two o'clock in the morning of the 1st of April, when we were glad to retire; having obtained in the whole by this attempt, 6326 dollars, 36 pounds 10 ounces of Plata pina, 5 pounds 4 ounces of old silver, 243 pounds 8 ounces of silver in bars, and 4 pounds 8 ounces of gold. After a little rest we were again at our employment by half-past five, and proceeded very prosperously for some hours, but were then obliged to desist, and had a very narrow escape from imminent peril, arising from a sudden shift of wind, one of those causes which subsequently frequently occurred, and were at all times attended with great danger. It had blown moderately from the north-east during the morning, with every appearance of its continuing so, and we were proceeding with the most encouraging success, having removed a number of rocks of various magnitudes, some of them weighing many hundred weight, and had taken up upwards of 4000 dollars in value, but at eleven o'clock our progress was arrested by the wind suddenly setting in from the westward, and in a very short time a dangerous sea got up, occasioned in a great measure by the recoil from the perpendicular cliffs, which, as already stated, form the whole coast on the sea side of the island, and our situation became very critical. We were obliged hastily to leave the cove, and notwithstanding the most prompt measures were taken, and the utmost exertion used at the oars, the launch being towed

by all the boats including my own gig, for three hours we made scarcely any progress, and she shipped water so fast as to keep many of the men constantly baling; but fortunately the current changed in our favour, and at the expiration of the fourth hour we happily reached the harbour; which if we had not done most of us must inevitably have perished. During the month of March the cases of rheumatism increased in number, as did also those of cholera, and ulcers became more numerous and painful.

APRIL.—A new responsibility at this period devolved on me, namely, that of protecting the treasure from plunder. The circumstances under which it was obtained, as well as the unavoidable exposure of it, furnished temptations of no ordinary nature. My anxiety was not only that it should not be purloined, but that there should not even be room for suspicion of its being so; I therefore determined that every thing relating to it should be done in the most public and exposed manner that circumstances would admit of, and at the same time that there should be such a police as would render robbery impossible. To this end I made the following arrangements. The bell-men's dresses were simply a frock and trousers made of blanket, and these were taken off in the boat immediately on their coming from the bell, and thoroughly examined by an officer. I had buckets made of very thick canvass doubled, with a rope grummet* at the top and bottom, and strengthened at the sides by plating made of rope of the same size as the grummetts. In these buckets the treasure was sent up from the bell, just in the state in which it was taken from the bottom, a great part having been pressed by the rocks into a concrete mass with the pulverized granite and other substances. On being hauled into the pinnacle, it was turned into a trough prepared for

* A hoop or ring made of rope.

the purpose with holes in the bottom ; in this the lumps were broken, and a great quantity of water thrown on it to wash the filth away. The large pieces of Plata pina, old silver and gold, were first removed ; the dollars were then picked out, and underwent a cleaning by being rubbed hard against each other between the hands ; they were then carefully counted and put into canvass bags. The rubbish then underwent a more rigid scrutiny, for some of the pieces of gold were so small, and a great quantity of the Plata pina was so smashed into minute particles, some of them smaller than a pea, that without the most careful examination a considerable value might have been lost. The bars of silver and other large pieces of treasure were cleaned by scraping and scrubbing. This first course was performed by the young gentlemen of the boats, assisted by one or more of the crew, according to the quantity, and under the immediate observation of myself or the officer of the bell-launch. I then took it in my gig, and carried it to the encampment, where I had a large table or rather platform fixed close to my hut for the purpose of the final cleansing and packing. It was now placed under the guard of the officer of the watch and a sentinel, and in the immediate charge and superintendence of Mr. R. T. Reep, my clerk. Here it was subjected to a more thorough cleansing, being ultimately washed in fresh water, then dried in the sun, or on sheets of copper placed over a fire under cover in wet weather ; the dollars and other coins being again counted, and the other kinds of treasure weighed and registered under my own superintendence, and that of the first lieutenant, master, and purser, whenever practicable ; it was then put into bags containing 500 dollars each, and finally into boxes containing six bags each, marked, numbered, and sealed with my own seal, and then deposited in my hut until a favourable opportunity of subsequently placing it on board the Lightning for safely until called for by such vessels as

might be ordered to convey it to England ; and as I had a great objection to its going out of my possession excepting direct to the Bank of England, to be there deposited until the rightful owners were ascertained, I wrote to the Commander-in-Chief to allow them to call at Cape Frio for it, with which request he complied. The bell was searched every evening by an officer.

The derrick being extended to so great a length had consumed an immense quantity of iron ; the whole of the hoops of the pieces of the *Thetis's* masts were already used, and I was obliged to have recourse to chain-plates, hammock-stancheons, and other large articles of iron, to make more ; but notwithstanding the blacksmith, John Leary, was an excellent workman, and exercised a good deal of ingenuity, the forge was not of sufficient power for the work, and the hoops frequently broke in driving on, a misfortune which could be remedied only by making them with hinges and forelocks, which was done ; and by such means we managed to make a sufficient number.

Another report of several tigers having been seen during the night on the beach in our neighbourhood reached me, and I determined on proving its truth or falsehood by ocular demonstration, and therefore gave directions that whenever one was seen I should immediately be informed of it ; I also desired that some muskets should every evening be loaded with ball, and previously to going to bed charged my fowling-piece with two pistol-balls in each barrel. On the night after this preparation, the sentry called to me that "There were five tigers on the beach." "Rather a formidable enemy to encounter," said I. But the number was quite enough to satisfy me that the animals were not of the kind they were supposed to be. I took my gun, and with the midshipman of the watch, the corporal of marines, and sentry, each armed with a musket, sallied down towards the

beach, when there proved to be a group of the number stated. The derrick formed an excellent screen for us, and by creeping along a little above it, we were enabled to get within about fifty yards of the objects of our attack, expecting to "bag" at least a brace of them; but they were too wary to allow us to approach nearer. Finding they heard us, I discharged my gun into the midst of them, and they simultaneously rushed into the sea and disappeared. They were sea-pigs (*capivara*), of which we subsequently saw a considerable number, killed several, and found their flesh excellent food, but with this exploit terminated our tiger-hunting at Cape Frio. On subsequent inquiry, I found that it was not by any means an unusual occurrence for tigers to swim over from the main-land in quest of the very animals which in this instance had been mistaken for them, and of which they are very fond; and, therefore, considering that there was no particular obstacle to their approaching and making free with one or two of us should their appetite dispose them for a more delicate morsel, I repeated the order that the people should not stray into the woods excepting in parties.

During the succeeding three days after the 1st of April, the swell was too great to admit of working the bell, and the people were employed on the cliffs in securing several lengths of the *Thetis's* chain stream cable to the different fastenings to attach the derrick gear to; the party of excavators was increased, some hands were employed in making torches, others in cutting wood for capstan and crab bars, and sinking bolts at various points. Carpenters were employed in making money-boxes, and on the 4th, Moore the engineer with his party blasted a hole in the rock to form a step for the derrick.

The 5th was a very favourable day: by sunset we had recovered a large quantity of treasure, and there still re-

mained much more within reach. Determined to persevere, we lighted the torches, and made the other preparations for continuing to work through the night, but shortly afterwards the sky suddenly became overcast, and thunder, lightning, and rain, following in quick succession, disappointed our hopes and drove us to the harbour.

On the following morning we made another trial, though there was a great deal of swell, and the launch surged violently; still, though at great risk, we persevered for two hours in our endeavours to land the bell, but they were fruitless; we found it impossible, and consequently returned to the harbour. But on the 7th the sea was sufficiently quiet to admit of our placing it between the rocks, which being at length accomplished, we got at the treasure that had been left on the evening of the 5th. At dark the torches were again lighted, and the work continued until nine o'clock, when we concluded a very productive though exceedingly dangerous day's work.

The unsettled state of the weather and the sea (as before mentioned) had for the several intervening days precluded the possibility of working the bell, which enabled me to direct my whole force and attention to the derrick, the hooping of which was completed on the 6th, and we then commenced woolding* it and getting all the clothing on, which for a considerable time had employed a gang of riggers, and was now completed under the immediate superintendence of Mr. Chatfield.

On levelling the cliffs for the platforms, the excavators discovered amongst the decomposed granite a great quantity of mica of a bright yellow colour, which they supposed to be gold, and brought many specimens of it to me under the idea that they had found a far more profitable mine above than

* The act of winding a piece of rope round a mast or other spar.

below the sea. I endeavoured to undeceive them in this respect, but they looked very incredulous, nor could I for a long time remove the impression from their minds; their scepticism was rather amusing, for whenever I visited them I was sure to find a heap of it placed in a corner for my inspection, and on every occasion they had some new reason for assuring me that it *must be* the precious metal. We had by this time taken off thirteen feet of the peak of the north-east cliff, and thereby made a platform of eighty feet by sixty; on this was placed the Lightning's capstan and four crabs formed of the heels of the Thetis's topmasts, the Lightning's bower and stream anchors, and the store anchor, to which was shackled the chain splicing-tails and several lengths of the Thetis's chain stream cable which we had recovered, extending several fathoms over the cliff to attach the standing parts* of the topping-lifts and guy-topping-lifts to, and preserve them from chafing against the rocks. There were also eight large bollards placed in proper situations for other securities. Four other platforms, each large enough for working a crab, were made at appropriate parts for using the guys and guy-topping-lifts. The roads and paths that had been cut, extending from our encampment to those platforms, and from the one to the other of them, together amounted to the length of nearly a mile and a half. The zig-zag path down the cliff was finished, and at those parts of the main cliff which were inaccessible in that manner, rope-ladders were substituted, and thus a communication was formed with the cove at the point where the derrick was to be stepped.

All this being done, the large hawsers† were rove through the blocks, their purchases lashed to them, and

* Those parts which are made fast.

† Large ropes generally made like cables.

‡ All the parts of a tackle rendered slack or extended.

partially overhauled† over the cliffs. The getting the before-mentioned heavy articles up was most distressingly laborious, for they were obliged to be carried a great part of the distance where the surface was covered with a loose deep sand, and to this cause may be mainly attributed a complaint of the heart which subsequently attacked several of the people.

Amongst the things crept up was a part of the bows of the wreck, including the hawse pieces*, which were of great value to us, and were turned to good account by being fitted with rollers; and fixed as a breast-work on the brink of the main† platform for the gear to traverse over; this plan not only prevented chafing, but likewise saved a great deal of labour. Mr. Jones succeeded in accomplishing this in a most effective manner.

The 8th of this month was another good day with the bell. On the preceding day we had taken up all the treasure which lay on the immediate surface, or could be found by removal of the small rocks within the space in which it had first been discovered. We now had recourse to digging, and pursuing the plan I at first adopted, commenced at the lowest part; so that in the event of any that might be above being disturbed, it should fall into the hole thus made, and be arrested in its progress sea-ward; the advantage of this plan is obvious, and it was frequently exemplified during the continuance of the service. In the course of the day the bell-men dug through a mass of decayed and putrid provisions, which they at first considered were the bodies of those who were lost in the wreck; the stench arising from it was so insufferable that they were obliged to come up. In con-

* That part of the bow with holes in it for the cables to pass through.

† The principal is here meant.

sequence of this I immediately shortened the period for their remaining down until this place was cleared, but two of them became very ill, and indeed many of them suffered from the same cause.

The derrick, which was now composed of twenty-two pieces united by a great number of dowels and bolts, thirty-four hoops, and numerous woodings of four-inch rope, was finished on the evening of the 7th and the clothing fitted on, and I now had arrived at a point which required much foresight and pre-arrangement, namely, the preparation for erecting it; and it was necessary to weigh with coolness and circumspection the mode by which this was to be done.

A party of about sixty of our best hands were employed in getting the *Lightning's* chain and hempen stream cables and large hawsers passed over and round the faces of the cliffs, and the purchases were sufficiently overhauled to admit of their reaching the derrick, and the falls brought to the capstan and crabs, ready for heaving it up. All who are well acquainted with the character and manners of sailors know that it is no easy matter to rid them of their habitual heedlessness; I endeavoured to impress them individually and collectively with the necessity of caution in not holding by, or treading on, any thing without first ascertaining that it was secure; the almost universal answer I got was "Never fear, Sir;" which, from the fearless and careless manner in which it was expressed, was by no means calculated to remove my apprehensions for their safety. It is for those only who have been placed in a responsible situation, where the error of one order, or want of judgment in directing any thing to be done, might be fatal to many lives, to judge of the state of anxiety and excitement which this day's superintendence caused me. The task we had now in hand was one of immense danger. The parties working over the

cliffs were some of them slung in bights* of ropes, some supported by man-ropes, some assisting each other by joining hands, and others holding by the uncertain tenure of a tuft of grass or a twig, while loose fragments of rock, being disturbed by the gear and the men who were working on the upper part, were precipitated amidst those below, endangering their being dashed to pieces every inoment, while the sharp crags lacerated the hands and feet, and rendered the moving out of the way extremely difficult; circumstances which kept me in a state of rapid and constant transition from one cliff to another, in order not only to direct the whole, but also to point out danger and to admonish the heedless. However, by great attention on the part of the officers, and by promptitude in rendering immediate assistance when required, this very arduous part of our work was performed, which I sincerely believe could not have been accomplished by any men in the world but British seamen; the only accidents which occurred being some cuts in the hands and feet by scrambling about the rocks, and a few bruises from the falling stones.

While this was doing, preparations were also made for launching the derrick, and I took Mr. Jones and Moore with me and minutely and finally examined all the securities.

All the gear being prepared, in the evening I arranged the distribution of my officers with their particular parties at the capstan, crabs, purchases, &c. The smallness of the number of hands sent from the Warspite rendered it necessary that I should have every working man from the Lightning; and on this occasion she was left with only a few convalescents to take care of her, and even the young gentlemen were obliged to give their aid at the capstan. On the morning of the 9th the derrick was launched without a

* The double part.

casualty, and while the boats were towing it to the cove, all the gear was got ready to be attached to it the moment it arrived at the proper position according to the plan I had given. It had to be towed for a distance of about a mile, subject to the influence of a strong current running westward through the gut, at once exposing us to the two-fold danger of being driven to sea or against the rocks, either of which would have occasioned us great difficulty if it had not entirely frustrated our future hopes of benefit from the use of this machine. In apprehension of accident from one or the other of these causes, I had taken the precaution of placing bolts at several points of the rocks, so that in case of necessity a warp, with which the boats were amply provided, might be made fast. However, it reached the cove without accident, and as in this laborious work every thing depended on promptitude of action, I had all the gear fitted to go with toggles*, which so much facilitated the rigging, that in one hour and a half after its arrival every thing was in its place, and the Lightning's chain stream cable being made fast to the heel of the derrick which was placed directly under its step, ready for heaving up into it, and the guys being hove taut to keep it in that position, I left the further management in the cove to Mr. Chatfield, and placed myself on the main cliff; for all the securities being untried, I felt that they would require my earnest personal watchfulness in case of the failure of any one of them, as a suspension of work would immediately be necessary.

Every thing being thus prepared, I gave the order to heave round, and every one was on the alert; but we had scarcely brought any considerable strain on the gear, when a report came to me that the heel of the derrick was displaced and

* Large wooden pins, which being fixed transversely in one bight or strop attaches it to another.

driven into a chasm at the foot of the cliff, an accident which for this time put an end to further attempts to get it up. The day was far advanced, and therefore as no time was to be lost, I had no alternative but immediately to cast every thing off, and return with the derrick to the harbour if possible ; but this had become exceedingly doubtful, for the wind was much increased since the morning, and was blowing in heavy gusts, and the current consequently was proportionably more rapid. We repeatedly succeeded in towing it into the gut, and were as often driven back ; till at length finding it impossible, notwithstanding the most strenuous efforts to get it through in this way, we were under the necessity of making it fast to the rocks until a small anchor and some grapnels were laid out, by which means it was ultimately warped into the harbour, and by half-past eleven at night moored off the beach near the Adelaide, and the party which had come from the ship in the morning then returned on board after a very fatiguing and dangerous day's work. Undismayed by this failure, by seven o'clock on the following morning we were again in the cove with the derrick. Our energies were raised to the highest pitch, and we soon had all the gear toggled to it, and the heel quickly hove up and placed in its step.

On this occasion I left the watching of the securities to Mr. Jones and Moore, and determined to direct every thing in the cove myself from my boat. Never was ardent exertion or attentive obedience more requisite or conspicuous than in this case. The enormous weight of the derrick, the great height of the purchases above it presenting a serious obstacle to communication, the number of these purchases, and the great distance they were apart from each other, rendering an union of the parties on any emergency impossible, were circumstances which much contributed to the difficulty

of this task ; despite of all which, at the close of the day, I had the satisfaction of seeing this huge spar in the place assigned for it, and the head of it hove ten feet above the water, no material accident having happened to any one. On the 11th we were again at our purchases, and the head was raised to the angle I had intended, being about fifty feet from the surface of the sea, and plumbing the part we were recovering treasure from. About the middle of the day the wind set in from the south-west, and the sea rapidly increased ; but, fortunately, by half past one P. M. every thing was made fast.

During the operation of erecting the derrick it evinced great pliability, the consequence of being composed of so many pieces, which obliged me to get numerous additional guys on ; and having thus secured it, we returned to our encampment, all of us being excessively fatigued by three consecutive days of the most harassing exertion, and on the two former not having had any refreshment between the hour of half past four in the morning and late at night. On looking down from the precipice on this enormous machine, with all its immense but necessary quantity of rigging, it became a matter of astonishment to myself, and I believe it was to every one else who saw it, that, with the small means we had, we could have succeeded in placing it in such a situation.

It was impossible to expect that this work could be accomplished without the occurrence of serious casualties, but I have reason to exult when I state that none of any consequence happened ; a result which could only be attributable to the great and unceasing attention of the officers, displayed in the energetic promptitude with which they put my orders into execution, and to the ready persevering exertions of the people, which seemed to augment in proportion to the mag-

nitude and danger of the work to be performed ; and I felt that from such a disposition no other than a favourable issue could result.

It has been my lot to witness many circumstances in which great solicitude has been evinced, but never one wherein such general anxiety and such an unity of feeling were manifested as on this occasion. And, indeed, it was most necessary, for if any one thing had given way, it must have been fatal to the whole,—a general crash must have ensued. This derrick, of greater magnitude I believe by far than any other ever constructed, was suspended by six topping-lifts, namely, the Lightning's chain and hempen stream cables ; one nine-and-a-half-inch and one eight-inch hawser, each double ; one five-and-half-inch hawser, double ; one of four-inch, four parts, which was also intended for the secondary purpose of a purchase for raising the guns and other weighty articles ; and two guy-topping-lifts, one of nine-and-a-half, the other of eight-inch, double. The lower guys were all of five-and-half and five-inch hawsers ; and from being led to about eighty feet up the cliffs, all had a lifting tendency. There were two pairs of belly shrouds* fitted with double runners and tackles midway between the inner topping-lifts and the step ; and there were four tackles, besides lashings, at the heel to keep it in its place. The whole of the strops † were made of spunyarn, warped. There was also a runner fitted for removing rocks, and weighing the anchors, guns, and chain-cables. The bell-purchase was the Warspite's jeer-blocks, with six parts of five-and-half-inch rope.

On the 12th I dispatched the Adelaide to Rio with the men lent to assist in erecting the derrick, they having been

* Short shrouds, placed about midway between the customary rigging of a mast and the deck of the ship.

† A circular wreath of rope.

with me twelve days. I now set the riggers to work in preparing the purchase, guys, and other gear, for suspending and working the large diving-bell from the derrick, and employed the carpenters in making a stage of sixteen feet square, to hang from the derrick-head, having hatches on hinges in the centre, so that the bell might be lowered through it, and which, when the bell was up, were shut down, so as to facilitate the getting in or out of it, and also for receiving whatever might be sent or brought up from the bottom. The stage was large enough to contain also sixteen persons, for the purpose of overhauling the bell-purchase, working the air-pump, attending the guys, bell-signals, &c. While these were in hand the small bell was actively worked in the same manner as before, in taking up ballast, shot, bolts, and various other articles ; in removing rocks and rubbish, and recovering treasure from amongst them. On the 13th we made another successful attempt by torch-light, but the number of hands being so reduced by the return of the party to Rio, there were not sufficient remaining to work by watches*, and therefore the fatigue, as well as peril, became so excessive, that from this time prudence dictated that I should not persevere in this mode any longer, and I therefore limited our working hours to daylight. The bell-men had become so habituated to the pressure of the air in the bell that they could remain down a much greater length of time than at first ; on some occasions, when not in very deep water, for the space of four hours and a half ; and I was glad to benefit by this advantage in reducing the size of the large bell, by taking off a foot length from the bottom of it, and thereby rendering it considerably lighter.

The north-easterly winds blew much stronger at this period than previously, and rushed through the gut in such

* Half of the crew at a time, alternately.

heavy gusts, that we repeatedly had great difficulty in getting the bell-launch into the harbour ; and on the 19th, after many hours' warping and rowing, we failed in our attempts to do so, having carried away several warps and broken a number of oars ; we therefore had no alternative but to moor her in the cove for the night, with a small crew in her, and leaving the Dingy as a tender to communicate with the main cliff. The officer of the watch was ordered to take his post on the main platform, and men were stationed at different points to give information in the event of any change in the state of the sea or weather, the vicissitudes of which were quite sufficient to dispel sleep from my eyes so long as my men and boats were in so perilous a situation ; and many a restless night I subsequently had from the same cause. On these occasions my order to the sentry was to call me should any heavy clouds appear, or the wind fall light. On this day I received orders from the Commander-in-Chief to discharge the whole of the officers and artificers of the Warspite, and on the second day after sent them to their ship by the Adelaide.

Having cleared away all the small rocks from the space in which we were working, and taken up the treasure to be obtained both in this way and by digging, on the 21st the sea in the cove being unusually still, we commenced the removal of those rocks of the greatest magnitude that could be weighed by the Brazilian launch, and in the course of the day we thus displaced three, the smallest of which, by rough admeasurement, was estimated to weigh about three tons. The method adopted for removing the rocks was very simple ; it was by means of a lewis*, of a somewhat different description from that in general use among masons, being composed of two pieces only, an inverted wedge and a wedge, each having

* An iron implement used in masonry for lifting large stones.

one side rounded and the other a plane surface, and a ring being in the upper part of each: the former was placed in the hole made in the rock and fixed there by the latter; by means of a purchase and pendant* attached to the former, the rock was lifted by it, and the boat was then hauled into deeper water by a warp; which being done, a strain was brought on the wedge by heaving on its single pendant; the purchase was then slackened, and the weight being consequently brought on the wedge, by a blow with a heavy hammer, it came out, the lewis was released, and the rock fell. As I had no means for the present of lifting those which were too heavy for the launch, they were merely turned over by purchases from the most appropriate parts of the cliffs. When we had removed these obstructions, we dug down to the depth of five or six feet, at about which distance we came to the natural solid granite bottom, and removed large quantities of treasure during our progress.

The 23rd was a beautiful day, and we were out with the boats by daylight; but scarcely had we attempted to lower the bell, when, notwithstanding the wind was fresh from the north-eastward, the swell suddenly became so heavy that it was impossible to work, and it took us five hours hard rowing to get into the harbour.

The treasure which we had now sorted and cleared amounted to 33,000 dollars, which was on this day deposited on board the *Lightning*. In the evening the wind was so strong through the gut that we were again obliged to leave the bell-launch in the cove, but on the next day we got her in.

On the 28th, the wind being from the south-westward, the sea in the cove was very heavy, the waves beating to the height of sixty or seventy feet up the cliffs, which I considered to afford a good test that the stability of the derrick,

* The thick piece of rope to which the tackle was attached.

about which I had felt very anxious, was sufficient to resist a great force of sea ; and it also gave me an opportunity of discovering the weakest parts, and consequently of applying additional support to them : it was gratifying to us all to find that it bore the assault so well.

On the 30th the *Adelaide* brought twenty-four persons from the *Warspite*, amongst whom were fifteen boys, landsmen, and ordinary seamen ; they were in charge of an acting lieutenant and two passed mates ; making, with the launch's crew, forty-seven persons, who remained with us fifteen days.

In addition to our sufferings, from the wind and rain penetrating our slightly-constructed huts, we were now attacked by myriads of tormentors in the shape of ants, musquitoes, fleas, and, though last not least, but worst of all, jiggers (*chicres*), to such an extent, that one might have thought we had invaded the united kingdom of insects, and that the whole community had risen *en masse* to expel us from their territory. The ants were so numerous that it was impossible to protect our food from them ; one particular kind, of a minute size, attacked every thing that was eatable. Some were of an immense size, of which I have one now in my possession five-eighths of an inch long ; but these were not mischievous. The serenade of the musquito is too well known to need description here ; but very few have experienced his sanguinary nocturnal embraces to the extent that we did, many of the people frequently having had their eyes completely closed by the effects of the sting of this insect. The fleas were in numbers infinitely beyond the power of any method that we could adopt for their destruction, for they were inhabitants of the sand ; at night swarms of them assailed us in our beds ; while, by day, they were equally numerous in our clothes ; and it afforded amusement sometimes to pull up the leg of our trousers and

see them take flight like a flock of sparrows from a corn-stack ; while there might be a hundred congregated inside the stocking, and if you turned it down to eject a rascal that was more troublesome than the rest, his ninety and nine companions resisted the "right of search," by bouncing in your face. Every one who has been much in a tropical climate knows what a jigger is, but here they were a hundred-fold more numerous than I ever knew them elsewhere ; and all who have not been in those countries in which they are found may congratulate themselves on their non-acquaintance with these little insidious devils, the thought of which, even now, excites the sympathy of my toes and fingers ; they penetrated the skin in almost all parts of the body, but more particularly the feet, forming a round ball, of which they were the nucleus, and causing sores, which, being irritated by the sand, became most painful and troublesome ulcers, and produced lameness to half of our number at a time ; in a few instances they were extracted even from the face, and the very pigs and fowls did not escape them. Our encampment was also infested with a large kind of black rat, partaking somewhat of the nature of the opossum, having a purse for its young, and also the property of clinging by its tail, that which is generally called ring-tail. They had become so familiar, that even in the open day it was dangerous to leave any food unprotected ; and scarcely a night passed without a reduction in my stock of poultry, which I occasionally purchased in large quantities for the use of the sick and for my own table, if I could be said to keep one, and which roosted about in the contiguous bushes. This made our plagues nearly equal in number to those of Egypt, and in some respects not very dissimilar in kind ; ours being sand, rain, fleas, mosquitoes, jiggers, ants, and rats ; to which, subsequently, was added a very disgusting one,—snakes, which became so numerous that the thatching

and almost every other part of our habitations was infested with them ; they were frequently found in the people's hammocks and clothes, and several were caught on board the ship, doubtless having been carried there in the bedding when the reliefs of the quarter watches took place, or in empty casks, or such like. On one occasion one of those reptiles, of frightful magnitude, paid us a visit: my clerk's assistant was writing in the hut denominated the office, when he heard a rustling in the overhanging bushes, and something near the side of his face attracted his attention. On looking round, to his astonishment and terror, he discovered that a huge snake, pending from the bushes, had extended its head to a distance of several feet through the hole which answered the purpose of a window, and with glittering eyes, was harmlessly looking about, as if on a tour of inspection. He was not a man to be scared by trifles ; but this was enough to shake the strongest nerves, and I should think that there are but few who would not have done as he did. He roared out and "alarmed the camp," but there were very few persons in it, for the bell was at work in the cove at the time. Muskets, cutlasses, sticks, and every other weapon that was at hand, were in great requisition ; a general attack commenced, every one who was near joined in pursuit, and the monster soon found it high time to be off. He, however, notwithstanding so serious an assault on him, did not receive much injury, having escaped with but one blow from a cutlass. I received numerous reports as to the dimensions of this extraordinary snake ; my steward, who was a man of about five feet two inches in height, and weighing about fourteen stone, insisted on it that it was as big round as his thigh ; and the sentry said it was as big as the Lightning's bower cable ; and as to the length, the statements varied between twenty and thirty feet ; and I

have no reason to doubt the latter, for at Rio I was afterwards offered the skin of one which measured twenty-seven feet long and twenty-two inches broad. On another occasion, Mr. Sutton, the boatswain, went into the store, in which there was no window, to get a piece of rope ; from going out of the glare of the sun and off the bright sand, the place appeared quite dark ; he laid hold of what he considered to be the article he wanted, and pulled lustily at it, and was not undeceived until he had fairly dragged it out into the light, when he was horror-struck at discovering it to be a large snake, which, as may readily be imagined, he very soon gave permission to retire into the woods. He described it to be as big round as his leg, and full three fathoms long. At another time, the first lieutenant, master, and purser, were sitting at the table in their hut, discussing their wine, when a large snake introduced itself to their notice, by forcing its way through the thatching ; they allowed it to descend nearly as low as the table, and then attacked it with sticks ; but not liking so warm a reception, it made a precipitate retreat into the woods, before they could get outside to continue the assault. Indeed, they were so numerous, that hundreds of them were killed during our sojourn on the island ; and I have repeatedly, on coming in from the cove, found five or six which had been caught by the people in the course of the day, and put into a cask for my inspection. I had the skin of a very beautifully marked one, eleven feet long, which I killed, but the ants destroyed it. Centipedes, scorpions, and tarantulas, were also very numerous, and frequently found amongst our clothes. Indeed, altogether, it might have been imagined that the blood of the Titans had been shed at the island of Cape Frio.

During the month I had to regret a considerable increase in the number of sick ; cases of diarrhœa became frequent,

owing to the unavoidable exposure of the people to the sun; and the cases of ulcers, occasioned by the jlggers, continued numerous and troublesome.

MAY.—On the 1st of May we met with an accident, in endeavouring to put an extra guy on the head of the derrick. Some of the men, in attempting to get to a particular part of the cliff, ventured within reach of the surf, which being heavy at the time, one of them was struck off, and by falling between the rocks, was much bruised; but by the ready assistance of those near him was rescued, and his life saved, although he was in a very dangerous state.

From the 23rd of April the swell and wind were very uncertain; and though we made repeated attempts, we could not work the bell. At times the surface of the sea was very smooth, and, to appearance, there was no obstacle to landing the bell at the bottom and proceeding as usual; but when it was lowered to near the bottom, the underset was so strong that it vibrated ten or twelve feet, and was violently driven against the rocks, to the great peril of those who were within, and it was found to be impossible to place it. But at this time there was no want of occupation on shore, for the strong north-easterly winds which had previously blown had much injured our huts, and rendered it necessary to give them a thorough repair in both wood and thatching, which was done, and they were restored to a more water-proof condition. The Brazilian launch was employed in bringing timber from a distant part of the island, which had previously been cut; some hands were occupied in making rope nets for shot, as weights for tallies, with which to mark different articles at the bottom. Many of the purchases required fleeting*, and a new set of truscot pump-hoses which I had received were prepared.

* The act of extending the blocks of the tackles to a greater distance from each other.

The whole of the derrick gear being of new rope, was much affected by the heat of the sun, and from varying in size, stretched so irregularly, that it required constant attention and labour to rectify it. On the 6th it was at length all brought to bear an equal strain, the derrick fixed for working, the bell-purchase rove, and the large bell hung to it. On the 8th we were again able to work, though the wind was from the south-eastward, and there was a short bubbling sea in the cove. On the 9th the stage was suspended to the derrick-head, the bell weighted, and all other arrangements were completed by the 11th, on which day we made the first trial of this immense machine; and in order to put its expected advantages to the test, I first made an attempt to work the small bell, but the state of the sea was such that the launch surged, and the bell swung to and fro so much that it was impossible to manage it.

The large bell-purchase was worked by the capstan on the main cliff, which being too distant for the voice to be distinctly heard at all times, I devised a simple little semaphore with one arm, as the medium of communication, three signals only being necessary;—they were these,—the arm pointing upward, to heave up; to the right, lower; to the left, hold fast. The bell was fitted with three span-guys with a single whip*; one from the derrick, at about sixty feet within the stage; one from the starboard, and the other from the larboard head guys, at about the same distance; and these enabled us to shift the bell over a space of ground of about sixty feet one way, and thirty the other: it was my intention afterwards to rig the *Lightning's* fore-topmast out at the derrick head for a guy-boom, and this would have increased the space to sixty feet square, without altering the position of the derrick. I had also intended, had I been

* A rope rove through a single pulley.

supplied with a sufficient number of hands, to work both bells at the same time.

On examination of the bottom from the large bell, it was found that the almost constantly agitated state of the sea had filled up all our excavations ; many large rocks had fallen into them, and there was no treasure to be seen. Our first care therefore was to remove these impediments, and the advantages of the derrick were immediately perceived. One of the greatest obstacles to working the small bell was the surging of the launch, by which the warps which secured her in her position in the cove were frequently broken, to the imminent danger of the bell-men. We now had the benefit of a fixed point, from which the large bell was suspended, and with the assistance of the guys, we could lower it with considerable exactness to work on any part. This stability enabled us to fix with ease the lewis in the rocks, at times when it was impossible to use the bell-boat. The derrick also, as a bridge, afforded us the facility of a ready communication with the main platform, by means of the ropeladders placed to ascend and descend by, and there was also the advantage of the greater capacity of the bell, which would contain three men ; so that on the whole, this was a machine which, viewing it in its combined nautical and mechanical construction, and considering the scanty means out of which I had to produce it, was perfect in its kind, and in every respect calculated for the purpose for which it was intended, and to do great credit to all whom I had employed on it. But while I thus looked on it, with some pride I confess, and with much gratification, and notwithstanding the strong test it had been put to on the 28th of April, I could not divest myself of strong apprehensions on account of the dangerous position in which circumstances had obliged me to place it ; and my fears were, unhappily, too soon realized. The first day on which it was brought into operation was

devoted to boring some large rocks which were much in our way, and were supposed to cover a large quantity of treasure, and to preparing for their removal. On the following day we completed the boring of a rock estimated, by ad-measurement, to weigh about eight tons; the lewis was fixed, and the purchase being brought to the capstan, it was raised to a few feet from the bottom, and a guy of five-and-a-half-inch rope being made fast to it, and brought to a crab on the south-east cliff, it was drawn over in that direction and released; several others of a large magnitude were displaced in the same way, and some treasure thereby discovered, but the weather changing, we were prevented from taking up much of it.

On the 13th his Majesty's ship *Eden*, Capt. W. F. Owen, arrived, bringing me orders from the Commander-in-Chief to discharge the whole of the persons belonging to the *Warspite*, excepting Dewar and Littlejohns, and to send them with the launch to their ship.

On the 15th other rocks were turned over, one of them estimated at thirteen tons weight, when we found a large mass of treasure, and continued raising it with such great success and rapidity, that on the 17th we took up the immense sum of 21,680 dollars in value; and by the morning of the 18th, although the derrick had been worked on but eight days, from the great facility it afforded us, we had taken up upwards of 50,000 dollars in value in that period.

Our constant liability to accident, and the fear that we might lose one of our air-pumps, induced me to request Captain Owen to supply me with his ship's fire-engine, which he immediately did, and I sent it to Rio de Janeiro, by Moore, to get it altered to an air-pump, according to the method I furnished him with.

We had now saved in the whole about 130,000 dollars in bullion and specie; and as the *Eden* had come out for the

purpose of carrying to England so much of it as was ready, I made my first shipment by her to the amount of about 124,000 dollars, consigned to the Bank of England, in the name of myself and the rest of the salvors, and she sailed on the same day.

During the sojourn of Captain Owen he evinced great interest in all our proceedings, particularly in the construction, erection, and working of the derrick. He denominated the work as being such as had never been equalled within his knowledge; and I felt much flattered in being thus complimented by so competent a judge, and am induced to subjoin an affidavit*, made by him on his arrival in England, and put into the Admiralty Court, which will more fully show his opinion; and I cannot omit here acknowledging his great-kindness and liberality during the time he was with us. We were taking up large quantities of treasure, and, being present, and my superior officer, he might, without any great stretch of power, have taken charge of the enterprise while remaining there, have employed all my machinery, as well as the resources of his own ship, and thereby have become an actual salvor, and legally entitled to share salvage as such; but it is with feelings of thankfulness that I state his conduct to me to have been the very reverse. On his first arriving, he, with the greatest consideration, told me that it was not his intention to interfere with me, but that if I wished for any assistance within his power to afford me, he should be happy to give it, without an idea of deriving any benefit from so doing. I mention this conduct of Captain Owen, not only from being impelled by gratitude, but also to bear testimony to the generosity of a really scientific person, who, being on the spot, might have suggested ideas and given orders in furtherance of the service, and thus have

* Vide Appendix No. II.

legally established a claim both to a proportion of its merits and rewards.

We continued working on the morning of the 18th until past nine o'clock, taking up treasure as fast as we could dig it from that part from whence the large rocks had been removed, and there was every prospect of our reaping an abundant harvest, but the wind suddenly set in from the southward, and we were obliged very hastily to quit the cove.

The bringing of the derrick into use had cost us a great deal of labour and anxiety, and it was now rapidly compensating us for both ; but scarcely had we time to congratulate ourselves on the subject, than a sad reverse dashed the cup of joy from our lips. Hitherto, notwithstanding it had occasionally blown fresh into the cove, and the sea had beat to a great height up the cliffs, yet the derrick firmly withstood the shocks. We had never yet had a *gale* of wind from the south-westward ; but on the afternoon of this day a strong breeze arose, which gradually increased towards the evening, by which time the sea was beating seventy or eighty feet high ; and the appearance of the weather being very threatening, I dreaded the consequences, and placed a strong party, of which of course I was at the head, to watch the derrick during the night. Hour after hour passed, the storm continued to increase, and with it my anxiety. At one o'clock on the morning of the 19th it blew a perfect gale, the cove was in a far more disturbed state than I had ever seen it before, the sea rolled up the cliffs to an astonishing height, and by daylight the cove was in a state of awful commotion ; the spray beat over the heights to such a degree, that while standing on the main platform, at an elevation of 155 feet, I was completely wet, and could scarcely resist it ; every succeeding wave was heavier than the former one, and struck the derrick with increased force, and shook it violently, while I was watching it with all the distressing feel-

ings that a father would evince towards a favourite child when in a situation of great and immediate danger. Still so good and so equalized were the securities, that it continued to withstand the assault. By six o'clock the wind had risen to a heavy gale from the west-south-west, which not being directly into the cove, threw the waves obliquely against the south-east cliff, and caused them to sweep along its whole length, until opposed by the north-east cliff, from which, as each wave recoiled, it was met by the following one, and thus accumulated, rose in one vast heap under the derrick stage, beat it from under the bell, and washed away the air-pump, air-hoses, and semaphore, which unfortunately had been left there in consequence of the hurried manner in which we had been driven by the weather from our employment on the previous day. The stage was suspended at a height of thirty-eight feet from the surface of the sea, when in a quiescent state; from which circumstance an idea may be formed of the state the cove was in on this occasion. Nine o'clock arrived, and I had, almost without intermission, been watching for fourteen hours. The constant concussions the derrick received had by this time caused the gear to stretch, and it had become, with the exception of the topping-lifts, much slackened and irregular; our utmost efforts were therefore given to rectifying it; but notwithstanding this, every blow from the sea caused the spar to vibrate to an alarming degree. Nothing more could possibly be done to save it; and I saw plainly that unless the gale suddenly ceased its destruction was inevitable: I therefore left an officer to look out, and report to me immediately the event should take place, then quitted the cliff, went to my hut, and arranged my parties for the work to be put in hand consequent on the catastrophe. Scarcely had I done so before I saw the officer coming down to me, and, anticipating his report, went to meet him, and received it, which was to

the effect that at ten o'clock a stupendous roller had rushed in, struck the derrick on its side, and broke it off at about twenty feet from the heel. Thus in one crash was destroyed this child of my hopes, just after it had arrived at maturity; a disaster which never would have happened if I had had sufficient wood to make it long enough to be stepped high up the cliffs, as was originally intended; in a very short time it was dashed into six pieces, forming, with the multifarious gear, one confused mass of wreck.

My constant apprehensions, from the period that I found myself compelled to place the derrick step near the water's edge, had induced me to mature a plan for a substitute, should ever the disaster occur. This was a suspension cable, to be extended diagonally from the north-east to the south-east cliffs, with cross cable guys from the western peak to the eastern corner. This device was entirely different from that intended previous to my leaving Rio. My diagram of it was prepared, and I had even gone to the detail of the distribution of the officers and men, therefore not a moment was lost in going to work, and in a few minutes from the period of the misfortune, all hands were actively employed in the particular work selected for them to perform. A party of hands were immediately set to work in excavating the rocks on the south-east cliff, near the place where the crew of the *Thetis* landed, to form a platform; and another party in preparing situations for the fastenings, as well as other necessary measures for getting the cable across; while the rest had ample field for exertion in saving all the rigging possible from the derrick. Mr. Delafons, the first lieutenant, was directing on the north-west, and Mr. Pope, the master, on the south-east cliff, and myself on the main platform, and occasionally visiting the whole of the parties.

On this occasion we very nearly lost the former officer. The sea was roaring with terrific fury up the cliff where his

gang was at work, and below was one of the guys, on the saving of which depended a great deal more of the rigging. To get down to make a rope fast to it was very hazardous, and I had given him the caution that although it was essential in our present paucity of stores to recover all that we could, yet the preservation of life was the first object of consideration ; but in his ardour to be conspicuously useful, he ventured down to fasten the rope himself, and just as he had accomplished it, the sea struck him and beat him from his position ; he however fortunately caught hold of the guy, and managed to cling fast until those above threw him a rope, which he made fast to himself, and was hauled up by them and thus rescued. On the following day I sent him overland with a letter to the Commander-in-Chief, informing him of the accident and the new plan I had devised.

Being deprived of the Warspite's launch, and no other boat being supplied to me in lieu, I was obliged to have recourse to the Brazilian launch for a bell-boat, and therefore on the 21st hauled her up on the beach for the purpose of fitting her as such. On the 22nd the wind shifted to the eastward, the swell moderated in the cove, and we were enabled to go out with the pinnace to assist in clearing the derrick-gear ; the greater part of which was saved by noon on the 23rd, but many of the blocks were lost, some were split, and all the rope much cut and chafed by the rocks. Several pieces of the derrick were towed into the harbour and hauled up on the beach ; and in the afternoon we attempted to heave up the large bell, which had been sunk when the derrick was lost, but it was so jammed by the rocks at the bottom that the purchase-fall broke. By the evening the people were very much exhausted by their excessive exertions since the 19th. The carpenter's crew of the Warspite being taken away, some of the Lightning's being in the sick-list, and the fitting of the Brazilian launch requiring the

whole of the remainder, I was very short of artificers, and was therefore under the necessity of seeking for Brazilian carpenters, and was fortunate enough to obtain four from the city of Cape Frio, about nine miles distant, who, although they were by no means good workmen, yet relieved our hands from some of the rough work, such as cutting timber. We were for the present without the means of proceeding in the recovery of treasure and stores, but it so happened that the weather was such as to render it impossible to work if we had had them.

During the whole of the 25th all hands, excepting the artificers, were employed in overhauling, splicing, and repairing the gear saved from the derrick, which was subsequently to serve as rigging for the suspension cable. On the 26th the Brazilian launch was completed, and furnished with the diving-bell and the small air-pump which I had made at Rio previous to starting from thence. The swell had much subsided, but it was still so heavy as to render it very dangerous to work. Notwithstanding this we went out, and the recovery of Fisher's pump and the air-hoses which had been washed from the derrick being an important matter, we commenced searching for them. Fortunately, immediately after they were lost, and before the accident to the derrick, I had taken cross bearings, and was thereby enabled to place the boat nearly over the spot. Dewar was the person who volunteered to descend on the occasion; the launch surged frightfully, and the bell vibrated greatly, still he succeeded in finding one length of air-hose, and this gave us hopes of recovering the rest of them and the pump; but scarcely had we congratulated ourselves on this success than we were doomed to another very serious and nearly fatal accident: failing of seeing the pump, he made the signal to move outward, which we did into eleven fathoms water, but from the depth of water and consequent extended length of

hose, the action of the swell against it was greater, and caused it suddenly to burst ; the bell instantly filled, and poor Dewar was again obliged to emerge from it and swim to the surface, and was taken up in a very dangerous state, from the great distance he had to rise, and being severely bruised against the rocks, the bell having been very near the bottom at the time of the accident.

On the 27th we renewed the search, Heans volunteering to go down ; and after removing the launch in various directions for several hours, he at length made the signal, previously determined on, that he had found the air-pump. A large rope was immediately sent down to him, which he made fast to it, and to our great satisfaction we soon had it in the boat, and as a sort of palliative for the severe reverse we had suffered, it happily had fallen between two large fixed rocks, and therefore was not greatly affected by the action of the sea ; but the break and delivering flange were lost, and one of the cylinders was injured. We did not succeed in recovering any more of the hoses, but fortunately I had anticipated the probability of accident to them, and in March applied for and procured others, which were prepared for use. In the afternoon we found the large bell, got a hawser fast to it, and hove it up to the main cliff ; it had not fallen in so favourable a situation as the pump, but amongst loose rocks, amidst which it must have been cast about during the gale, for it was smashed to pieces, nothing of it remaining but the mere shell, some of the iron bars, and part of the chain-cable which weighted it. This misfortune drove me to the necessity of breaking in upon the Lightning's stowage, and it was with the greatest regret that I was obliged to take a two-ton tank from her to make another large bell, on which the artificers were immediately employed.

The repairing of the air-pump afforded full employment for myself, Mr. Jones, and Stebbing, during the greater part

of the night ; it was partially done by the morning, and we were out with the small bell at an early hour, but, as before, a great quantity of rubbish had been washed into our excavations and took us the greater part of the day to clear away, which being done we recovered some treasure, and on the following day a large quantity more, though during the latter part of the afternoon the weather was very cloudy, with lightning and every appearance of a change of wind.

Notwithstanding the loss of the derrick was a very serious one to us, yet we had the satisfaction of knowing that we had derived much benefit from it, not only in having been the means of recovering a large quantity of property with great rapidity, but also in removing some very large rocks which had impeded us very much. We had the cable in progress as a substitute, and had still our bell-boat and small bell to go on with, and with which we were working very successfully. Every means we had brought into practice had succeeded, so that on the whole, although the misfortune had caused us a great deal of fatigue, our circumstances were not for the present by any means desperate, and we went on cheerfully ; but another disaster awaited us close at hand.

Although the appearance of the sky on the evening of the 29th had been very threatening, it had subsided during the night, and the morning of the 30th was very fine ; the wind was from the north-eastward, and the cove unusually smooth, with every prospect of continuing so. Mr. Pope was the officer of the bell-boat for the day. We were out with all the boats at an early hour, and continued working with great success until half-past one in the afternoon, when, without any kind of warning, the wind suddenly changed and set in from the westward, and in a few minutes there was an alarming sea ; we immediately cast off all the warps, and all the other boats took the launch in tow, myself leading in my gig. By prompt exertion we succeeded in getting about

two cables length* from the coast, and altered our course towards the gut, but here our utmost efforts to get further were unavailing; we could not even hold our own. In consequence of the top-weight of the bell hanging to the launch's davit, she rolled frightfully, and shipped water to an alarming degree; Mr. Pope employed all hands that were not at the oars in bailing with buckets, hats, and shoes, but it was all in vain, they could not keep her free, and he was under the necessity of reporting to me that the water was fast gaining on them. This was no time for hesitation; it at first occurred to me to steer the opposite way, and by going round the island to reach the harbour by the eastern entrance; but on looking towards the south-east point, I discovered that the opposing wind and current had caused such a heavy sea, or rather race, that it would be impossible for us to pass it; my directions were therefore for the boats to return to the cove with the launch, and place her as near as possible to that part which was least under the influence of the waves, to lower the bell to the bottom, to unreeve the purchase-fall, leaving the preventer-runner as a buoy-rope with a buoy to it, and then endeavour to return to the harbour; but if they could not get the launch out of the cove, she was to be made fast to the bell, the runner serving as a cable, and her crew being first taken out she was to be abandoned, and the other boats were to make the best of their way to the harbour with the people. As soon as the great danger the launch was in became apparent, the saving of the air-pump was an object of great importance to me, as the being deprived of it on the former occasion had caused me a great deal of uneasiness in consequence of our not having any other of equal power; we could not approach the launch while she was rowing, because of impeding her progress,

* The length of a cable is one hundred fathoms.

and she was rolling so heavily that I was apprehensive she would go down every moment ; we therefore waited until she reached the situation I had pointed out in the cove, then dashed alongside and took the air-pump into the gig, which immediately placed her in a more dangerous state than even the launch was, and we were obliged to make for the harbour immediately. By this time the sea had become dangerous for any small boat, and before I had reached half way to the gut, I should have been heartily glad to get rid of the air-pump, which but a short time before had been an object of my greatest solicitude to obtain, but it was impossible. In consequence of the quick motion of both the boats, and the great weight, as well as inconvenient shape for handling, of the pump, we could not place it in the centre of the gig, and thus being unavoidably placed on one side it gave her a considerable heel* ; and it is evident that any attempt to throw it overboard, by bringing the weight of the men to the same side, must inevitably have swamped the boat, particularly as she had now a great deal of water in her. In this dilemma I was under the necessity of laying in the aftermost oar, and sending the man who had been rowing it forward in the bow, so as in some measure to counterbalance the weight of the pump, whilst another of the boat's crew with his hat, and myself with the boat's bailer, continued bailing : we had lost our rudder in towing the launch ; and thus with only two oars to row, and much water in the boat, we happily reached the harbour : had we swamped not a soul could have escaped. On approaching the beach I waved for assistance, and a party of hands came down to receive us when we reached it, so that the pump was speedily taken out by them, and I immediately dispatched every one from the encampment to the summit of the cliffs, prepared

* An inclination to one side.

with ropes, to watch the boats in their progress along the coast, and to render assistance should they be driven on the rocks. While I was giving these directions the gig was bailed out, and we instantly started again, my object of most painful anxiety now being the safety of the people in the other boats ; and it is they only who have been similarly situated that can judge of the distressing state of mind I was in. On reaching the gut we had to encounter a greatly increased sea, which detained me for a full hour in the most agonizing suspense, for we could see nothing of the boats with upwards of eighty people in them. My fears had attained the highest pitch, when a momentary lull enabled us to get round the point, and in an instant we had the happiness of discovering that they were, at any rate for the present, safe, but still maintaining a doubtful contention with the waves and current. On reaching them we were received with three cheers, and I immediately resumed my situation of taking the lead in towing. On this occasion Mr. Pope had exhibited a sound judgment : having got rid of the encumbrance of the diving-bell, the launch towed much better, and he was enabled to get further out seaward from the land than on our first attempt, so that although he got into a greater strength of adverse current he yet avoided a much worse impediment in the bubbling short sea, increased as I have before mentioned by recoil from the rocks, and the launch's oars were more efficient. We still had to oppose our efforts against the sea and current for several anxious hours, but as the latter is at this place always more or less influenced by the wind, which on the present occasion was in a great degree opposed to it, it at length slackened, and enabled us to reach the bay before dark ; a most happy conclusion to our day's work, for by the time I rejoined the boats, the waves were raging so violently up the cliffs, that it was impossible for them to ap-

proach the coast, and if they had been driven against the rocks, every soul must have been lost.

I should do despite to my own feelings, and withhold justice to my officers and crew, were I to pass this point of the narrative without expressing my unqualified admiration of their conduct under these perilous circumstances. Great coolness and sturdy fearlessness were indispensably necessary, and were equally manifested on this trying emergency: the critical nature of our situation seemed to infuse an additional spirit into them all, and to have summoned them individually and collectively to the exercise of their utmost efforts, which happily resulted in safety.

On my first arrival at Cape Frio, an inspection of the situation in which the operations were to be carried on, enabled me fully to anticipate the peculiar dangers and obstructions to be encountered in the prosecution of the service; they had now come on us in rapid succession, and seemed to occur in so connected a train, that in truth the surmounting of one appeared to be but the introduction of another, and it might have been thought that the series of reverses which we had endured within the last twelve days would damp our ardour, and I doubt not that it would have checked that of any other men than British sailors; but I had under me a set of persons who had given such proofs of firmness and resolution, that I could at no period hesitate in pursuing with vigour the plan and measures I originally adopted, convinced that they would rise superior to all obstacles.

We were now without a diving-bell at all, and had as it were to begin our work anew. The Brazilian launch was an extremely fine boat, rowed well, and had other good qualities; but she was low, and our recent misfortune proved that in her present state, she had not sufficient stability to bear the

weight of the bell in a much-disturbed sea ; I therefore determined on endeavouring to improve her, and on the 31st hauled her up on the beach for the purpose of raising her an additional streak and applying bilge pieces and balking to her bottom.

During the month we had several cases of cholera and diarrhœa, besides catarrh and an increased number of ulcers and some painful wounds.

JUNE.—On the 1st of June there was a tremendous sea in the cove, which put an end to all hope of ever seeing the diving-bell whole again, and I therefore got a tank from the ship ready to make another.

The fishermen had informed me that a piece of the derrick was lying on a beach at a distance of some miles to the northward, for which the pinnace was sent in search, and returned with it in the evening. From the 1st to the 3rd inclusive, the sea was so heavy that it was impossible to send a boat to the cove, and we were occupied in getting the bower cable from the ship, and carrying it up to the main platform, ready for suspending across ; in conveying hawsers and lengths of the chain stream-cable to their respective situations, and fitting dead-eyes, pendants, and purchases for rigging it ; laying down fresh moorings for the boats in the bay, and others just within the gut for warping the launch in ; the carpenters were making bitts, shifting crabs, and fitting the launch ; blacksmiths were making bolts and other iron-work, and repairing diving-bell instruments, and the excavators were employed about the platforms and in sinking bolts for fastenings. On the 4th we got the cable across, and the sea having sufficiently subsided to admit of our sending the pinnace to the cove, we made two hawsers from the main and north-west cliffs fast to the runner of the small diving-bell, and hove a heavy strain on both of them, but could not move it in consequence of its being so jammed be-

tween the rocks at the bottom : the sea having increased so much that the boats could not remain in the cove, we made fast both hawsers until the force of the waves removed the rocks and released the bell.

On the 5th it blew hard from the south-westward with thunder and torrents of rain, and the cove was in awful commotion, while the sea heaved more than we had ever observed it to do before, and the spray beat over the cliffs and flew entirely across the island, reaching in trifling quantities even down to our encampment. It was Sunday, and therefore divine service was performed, and the articles of war read according to the usual routine. My people being completely fatigued from the incessant toil they had undergone since the 9th of May, I hoped to let them have a day of rest, but, as on the occasion formerly mentioned, my intention was frustrated by the elements. At about noon, a heavy swell set in on the beach, which washed the launch from the chocks on which she was placed, and beat her broadside on the beach, and broke the pinnacle from her moorings, furnishing us abundant occupation during the remainder of the day to haul them up out of danger. The gale continued to increase, and on the morning of the 6th the bell runner was observed to slacken, and it was inferred that the bell was released ; all hands were immediately sent on the cliffs to heave it up, in doing which a large rock was dislodged from the upper part of the cliff, and falling on the north-west hawser, cut it as with a knife, but the other hawser fortunately holding, we were enabled to raise the bell sufficiently high to be out of reach of the body of the waves. In the afternoon the surf on the beach increased until it reached the bank below the encampment, 150 feet above the ordinary high-water mark ; it entirely altered the form of the beach, and rendered it necessary to remove every thing from it ; and it was only by the most prompt exertion that we were able to

get the launch and pinnacle into safety, being obliged to haul the latter up on the bank, and indeed I was for some time apprehensive that even it would be washed away, and that our work-shop might be placed in danger.

The small bell was hove up on the main cliff, but, like the large one, was so battered by the rocks, that there was no part of it useful but the slings. The new small bell had been put in progress on the 4th, and being determined that it should be made forthwith, I took the superintendence of it on alternate nights with Mr. Jones, his crew and Leary the blacksmith working on the same plan, and by extraordinary efforts in this manner by night, and by means of all of them being employed on it by day, it was completed in the short space of six days ; and thus, as there had not been any weather that would admit of our working since the loss of the other, no time was lost by that accident.

The launch was also completed on the 10th, the bell hung to her davit, and the large air-pump was completely repaired, and I had now the satisfaction of possessing a boat, diving-bell and apparatus, quite adapted to the service they were to be employed on, and on the first opportunity we resumed our work with fresh spirits.

The south-westerly winds were now prevalent and the vicissitudes of weather particularly sudden, and the two alarming dilemmas we had been placed in had already admonished me to be very watchful of appearances, and also to devise every means in my power to avert calamity.

The former diving-bells had been loaded with both chain-cable and pigs of iron ballast, *fixed* within bars of iron ; but in the new ones I made a great improvement by loading them with pigs of ballast *only*, placed within an iron frame, and merely wedged in ; so that in the event of the bell-boat being placed in danger by a change of wind as on previous

occasions, we could readily remove them, and thereby render the bell so light that by a small tackle we could in a few minutes get it from the davit to the centre of the launch, and thus relieve her of the top weight: I also reduced the size, so that much weight was saved in that way.

For two days after the completion of the launch we were unable to go to the cove, and the people being very much exhausted, I was glad to give them a few hours' rest on each day to mend their clothes, which were wretchedly torn, and to repair the huts, through which the rains constantly penetrated; and I took the opportunity to go to Praya de Anjou to make better arrangements as to an occasional supply of fresh provisions, and also of water, which from this time, during the rainy season, we were able to obtain whenever we sent for it.

By the morning of the 10th, the sea had much subsided in the cove, and at daybreak we started as it were anew; we felt the benefit of the late short interval of comparative rest, and commenced again with renewed vigour, when the advantages of the increased buoyancy of the launch and decreased weight of the bell were so obvious as to produce the most gratifying confidence. The gale had washed away all our surface buoys, and on descending we found that the bottom was very much altered. By this time, however, I had taken so many cross bearings that we could place the boat nearly over any part of the bottom which we wished to examine, and as some of the tallies at the bottom remained, and were soon seen by the bell-men, we had not much difficulty in finding our *mine* again, which, after a few hours' work in clearing away the rubbish, we were again working, and had a grand day of it, having by the evening recovered to the value of upwards of 36,000 dollars; the following was also a very successful day. On the 15th we devoted the forenoon to taking up a large quantity of shot and rubbish, and removing

some rocks ; and in the afternoon of the 16th we recovered a large amount of treasure, and this appeared to finish the *lode*.

The greater part of the 17th was employed in searching, by taking up large quantities of iron ballast, shot, bolts, and other articles of copper and iron, and removing rocks ; and in the evening we found a small quantity of treasure, which was taken up.

For the last three days a great deal of rain had fallen, and we had scarcely a dry article of clothing ; and as the wet did not merely extend to our articles of dress, but our beds were to a great extent in a similar state, we were as may be imagined in a pretty miserable plight ; the grass with which our huts were thatched being of a very coarse description, and as we had been obliged to use it immediately it was cut without drying it first, it shrank, and consequently the roofs became very pervious ; in addition to this, the exposure in the boats was very trying ; in the intervals between the showers the sun struck so hot upon us as to make our clothes steam, and the sudden gusts of wind which came down on us over the cliffs caused most uncomfortable chills. Under these circumstances I consulted Mr. Dabbs, the surgeon, on the propriety of giving the people an additional quantity of spirits, and his opinion according with my own as to the necessity of it, we spliced the main-brace* at nine o'clock in the morning, and this I continued to do every day to the end of the work, occasionally purchasing rum for the purpose. I must here crave the favourable consideration of our temperance societies, and they will the more willingly grant it when I assure them that Mr. Dabbs is one of themselves, never having drunk a glass of wine or spirits in his life ; for myself I must acknowledge that I

* The giving a dram of spirits to each person.

gave a direct sanction to the crime by taking some brandy-and-water and a biscuit at the same time, and a great comfort it was. The whole of the 18th was devoted entirely to taking up a quantity of shot, removing rocks and rubbish, and carrying them out seaward, but no treasure was discovered.

His Majesty's packet *Calypso* arrived on the 19th, and on the following day I made my second shipment by her, amounting to the value of about 127,000 dollars, with which she sailed to England on the 21st.

From the 18th to the 22nd, the sea being too heavy to admit of our going to the cove, we gave all our strength to the preparation for the suspension-cable, to repairing the boats, and making the large diving-bell; we also bestowed some attention on our huts, and as our thatchers had by experience become better workmen, they improved them considerably; indeed, we had from this time what might be called a small village. It consisted of a hut for the crew, about eighty feet long, with poles across at about six feet from the ground for hanging their hammocks to. At a short distance from this hut was the residence of the officers, at a like distance from the other that of the midshipmen, and below it was the guard-house and my clerk's office, which formed one side of a square, my hut another, my steward's hut and the mechanist's workshop another, and the remaining side was the walk for the officer of the watch and the sentry; this square was denominated Treasury Square, from the circumstance of the treasure being sorted, cleansed, and packed in it, and the depository for it being at the end of my hut; which was also my dormitory. There were also two large store-houses, one for the ordinary stores, the other for those that required particular care, which was likewise the workshop for the manufacture and fitting of air-hoses. Immediately contiguous to my hut was the general workshop,

a place of about sixty feet long, and near to this was the provision store. We also had a small hut as the particular depository for the air-pumps and hoses, and the materials of which the latter were made, for it was extremely difficult to prevent their being injured by the sand. The cooking place was up above all. The whole, however, underwent some trifling alterations on occasions of thorough repair. This village, which the natives were pleased to compliment me by denominating "San Tomas," was situate on a rather steep acclivity at about a hundred yards from the beach; in the interstices between the huts were a variety of evergreen shrubs and trees, with numerous creepers covered with blossoms entwining amidst them, amongst which the white and yellow convolvuli and a brilliant scarlet passion flower were conspicuous; also many parasitical plants in beautiful bloom adhering to the branches, while interspersed about was the magnificent *uca gloriosa* from fifteen to twenty-five feet high, with its thousand flowers, towering above the rest as if claiming particular observation, and here and there a gigantic cactus of the crimson and yellow flower kinds, all in wild luxuriance contributing a natural ornament to our rude abodes, and rendering our village on the whole a picturesque and interesting object.

On the 23rd we made two attempts to work the bell, but the underdraught was so great that it was impossible. We were enabled, however, by means of the pinnacle to mark the suspension cable for making fast the cross cable-guys, it was then hove higher up, the south end made fast, the guys were arranged on the cliffs ready to be attached, and preparations made for heaving them up also. On this day an accident occurred of a man being washed off the rocks, who received such severe bruises as to deprive him of his senses, but through the skill of the surgeon he ultimately recovered.

The swell having gone down on the forenoon of the 24th, we succeeded in displacing a very large rock, and had the satisfaction of finding a mass of treasure, of which we took up a considerable quantity, principally in large lumps, having by the great pressure of the rocks and by oxidation formed a hard concrete with the particles of granite, iron nails, fragments of jars, glass bottles, pitch and paint, and various other materials. When we ceased working there was a prospect of a great deal more remaining immediately contiguous to the place, but there was a large rock in the way, by the side of which the bell-men had dug to a great depth and thoughtlessly undermined it: this very nearly cost them their lives, for while they were at work it inclined over against the bell, but fortunately, being arrested by another rock, not sufficiently to crush it. On the following day we made an attempt to remove this rock, but although the weather was calm, the action of the sea at the bottom was so great that we could not bore it for the purpose of fixing the lewis, yet notwithstanding this failure I had much reason to be gratified by the result of the day from the following remarkable incident. Past experience kept me impressed with the great danger which must always arise from the wind suddenly setting in from seaward, and I had constantly attended to every thing which I thought could indicate change, such as the appearance of the sky and sea, the particular roaring of the surf against the rocks, echoes, the state of the atmosphere as it might cause much or little refraction, congregating or dispersing of birds, appearance of porpoises, &c. &c.; yet in none of them could I observe any thing that gave a sure warning; but on this morning a circumstance struck my attention which from its apparently trifling nature had till then been unobserved, but which subsequently saved us many a fatiguing row. On the south-east side of the cove near to the part where the Thetis's

crew landed, was a rock rising a few feet above the sea, and detached at a short distance from the cliff, with very deep water between them. I discovered that while the swell in the cove, which was remarkably smooth at the time, did not rise nearly to the top of the rock, the water occupying the space between it and the cliff continued rising and foaming over it, and that not simultaneously with the swell in the cove; it therefore was quite clear to me that the two effects could not be produced by the operation of the same cause. As it was not possible to stand on the rock at the time, I was obliged to defer the examination of this singular phenomenon until a more favourable opportunity. A few days subsequently I stood on the rock, and having prepared a line with a heavy lead, and a long piece of white rag tied to the line about three feet above the lead, I suspended the line down the fissure between the rock and the cliff, allowing the lead to remain at the bottom; whenever the water rose the rag was forced upward, but on its receding the rag was drawn downward and in a direction under the south-east cliff, which rendered it quite evident that there existed a sub-marine passage from a small inlet which was on the other side of the cliff; and further observation proved to me that the cause of the rise and fall of the water in the fissure was the underset of the sea occasioned by a distant and approaching south-westerly wind. Hence I derived an almost unerring barometer, the state of which was for the future amongst the subjects of observation by the officer of the watch, and formed one of his reports to me at day-break in the morning.

Our constant liability to accident rendered it very important to have surgical advice near at hand, and it was with great reluctance that I was now called on to give my sanction to being for a short time without it at the island. In addition to the numerous cases of severe catarrh, rheumatism, and ulcers, we were in this month visited by a fever

of a severe intermittent character, and the sick list was very heavy: the variable state of the weather, and particularly the pouring rains, much increased, if possible, our discomforts at the island; and I therefore, by the advice of the surgeon, sent him with the sick on board the ship, which change was found to be beneficial, and I therefore subsequently had frequent recourse to it.

On the 29th we were again enabled to resume our work in the cove, and succeeded in boring and removing the large rock which impeded us on the 24th, and the result was, that in two days we took up treasure to the value of 33,000 dollars.

On the 13th we bored and fixed a lewis in the north-west side of a large rock which had before baffled all our efforts to remove, although it lay on a considerable declivity; but as we were already working in a bed of treasure, we merely attached a hawser to the lewis and led it to the south-east crab, and having excavated a considerable cavity on the south-east side of the rock, left it in that state, intending, on the first day on which we could not go out with the boats, to endeavour to displace it from its situation; and accordingly, the following day, the weather being threatening, and a considerable swell in the cove, afforded us the opportunity of making the trial. The extraordinary effect which experience had taught us the swell had on every thing at the bottom, induced me to determine on availing myself of this natural assistance to our artificial efforts. As much force as the hawser would bear was applied to the crab, and a heavy strain kept regularly on it; the pressure being towards the cavity mentioned, the less resistance was opposed to its operation on the surrounding bed of pulverized granite in which the rock was lying, which the motion of the swell acting on at the same time, gradually dispersed, and the rock was in a few hours, by slow degrees, drawn and turned

over for a distance of several yards ; but as we could not go to the cove with the bell to release the lewis, of course the hawser remained fast, and by a heavy sea which set in a few days afterwards, was carried away, affording another proof of the utter inutility of a net of small rope in such a situation to resist the effect of the sea, and particularly the impossibility that it could resist the force of any weighty articles acted on by it.

During the month I derived much happiness from a diminution in the number of sick, but still the cases of ulcers caused by the jiggers continued to increase, and occasioned sympathetic glandular swellings ; and it really was very distressing to see the poor fellows hobbling about at their work. I never in my life was in a ship in which there was not a "Jack of all trades," or "Caleb Quotem ;" in the *Lightning* we had a rare one, and his versatile talent was never put to better account than on this service. There is considerable art in extracting a jigger well, and in this he had acquired great dexterity ; and often have I sat in my gig near the bell-launch while the bell was at the bottom, and watched "Jemmy," as he was called, administering to the necessities of his shipmates by his operating faculty on their feet and toes, while they held the purchase-fall in their hands, their attention being divided between their duty and the effects of the application of a rusty needle, or, as it might be, the point of a clasp knife ; the grotesque countenance of the patient exhibiting a good index of the torture he was suffering, and the expectant looks of the rest of the party patiently abiding their turns for the same kindly offices, formed altogether a subject for Thomas Hood or George Cruikshank ; and however much the cause of their suffering was to be regretted, rendered it impossible to keep one's risible muscles in any thing like a state of discipline. There were several others who were pretty good jigger doc-

tors, but none equal to "Jemmy," as I can attest from experience.

On the 30th Moore returned, having been absent upwards of six weeks; and I had the mortification of finding that he had not succeeded in getting the fire-engine altered to an air-pump, nor was it done until I subsequently went to Rio and attended to it myself.

JULY.—The month of July commenced with south-westerly winds and occasional rain and bad squally weather, which continued until the 7th; and as excess of exertion both of body and mind had much impaired my health, I took the opportunity during this period to go on board the ship for a few days' change, and for the purpose of giving attention to the exercise of my people at their guns and small arms, airing the sails, overhauling the rigging, clearing out the holds and cable tiers, serving out slops, and all other such matters as were necessary to keep the Lightning in an efficient state for the general service of the station. I also received a capstan from Rio, sent by the Admiral, which, after much alteration and improvement, was placed on the main cliff instead of the Lightning's, now removed to its position on board. In this week also great progress was made in every thing connected with the suspension cable, and the people got a tolerably good supply of fish, by means of a large sean which the Commander-in-Chief supplied me with; we also made our well on the beach at Praya de Anjou larger, and consequently increased the supply of water; in fact, this may be said to have been a thorough general-service week.

On the 8th the wind changed to the north-eastward, and we again resumed our operations in the cove; but the under draught continued so great, in consequence of the long period during which the south-westerly winds had blown, that it kept the bell in such a constant state of oscillation,

that some hours elapsed ere we could place it on the bottom : having at length succeeded, and removed a large quantity of iron ballast, rubbish, and stones, which had washed into the place from which the large rock had been removed on the 1st of the month, we found a good deal of treasure.

And now I arrive at the most distressing part of my narrative, in the relation of a circumstance which, even up to the present moment, I cannot call to memory without grief, although no foresight or pre-arrangement of mine could possibly have averted it. It had all along been the daily subject of delightful reflection to me, that notwithstanding the unceasing and excessive danger that attended all our work, through the exercise of extreme watchfulness and preventive measures, up to the present moment not a life had been lost from casualty ; but this source of happiness was now at an end. On the morning of the 11th it was perfectly calm, and the boats started for the cove as usual at an early hour ; but very shortly after reaching it, the water in the fissure I have before mentioned began to rise over the rock, the sky became cloudy, and every thing indicated a change ; the boats returned, and in a short time a breeze set in from the southward, and by noon there was a considerable surf on the beach. The Adelaide was lying near the Lightning, and her long-boat had been sent to the island for some plank which had been sawed there for her use, and was returning with it. Mr. Linzee, the mate of the Adelaide, two of her men, a boy belonging to the Lightning, and Moore (as passenger), being in her. When they left the beach the sea was not breaking on the bar, and Mr. Linzee thought he might safely venture across it ; but alas ! poor young man, he was not sufficiently aware of its deceptive nature. By the time he reached it the breakers began to roar on it, and the wind increased so much, as to induce him to reef the sail. Fortunately the attention of those on shore was at this mo-

ment attracted by the dangerous situation of the boat, and they were watching her with great earnestness. At the moment the sail was lowered for the purpose of reefing, a breaker rolled in upon them, and another immediately succeeding, filled the boat, and she sunk to the bottom instantly. The misfortune being observed, there was a simultaneous rush of the officers and people, who saw or heard of it, towards the beach; with the intrepidity of British sailors, all vying with each other in their endeavours to render assistance. By this time there was a heavy surf, but they dashed through it and swam to the cutter, which was lying at her moorings a considerable distance off: a sufficient crew, headed by Mr. Speck, volunteer of the first class, having reached her, the moorings were let go, and they were soon at the scene of distress, and at the great risk of their own lives endeavouring to save those of others; but out of the five persons only two, a man and the boy, remained floating. Poor Linzee was considered a remarkably good swimmer, yet it appeared that he swam but a very short time; Moore could not swim at all, and never made the slightest effort, but merely clasped his hands together, raised them up, and standing up in the boat, sank with her; the other man endeavoured to swim until he became exhausted and then sank. The bodies were subsequently found, and buried at the island, the funeral service being solemnly performed over them. The appearance of Linzee indicated that he had been seized with apoplexy. Poor Moore left a widow and five young children; I therefore immediately directed that she should be paid ten pounds a month until the service was completed; a subscription was set on foot, and it was really delightful to see with what good feeling all hands came forward to contribute to her relief; the amount subscribed was, I believe, forty-eight pounds.

On the 12th we took up a considerable quantity of iron

ballast and shot; on the 13th we removed a large rock, and on the 14th two others, and found some treasure; but on the 16th the weather again became unfavourable. From some alteration on the station by the Admiralty, the Commander-in-Chief was ordered to the Cape of Good Hope and the Mauritius, and sailed from Rio in the early part of this month; and previously to leaving the station gave me directions to place myself under the orders of Captain Waldegrave, the remaining senior officer on the station; but as he was in the Pacific, and consequently could not reach Rio for a long time, Captain G. W. Hamilton, of H. M. ship *Druid*, who shortly after the Admiral's departure arrived at Rio, gave me directions to place myself under his command, and on the afternoon of the 23rd I had a proof of the necessity of my precaution in having the ship always ready for any other service, for the *Adelaide* arrived, bringing information of a revolution at Rio de Janeiro, and orders for me to join Captain Hamilton at that place as soon as convenient, leaving such a number of persons to guard the machinery and stores as I might think proper. Accordingly the two following days were employed in hauling the bell-launch and other boats up on the beach, making other arrangements at the island, getting stores &c. on board the ship, and preparing her for sea. It was not without considerable concern that I was about to leave my machinery, for the jealousy that the Brazilian Government had evinced, and the correspondence which had taken place in consequence of our remaining so long on the island, as well as the very unsettled state of the country, led me to apprehend the possibility that every thing might not be left in entire quietude during the absence of the ship. However, we had always kept up a good understanding with the neighbouring natives, and I had no doubt that should any inimical measures be contemplated within their knowledge, they would give notice

of them to whomsoever I might leave at the island. Having selected three of the young gentlemen and twelve of the crew, I placed them under the command of Mr. Frederick Read, the acting second lieutenant, appointed him to the temporary charge of the enterprise, and supplied him with the following instructions :—

“ The public service requiring my temporary absence, with the ship, from Cape Frio, it is my directions that you rigidly adhere to the following instructions.

“ You are to consider the whole of the stores left on the island, whether public or private property, as in your immediate charge for the time being, and you will, with all convenient speed, make a correct list of them, and take especial care thereof, so that no part be stolen or wasted ; and you will also keep a correct account of whatever may be used during my absence.

“ You will correspond with me whenever opportunity shall offer, keeping me informed of every particular relative to your situation as for the present in charge of the enterprise in which the Lightning has been employed, directing your letters to me, or in my absence to the senior officer ; and should any thing of particular importance occur, you will not hesitate to send Mr. Jolly over-land with the communication, should there be no other immediate means of which you can avail yourself. Your particular attention must be given to keep up that good understanding which has hitherto existed between us and the natives, and they are not on any account to be molested in their fishing or other avocations at the island. Look-out men are constantly to be kept, *but not on any account the appearance of an armed guard.*

“ It is not probable that you will be molested, but should the Brazilian authorities at all interfere, you must not resist beyond remonstrance, but that firmly, and refer them to our Minister at Rio de Janeiro.

“ You will proceed in rigging the cable according to the plan given you whenever the weather will permit, but not on any account to attempt the use of the diving-bell. A rigid discipline is to be kept up, and there is to be as little absence from the island as possible.

“ You will keep a correct journal of your proceedings as well as of all occurrences during my absence, and forward the same to me by every opportunity, always retaining a copy thereof. The great value of the stores remaining on the island rendering it necessary that you should be left in charge with a sufficient number of men to protect them as well as to carry on the duty above pointed out, the young gentlemen and men named in the margin will remain with you accordingly.”

We sailed on the 25th, and arrived at Rio on the 30th, with 112,000 dollars on board, which on the 2nd of August I sent on board his Majesty's ship Tribune, being my third shipment.

Previous to our leaving Cape Frio the boats had suffered very much by the heavy work they were employed on, and were too few in number for the service. We also wanted a large and strong boat to convey to the harbour the guns, anchors, and chain cables, which I contemplated taking up as soon as the suspension cable should be completed and the fine weather season set in. With this view I demanded a large pinnace which had been left at Rio by the Warspite, and she was supplied to me by the order of Captain Hamilton. This boat had been assigned to me in the month of May, but the Adelaide was unable to bring her to us. I also bought a whale boat, so that we were now pretty well off. During the month of July a fever, of a severe remittent character, again occurred, and there were many cases of severe catarrh, besides rheumatism ; and ulcers continued to be numerous.

AUGUST.—Matters being arranged, and quiet being restored at Rio, I received directions from Captain Hamilton to resume my occupation, and sailed on the 23rd, and arrived at Cape Frio on the 25th of August. We were exactly a month absent, and the relaxation from incessant labour thus afforded had done us all much good. My general health, as well as that of all hands on board, was greatly improved. We had got rid of the jiggers, and the ulcers were healed; we were no longer lame in hands or feet, and the rheumatism had in a great measure left us; in short, we were considerably renovated. But with respect to the poor fellows at the island, it is true that they had remained perfectly undisturbed; but I shall not readily forget their wretched appearance when they came down to meet us as we approached the beach; they were in a most miserable plight, every toe and foot, and almost every hand, was bound up with rope-yarns and rags; and on the whole they reminded me of a set of poor creatures whom I have known removed from a water-logged vessel at sea, after having remained on the wreck for a very long time, benumbed and frost-bitten.

On leaving the island I had selected the most healthy and effective of my crew to proceed in rigging the suspension cable, which they had exerted themselves to do so long as they could; but latterly they were so lame as to be only able to protect the machinery and stores. Of course they were immediately removed to the ship, where, by the assiduity of Mr. Dabbs, they were restored to health.

The Lightning was placed in her former berth and state, and, as before, three fourths of the crew landed at the island, but we had a great deal of work to do before we could resume our operations in the cove.

Our bell-launch and boats left at the island were so affected by the sun as to require calking and other extensive

repairs, the huts were in such a shattered condition as to need almost rebuilding. The air-hoses had suffered from the heat, and needed refitting; and our wells, or rather holes, from which we had before obtained water, were filled up, and had to be dug out. We also dug others at Praya de Forno; so that in fact all this kind of work had to be done over again. The three-quarter watches, however, being landed as before, by the 31st we had the bell-launch repaired and launched, the bell suspended to her davit, and ready for working whenever the weather would permit, all hands being anxious for a recommencement. The large pinnacle was hauled up on the beach, and put into a state of preparation for work.

SEPTEMBER.—On the 2nd of September we were again at work in the cove, and, as had been expected, the whole surface of the bottom, in the part in which we had formerly worked, was completely altered, large rocks having been disturbed by the sea had rolled down into our excavations, and the interstices between them were entirely choked up with small ones and rubbish; but on this occasion we were remarkably fortunate, for after employing the greater part of the day in removing those impediments, and not at all expecting to find any treasure for a considerable time, for some days at least, towards the evening, when the bell was descending, it swung over a part whence a large rock had rolled, and the bell-men espied a few dollars on the spot; and on further examination, by digging, they recovered several thousands, besides some bars of silver; and on the 5th, after boring, and by means of a hawser and purchase to one of the crabs, removing some contiguous rocks, we obtained a considerable additional quantity of treasure.

While at Rio I endeavoured to obtain a supply of truscott pump-hoses, but there were none in store, and those I had were so much used that I began to be apprehensive they

would become worn out ; I therefore bought a quantity of canvass and leather for the purpose of endeavouring to make other air-hoses. With the leather I entirely failed, in consequence of its quality being so bad, although I got the best that could be procured ; but by particular attention in making them, and saturating the canvass well with a composition, which after various experiments I had made by compounding numerous ingredients, I succeeded tolerably well ; those thus made being used on very favourable occasions, or when the others required repair. On the 6th we bored and fixed the lewises in a rock estimated to weigh twelve tons, which, by means of the hawsers and purchases hove on by two crabs, was turned over ; and in the afternoon we bored two others, but did not attempt to remove them, but employed the remainder of the day in taking up ballast and shot, a quantity of copper bolts and iron work, and some treasure.

The improved health of my officers and crew, and the increase in the number of boats, enabled me to put a strong party to work on the suspension cable, and it was now fast advancing towards completion ; but the finding of proper situations for the principal fastenings was a work of infinite labour and difficulty, and proved most vexatious and disappointing, in consequence of the quality of the rock, the exposure of which to the atmosphere caused it to split. By blasting and other means, we had removed many hundreds of tons of rock from the cliffs, and repeatedly found what we considered to be perfectly solid parts, for the securities, and bored holes and fixed numerous bolts therein ; but in a few days afterwards numberless cracks appeared diverging in all directions from them, and it became necessary to excavate farther and seek other places ; however, we at length succeeded, had them completed, the cross cable-guys attached, and the cable hove up to its situation, which,

with the guys, formed a cross over the cove, one end of the cable being secured to a bower anchor sunk on the north-east cliff, and the other having a large thimble* spliced in the end of it, with four parts of the Lightning's chain stream cable for a lanyard, each part reeving through a separate bolt, and two nine-and-a-half-inch pendants, hitched and seized on below the thimble, with dead-eyes and lanyards, the whole forming a sort of crow-foot†, and set up to bolts fixed in the south-east cliff, a little outside the spot where the Thetis's crew landed, contiguous to which a platform was made, and a crab placed, for the facility of altering the height or position of the cable if requisite; the guys were one of nine-and-a-half-inch, and another of eight-inch, leading to the west peak, and two similar ones directly opposite to them; there being in each situation a platform and crab for working them, so that the point of suspension of the bell might be placed over any part we wished to work in.

For the four following days, though the wind was from the eastward, the sea was so disturbed that we were unable to do any thing in the cove, but this gave us an opportunity of putting our huts into a tolerable state of repair. On the 12th we again got to work and succeeded in removing the two large rocks we bored on the 6th, and recovered some treasure and stores; but towards the evening the wind blew very strong in gusts from the north-eastward, the current through the gut was more strong than I had ever known it before, and the swell increased in the cove, which induced me to leave it much sooner than usual. We managed to tow the bell-launch into the gut and to lay out a warp, but a sudden gust broke it, and in a very short time the current

* An iron ring, made concave on the outside for the rope to fit into.

† Numerous ropes diverging from one particular point.

and wind carried her out seaward to such a distance as caused us great uneasiness as to her safety. The pinnace was immediately directed to take the air-pump from her for security, to proceed to the island with it, and after landing it, to bring another grapnel and two warps, while all the other boats took the launch in tow to enable her to hold her situation. As we had not any additional grapnel besides the launch's moorings, the pinnace was considerably delayed in taking it up; she however returned before the launch had got into a greater depth of water than forty fathoms, and we fortunately were enabled to anchor her. The wind having by this time increased to a gale, and the gusts through the gut being very heavy, we were glad to be able to rest a short time, after which we resumed our exertions, by towing and warping at the same time; and the wind somewhat abating, we got her to her moorings by half past ten at night, all hands being completely exhausted by exertion, and having had a very narrow escape; for if she had drifted out beyond the smooth water and the shelter the land afforded, the sea was certainly too heavy for her to have contended against it; and having no sail, for it was impossible to encumber her with one while used as a bell-boat, she must have been lost. On the following day, notwithstanding it still blew a fresh gale, with heavy gusts from the north-eastward, we were at work in the cove at an early hour, and during the first part of the day took up shot, copper bolts, and various other articles of stores, and in the afternoon brought the suspension cable for the first time into use in removing a large rock, under which was some treasure. The wind continuing to blow strongly in the evening, the bell-launch was left in the cove rather than run the risk of having her driven to sea again. On the 14th we removed another large rock, and experienced the benefit of the cable, for it afforded us great facility in this description of work,

which, now that sickness had again so reduced our number of working hands, was a material object to us. From being more perpendicular to the weight, rocks were much more easily turned over by a purchase from the cable than by one from the cliffs at a greater distance; but in some cases, when the object to be removed was of very great weight, and required to be shifted far away, we used both at the same time.

We had frequently, while in the cove, been amused by the sight of numerous whales in the distance, none of them having come near enough to cause any fear; but on one occasion, the close approach of one, which I estimated to be eighty or ninety feet long, produced a feeling somewhat beyond amusement. This huge fish came to within a few fathoms of the mouth of the cove, when, as I suppose, being surprised by the abrupt impediment presented by the part of the cliff below the water, he suddenly turned round and went to some little distance off, but soon returned, and crossed several times, as if endeavouring to find a passage through; this caused us considerable apprehension, for if he had happened to enter the cove, on discovering that the depth of water suddenly decreased, and that he was enclosed on three sides, he might have become alarmed, and in his confusion just as easily have smashed our boats to pieces and set us all swimming as he could have dispersed a shoal of herrings; this would have been "no joke;" he went away, however, without offering any molestation to our peaceful occupation. Having observed several large lumps on his back when he rose to blow, I was induced to row after him in my gig to examine their nature, and discovered that they were large putrid ulcers, which I presume might have been occasioned by wounds inflicted by a whaler's lance or harpoon, or perhaps by disease, unless indeed there are such insects as *sea jiggers*. Although we were not by any means

desirous of the presence of such a visitor as the above, there were others which were by no means uninteresting. Shoals of porpoises, bonito, and other large fish, constantly came into the cove, and darted round about and between the boats in pursuit of, and feeding on, the millions of small fry with which the sea is replete; while just without, hundreds of boobies* were skimming above, and every minute darting down from a great height and diving to obtain food from the same source; and the watchful and voracious man-of-war birds awaiting their arrival on the surface to seize from them the food they had thus procured. Besides these there was a great variety of other sea fowl congregated in immense numbers, and some of them of beautiful plumage, each kind approaching the coast at a particular season of the year; these afforded very agreeable, and indeed interesting, objects to the eye.

In consequence of the prevailing south-westerly winds, the swell from that quarter had gained such an ascendancy that it required several days of north-easterly winds to quell it sufficiently to admit of our working in the cove; and consequently at this period our progress in the recovery of the stores and treasure was much more tardy. With the exception of a few hours on the 23rd, when we were fortunate enough to get the stage hung to the cable, and a purchase rove for the large bell, from the 15th to the 29th inclusive, we were prevented going out with the boats, but we had no want of employment during the intermediate time. The wear and tear of our boats, stores, and implements for boring and removing rocks, and digging for stores and treasure, was very great, and the replacing some, and repairing others, kept the artificers fully employed; the air-pumps and hoses were ex-

* A sea bird, so named from the circumstance of its frequently alighting on the ship and immediately falling asleep.

amined and put into good order ; the large stage, similar to that lost with the derrick, was made for the suspension cable and the gear fitted for it ; the cable was hove higher up and the guys regulated ; the great weights which had been removed by them, and the effect of the sun, having caused them to stretch ; the boats' moorings were examined and regulated ; the store huts were cleaned out and the stores rearranged ; sawyers were employed in cutting plank for repairing boats and other necessary purposes ; a quantity of recovered stores was shipped on board the *Adelaide* and sent to our Government store-house at Rio ; and the large bell being completed, was taken down to the beach and placed in readiness to be put into the boat to carry it to the cove ; besides all which, there was the never-failing occupation of repairing our huts. These were our employments at the island, while those afloat were a general clearing and examination of the ship, and gun and other exercises of portions of the crew.

On the 25th we were visited by a heavy storm, that blew over the cutter which was hauled up on the beach for repair, and also very much damaged our huts, and consequently increased our work. At length, on the 30th, we got to the cove and hung the large bell to the cable, and with the small one continued removing rocks and rubbish, taking up quantities of copper and iron bolts, iron knees, and various other articles, such as ballast and shot, and some treasure. During September the number of persons attacked by catarrh was more than double that of the preceding month, and the complaint assumed a serious character, being frequently accompanied by enlarged tonsils, from which the persons so affected were very slow in recovering ; there were also many cases of inflammation of the liver, besides bowel complaints and ulcers as usual.

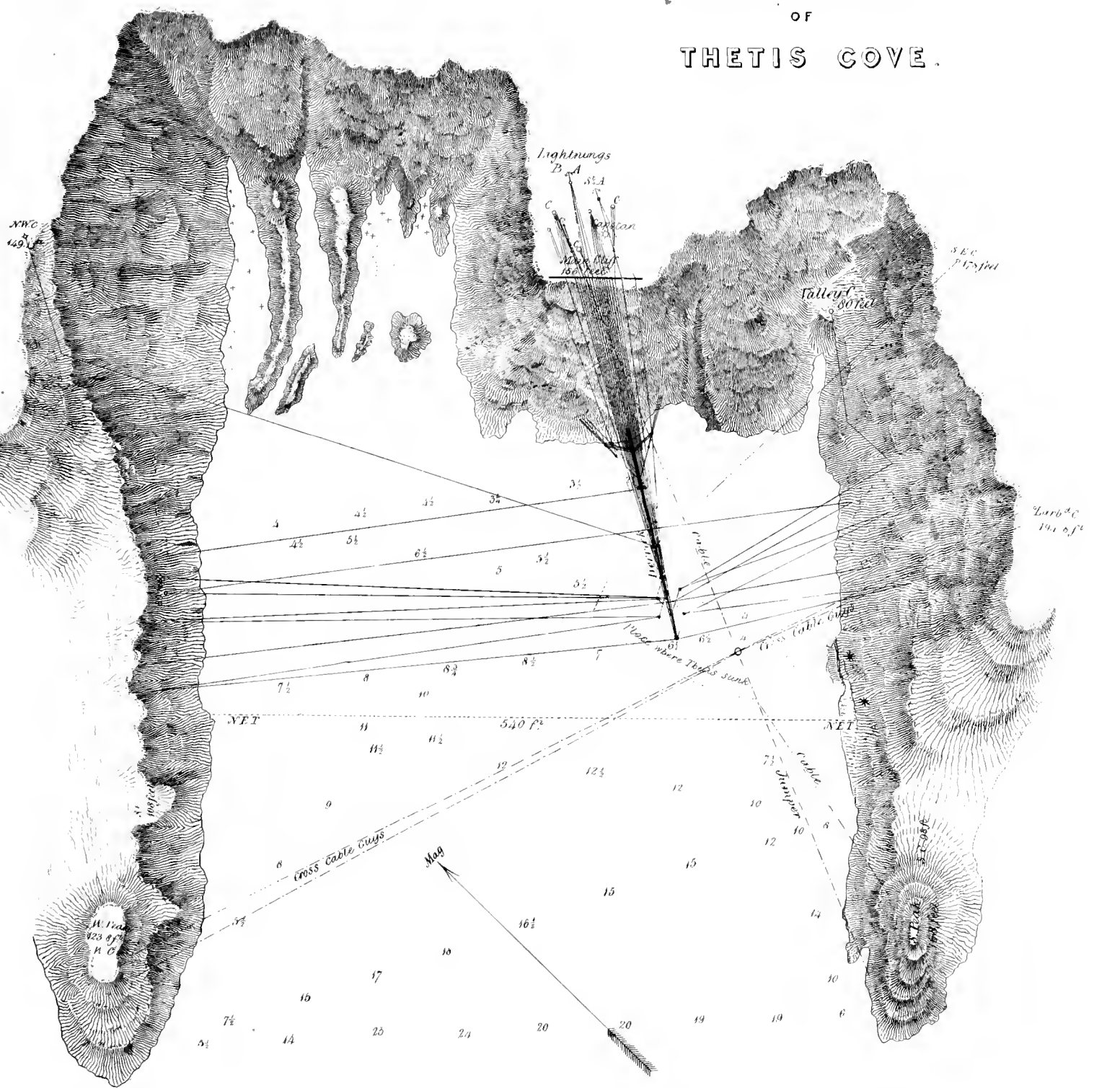
OCTOBER.—On the 5th of October we attempted to re-

move a rock which we supposed to weigh ten tons, but after breaking one five-and-a-half-inch hawser twice and another once, we failed for the present. In the afternoon, although the wind was off the land, a heavy swell suddenly set in to the cove, and drove us from our employment there.

On the 8th all the gear immediately attached to the large bell was completed; and I made an addition to the rigging of the suspension cable. In consequence of its being guyed by the cross-cable guys from the western peak, the *outer*, or south end of the cable was not exactly in a line with the purchase-fall leading up to the main cliff, so that when a heavy strain was hove on the purchase, the crown or point of suspension of the cable was drawn over towards the eastern corner of the cove; now this change of position was not of the least importance in removing rocks or other heavy bodies, but it is obvious that in working the bell it was very material indeed, because when the cable became released from the weight by the bell being landed on the bottom, the point of suspension would immediately deviate, and therefore whenever a strain was again brought on the purchase for the purpose of raising it, the bell would be drawn partially on its side to the great peril of the bell-men. To remedy this defect, I attached the *Lightning's* hempen stream cable to the suspension cable at a few fathoms distant from the crown, the other end being carried out and set up with a lanyard and dead-eyes to some bolts placed at nearly the extremity of the south peak, and this acting as a jumper*, was in a great measure a remedy for the evil I have described. By means of span-guys attached to the bell, that on the north side from the suspension cable, on the south from the jumper, and on the east and west from the cross-cable guys, it could be placed on any part of the bottom

* A rope fixed in the opposite direction to the one hauled on.

Bird's Eye View
OF
THETIS COVE.



Scale of Fathoms

A, Anchors
C, Crabs

*N.B. The Black Lines denote the Derrick, its Rigging & Fastenings
The Lines marked thus --- the Suspension Cable, with its Fastenings*

* Spot where Tibet's Crew landed.

Surveyed by Capt. Geo. Dickinson R.N.

R Martin & Co Ldb, 28, Long, Ave

within a space of forty feet square without any alteration in the position of the suspension cable. In the course of our work we had at various times discovered the anchors, chain-cables, and many of the guns, but had no boats to spare that were of sufficient strength and burthen to take them into the harbour, and even if we had had one, the weather and state of the sea had been so precarious and uncertain that we could not have ventured to do so; but we were now much better off: the suspension cable was admirably adapted for the purpose of raising them, and the large pinnace which I brought from Rio was strengthened and otherwise fitted for carrying them. Thus we were prepared for taking them up and bringing them into the harbour; but it was also necessary to have a convenient position for landing, and also for shipping them on board any vessel that might be appointed to take them to England.

From what I have already stated of the beach below our encampment, it will be readily seen that if we had placed the guns and anchors there, they very soon would have been buried in the quick fine sand, as was the case with the rudder and other articles; I therefore determined on a spot about midway between the gut and the beach, alongside of the rocks, where the water was sufficiently deep for the boats to lie, and there was a tolerably flat part upon which to place them; but though this was the best situation that could be found, still there were numerous detached rocks close to the shore which rendered the placing of the boat between them extremely dangerous whenever there was any swell. Having long since determined on this place, I had amongst other pre-arrangements cut down a number of trees high up the hills, brought the timber down, and exposed it to the sun on the upper part of the beach, and it was now seasoned. With this I directed a derrick fifty feet long to be made, and a party of excavators were immediately set to work to level a

platform on the side of the hill above the landing-place for placing a crab to work the purchase, and for fixing the different securities, while the blacksmiths prepared the iron-work. From the 9th to the 11th inclusive we recovered a considerable quantity of treasure by the usual modes, but the wind blew so strong from the north-eastward, and the current ran so rapidly through the gut to seaward, that we could not get the launch in, and were obliged to leave her in the cove on each night; but at half-past three on the morning of the 12th, the wind suddenly falling light, we went hastily out with the other boats to tow her in, and during the remainder of the day the people were employed in heaving the suspension cable higher up and regulating the gear, as it had again greatly stretched from the effect of the heat of the sun.

From the first moment that I had found it necessary that we should live on shore, I had always been apprehensive of the jealousy of the Brazilian Government with regard to our remaining long on the island, and it had been my constant study to avoid any thing likely to give offence. To such an extent did I act on this feeling that I would not allow even a flag of any description to be used, although a communication by signal with the Lightning would have been a great convenience to us on many occasions, and would also have saved the time and work of sending a boat to or from her; and so careful had I been, not to show the least appearance of military possession, that I would not allow the sentry guarding the treasure even to carry a musket or bayonet, but merely a stick, and I had unceasingly and successfully endeavoured by courtesy and kindness to the natives whenever we came in contact with them to conciliate their good feeling. Notwithstanding all this foresight and precaution, I had frequent communications from the Commander-in-Chief, and from the senior officer in his absence from the

station, that a great deal of dissatisfaction was expressed to our Minister at what was called the occupation of the island, and I was called on for explanations. First I was accused of interrupting the fishing and cutting the wood, and had to show by charts and otherwise that the former could not be the case, for the cove was not amongst the parts they were in the habit of fishing in, and that they came to pursue that avocation whenever they pleased, and sold a large quantity of fish to us at a much higher price than they could possibly obtain any where else. Then it was said that I had built houses, and I was directed to explain whether they were of *wood* or *stone*—many a shattered constitution bears testimony on this point. Amongst the numerous orders I received on this subject was the extraordinary one that I should state “what were the private expenditures of myself, officers, and crew*,” and lastly was brought against me the more serious charge of having “taken exclusive possession of the island and built a fort.” This was too important a matter to be passed over without notice, the Brazilian Government had therefore directed the municipality of the city of Cape Frio, distant about nine miles, to come and see if such were the case, and now in accordance with these directions I was visited by some of them. Of this I had no previous intimation whatever, and was therefore completely taken by surprise; however, when their approach was announced to me as “a number of respectable gentlemen coming,” I immediately suspected something of the kind, and hastened to the beach to receive them, and as soon as they landed, immediately attended them to my hut. The moment they entered it astonishment was evident in every countenance, for they had expected to find a village composed of comfort-

* I do not mention this in the tone of complaint. Captain Hamilton considered it necessary, and gave the order with great courtesy.

able houses. It was fortunate that I had by this time acquired a slight acquaintance with the Portuguese language, just sufficient to understand them, for there was not one of them could speak a word of English; and after loading me with more “*Illustrissimos*” than I ever had heaped on me before, or perhaps ever shall again, they very soon let me know who they were and their business, to the effect, that it had been represented to the Government that I had taken exclusive possession of the island, and prevented the person who rented it of the Government from fishing, and obliged him to quit it; that I had constructed a fort, and had large guns there; and that they were directed to come and examine into those circumstances.

I told them that their arrival afforded me great satisfaction, as I could readily prove to them how utterly void of foundation these statements were, and that I was rejoiced that the investigation was confined to such competent judges as the municipality of the city of Cape Frio, and taking especial care not to be outdone in “*Illustrissimos*,” said, that after a long row in their boat in the sun, they would find the ascent up the hill and descent over the cliffs fatiguing, and recommended their taking some refreshment, which they readily accepted, and we then proceeded to business on the different points *seriatim*. In the first place on the subject of “exclusive, possession” there was no difficulty, for it happened that there were some of the natives from Praya de Anjou at the island at the time, to whom I appealed, and they immediately bore a ready testimony that there had been no obstruction whatever to the fishing, or their coming to the island for the purpose of selling their various commodities, or on any other occasion, and that I had always been very kind to them, so that that matter was at once done with. I next conducted their “worships” to the platform on the main cliff that they might examine my *fortification*. Here they

were completely puzzled to know of what use, at such a distance off, all the crabs, capstan, and such a quantity of rope, could be in getting up money from the bottom of the sea. In order to explain this difficulty, I urged them to advance to the brink of the cliff, and look over at the suspension cable, when they all approached just far enough to get a sight of the diving-bell, which, as we were not at work, was hanging to it, but they then simultaneously halted; it was in vain that I urged them to go further and take a more satisfactory view, that they might be certain there were no guns any where thereabout; at length I took hold of the arm of a little dark man who appeared much more anxious than the rest, and leading him to the breast-work, persuaded him to look over while I explained the machinery to him for the information of the whole, to whom he frequently referred, and they were all much amused; but while he was looking over he was surprised by a peculiar sound, and appealing to the rest of the party, said he heard cannon, then looking at me asked earnestly where it it was.

At the base of the cliff is a deep chasm, into which, whenever there was much swell in the cove, the sea rushed, and caused a report which by a stranger to the place might readily be mistaken for cannon; this was heard by the crew of the *Thetis*, and by them considered to be signal-guns, and on this occasion it attracted the attention of my Brazilian friend, and excited the anxiety which produced his inquiry; I told him what it was, but he was very sceptical, for he could not at all make out how water could produce such an effect. I was obliged to confine myself to the above simple statement, for independently of my deficiency in the knowledge of the language, one might as well have attempted to discuss with him the best method of untying the Gordian knot, as to explain philosophically to him the cause and effect. I

however proposed to him to accompany me down the zig-zag road and rope-ladders to near the bottom of the cliff, but this was politely declined. I have already stated that the hawse-pieces of the *Thetis* were fitted with rollers and fixed on the brink of the cliff; it certainly had the appearance of a battery in miniature, the hawse-holes being the embrasures; to this I called their attention, and assured them that it was the only fort I had constructed at the island, which excited their mirth, but set their minds quite at ease on that subject. I now urged them to go round to the north-west and south-east cliffs, and examine the other parts of our work, but when they reached the south-east crab, which was near two hundred feet perpendicularly above the sea, and the intervening declivity between which and the south peak being very steep, they declined going farther. Having satisfied them on this point of their investigation, and found that they had no objection to a joke, I told them that as they had seen a specimen of my fortifications, I would now show them where I made the cannon, and they followed me to the workshop. Here were boat-builders, carpenters, blacksmiths, and sawyers employed at their various trades, and shoemakers and diving-bell-men making and repairing air-hoses, together forming a very busy scene: they walked round the place, examining every corner and merely remarking that we were carrying on all sorts of trades, expressed themselves satisfied, and were about to retire; I however expressed a hope that they would not go until they had seen our great gun; this again excited their surprise, and they looked round with scrutinizing curiosity and then at each other, as if to ask, Where can this great gun be? In order to give them ocular demonstration, I attached to the large air-pump a length of hose, and drove a wooden plug firmly into the other end; then, by putting four men to work the pump, the pressure of air became so great as to force the plug out, and drive it with great vio-

lence against the end of the hut, and to cause a report somewhat louder than that of an air-gun ; the effect startled them a little, but they were very much pleased with it, and laughed heartily. I afterwards conducted them to the different butts and every other part of the establishment they wished to visit, and having ordered dinner to be prepared during our peregrinations, invited them to partake of such entertainment as the miserable accommodation of my hut would afford. Luckily I had recently received a supply of eatables from Rio, and was well off in my stock of wine, beer, &c. ; the fare, therefore, was by no means to be thought lightly of, and they gave good proof that such was their opinion in their relish for Gamble's preserved soups and meats, which they did not fail to wash down with a proportionate quantity of champagne, port, ale, and porter ; in fact, I never saw a set of fellows enjoy themselves more. We drank "William the Fourth," "Pedro the First," and "The Municipality of *Cabo Frio*," sufficiently uproariously, and having settled these and all other matters, towards sun-set they expressed their perfect satisfaction with the reception they had met with and the attention I had paid them; declared there was not the least cause of complaint against me, and above all that *I had not fortified Cape Frio* ; and after the exchange of many compliments between us, they retired in at least as good humour and spirits as when they arrived. It may readily be supposed that as I had not much knowledge of the Portuguese language, I had rather a difficult task to perform ; however, by the help of a good deal of Spanish, a little French, and less Portuguese, I plumed myself on having managed the business rather creditably. I subsequently heard that four of them had gone to Rio de Janeiro, and made a favourable report. Amongst other means of getting rid of the annoyance and trouble I had experienced on this head, I had in the month of May complained to the villagers of Praya de Anjou that there must

be some very mischievous persons amongst them, who had made false representations to suit their own purposes, and that if such conduct was continued we must decline any further intercourse with them; they expressed their sincere regret at the circumstance, and immediately drew up a declaration as follows: "We, inhabitants of Praya de Anjou in Cape Frio, declare that we have no grounds whatever of complaint against the officers or crew of his Britannic Majesty's Ship Lightning, Captain Thomas Dickinson, nor have we been in the least annoyed by them." This was signed by twenty-five of the principal residents. I wrote to Don Antonio Garcia da Rosa Terra, the Justice of the Peace for the district, and inquired of him as to the complaints, and he answered that none had come to him. I also found out the Renter (Arrematante) of the island, and paid him the amount of a year's rent, which satisfied him; and at length, by these means and through the final inquiry of the municipality, I was relieved from a most vexatious correspondence.

Up to the 18th the weather continued exceedingly unfavourable, and we gave great attention to the repairing and manufacturing of air-hoses, and on the 17th tried a new one with the small bell in the harbour; it answered tolerably well, and was frequently used afterwards when the others required repairing; but I never succeeded in discovering a composition that would render canvass *thoroughly* air-proof, when under the strong pressure of an air-pump.

On the 19th the large bell first came into use from the suspension cable; the sea was too much disturbed for the small one, and I therefore chose the occasion in order that the test might be the more decisive; we continued working it until almost noon, when the increase of swell obliged us to discontinue. As we expected, the inferiority of the cable to the derrick was obvious enough: the pendulousness of the former, occasioned by the swell acting against the bell-pur-

chase, and its elasticity, from the great distance between the two ends, and the weight suspended from it, rendered it extremely difficult, even with the assistance of the four guys, to land the bell exactly on any particular spot required, but which with the derrick could be done with considerable exactness. We subsequently worked the large bell on four other days, and recovered some treasure. On the 25th we were employed in surveying the preventer net, and, as of course would be the case, it was found to be destroyed by the sea, never having been of the slightest utility; even the chain cable which was at the bottom of it was broken.

For a long time past I had been wishing to give the people a day's relaxation from the routine of toil and danger, and fixed on the 21st of October, the anniversary of the battle of Trafalgar, for a thorough holiday, should the weather be such as to prevent our sub-marine operations; a good dinner for all hands was of course a principal object on the occasion, and with this view I bought a large pig, which had now been in course of fattening for about two months, and by the contributions of all hands had been brought to excellent condition, and weighed about thirteen score. Until within about a week of the designed gala day I did not express what my intentions were, and numerous were the speculations as to what the Captain intended to do with the "great hog;" but so soon as they were known, Piggy became a greater object of attention than ever, and the anniversary was looked forward to with a twofold interest. The day arrived, but disappointment with it; for the sea and weather admitted of our working the large bell from the cable all that and the two following days, so that from these and other circumstances, we were under the necessity of deferring the feast, though I rather regretted it, for there was evidently a little excitement at the prospect; but the calls of duty were paramount to those of amusement, and we continued our routine

until the 26th, when some unfavourable weather became the harbinger of Piggy's death, and he was accordingly executed shortly after daylight in the morning in the presence of all hands. My great point in the matter was to have something out of the common way, and therefore I determined on a barbicue, and told the people that they must manage to roast the pig whole. This was a complete puzzler for them ; they said little, but looked a great deal from me to the pig, and from the pig to me, some with doubtful, others with inquisitive countenances, and some scratched their heads in a way which indicated a greater feeling of despair than they ever evinced under the most untoward circumstances during the whole period of the enterprise ; finding, however, that I really intended what I said, they set their heads to work to get over the difficulty, and after breakfast commenced preparations for roasting ; it was amusing enough to see the numerous shifts and contrivances they had recourse to : some were for having two triangles formed of sticks similar to those used for culinary purposes by gipsies, but on a larger scale, with a long pole between them to hang the pig to lengthwise, while the fire was to be made underneath him ; but this would not answer because of the difficulty of turning so heavy a weight ; others wished to hang him by the head to a single triangle, but this would not do, because from the great length, the nether end would be doubly done before the other end could be warmed by the fire. Many other ways were thought of, but all were unsuccessful, for they could not hit on any that would ensure the pig being either wholly dressed, or protected from the sand which every gust of wind blew up from the beach. In this dilemma they announced their failure, and appealed to me for advice, for they began to think that delay was dangerous : but even in this trifling matter we had a resource. Although, as amusement was to be the order of the day, I wished to put their ingenuity a

little to the test (and there were several amongst them who on other occasions had shown themselves by no means deficient in that way), I had a plan in reserve for at once relieving them from their double difficulty, which, notwithstanding it was very simple, was still equally efficacious. It was this : the remains of the large diving-bell which was sunk when the derrick was lost, but as before stated was subsequently recovered, was lying on the beach ; this was beaten out into its original shape and a round hole made in the head of it, it was then placed sideways on two rows of iron ballast arranged for the purpose about two feet high ; a triangle of stout sticks was fixed in the sand at a short distance from the bottom of it, the bilboe bolt (happily very little otherwise used in the *Lightning*), serving as a spit, was thrust through the pig longitudinally, one end resting on the triangle and the other in the hole in the head of the bell, which formed a sort of case or oven, while at the same time it effectually kept off the sand ; and a fire being made under and on all sides of it, the heat struck through and roasted the pig in a way that might be envied by any roaster that was ever spitted by the hands of a first-rate cook, and I may add that the celebrated Quin never ate his most delicious cut with better zest than that with which our porker was devoured. The object of my intention was accomplished : the day was passed in fun and frolic ; cheerfulness and festivity pervaded every one, and our Gracious Sovereign never had his health drunk with three more loyal or hearty cheers than were given by the crew of the *Lightning* at Cape Frio on that occasion.

On the 26th also I made my fourth shipment by the *Lyra* packet, in value about 96,000 dollars. On the 31st we brought the large bell in from the cove, for we found that the cable could be turned to a far more advantageous account, by using it principally for removing very large rocks. I therefore

began on the following new plan :—By means of the small bell a rock was bored, the lewises fixed, and the large bell-purchase, with a double pendant of five-and-a-half-inch rope attached to one of them, and a five-and-a-half-inch hawser, with a purchase leading from one of the crabs to the other. The rock being first lifted from the bottom by the cable-purchase, was guyed from its original position by the hawser from the crab, then lowered down, and the lewises released by means of the small bell ; another rock was then bored and prepared in the same way and the bell-men commenced working in the spot whence the former one was removed, while the cable was in operation in displacing the latter, and in this way we worked very rapidly whenever the weather would admit ; and I always took care to have a rock bored in advance, so that in prospect of a change of weather we could fix the lewises, and attach the purchases and remove it when we were not able to go out with the boats. In pursuing these measures great caution was necessary ; first, in ascertaining that the rock was not a fixed one, and next, that it was not of greater weight than our gear would bear ; I therefore always had it measured, and calculated, as nearly as its position would enable me, the number of cubic feet it contained, thence deduced the weight, and deducted one-third from it for hydrostatic pressure ; I thus knew whether the strength of our gear was equal to the weight, and avoided accidents which otherwise might have happened ; and it was through expedients of this nature that in this most dangerous service so few occurred ; but notwithstanding such precaution we sometimes carried away our hawsers. There was another respect in which the suspension cable was of much importance to us, and saved the people from a great deal of peril and toil, and me also from a great deal of anxiety, which a very declining state of health rendered necessary. Whenever the wind

blew strongly through the gut and rendered it difficult to oppose it with the bell-launch, we always suspended the small bell to the cable for the night, and the launch being thereby relieved from the weight of it, the difficulty of rowing into the harbour in a great measure ceased.

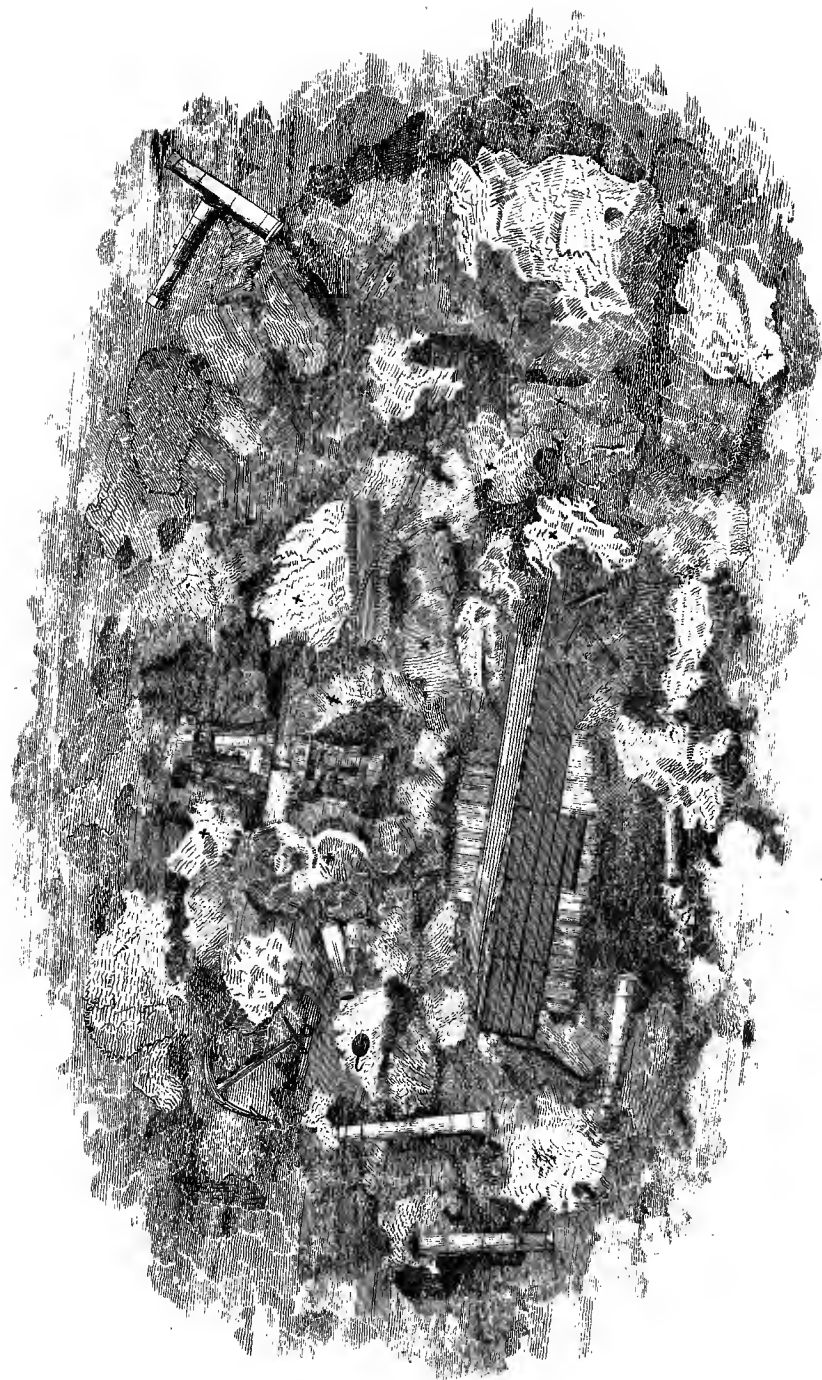
During this month the number of persons suffering from ulcers considerably diminished, but cases of catarrh and liver complaints continued to occur, though the sick-list was comparatively greatly reduced, as it amounted in the whole but to eighteen.

NOVEMBER.—On the 1st of November we attempted to remove a larger rock than any previously removed, but the lewises broke, and on a subsequent day we made another effort, with increased strength of gear, but failed from the same cause. We were therefore obliged to be content with merely turning it over, but our success was not by any means commensurate with the labour, for but little treasure was found under it; and, indeed, for some time past, there was not any great prospect of our recovering much more; but we had so frequently found some in parts where we little expected it, that there was not the slightest disinclination to perseverance in searching.

By this time every one of us had suffered from disease in some shape or other, and I feel certain that all who read this narrative, up to the present period of it, will readily admit that the personal superintendence of the multitudinous operations and occupations it sets forth, and the exposure and privation consequent thereon, together with the equally necessary duty of attending to the good order and discipline of my ship and crew, were quite enough for the most robust constitution; but however great I had felt the oppression of bodily fatigue, and the distressing vicissitudes of weather, they were by no means equal to the oppression I suffered mentally. I was forced into a correspondence of a most

troublesome nature with private individuals, which brought on me such a quantity of writing as was impossible for me to accomplish during the short intervals I could snatch from duty in the day time; and I was therefore obliged to devote to it that portion of my time which should have been given to refecton and rest; and it consequently frequently happened, that after rising at half-past three in the morning, and directing and superintending the work in the cove, and being employed otherwise until late at night, I have sat up writing until one, and even two o'clock in the morning; this excess of exertion, and the constant state of excitement which by such circumstances I was kept in, was too much for me; and my health, which had for some time been far from good, at length yielded to their pressure. I became quite incapacitated from continuing the personal attendance of the fatiguing duties of the operations, and by the advice of Mr. Dabbs, on the 6th, went on board the *Lightning*, as affording me a better chance of recovering than I could have in a miserable hut on the island. A few days' quietude were evidently beneficial to me, and I appeared to be recovering, when I was attacked by a severe form of dysentery, which for some days resisted all the measures employed for my relief, and reduced me to a state of the most imminent danger, in which I remained for four days, when a favourable change took place; I gradually recovered, and resumed my duties at the island. On the 16th the harbour derrick was completed and erected in the place assigned for it, and we now only waited for a favourable state of the sea to commence taking up the anchors, guns, and chain-cables; but at present it was in so constantly a disturbed state, that we dared not venture on them.

Notwithstanding we continued, whenever it was possible to work, to remove a great many rocks, and persevered in digging about in various parts; but little treasure was found,



*The Remains of His Majesty's late Ship Thetis, wrecked at Cape Frio.
Sketched from the Diving Bell.*

This Plate represents a space of 75 feet by 40. The points marked thus + are those from which the greater part of the Treasure was raised after the Rocks were removed.

the whole of the 22nd was therefore devoted to a thorough survey of the cove by the first lieutenant and master; on which occasion Mr. Delafons was particularly fortunate, having found five large bars of silver, weighing 329 pounds, in the depth of eleven fathoms water, and in a different part from any in which we had before discovered treasure; he also dug down by the side of a very large rock, and two others of smaller magnitude, and found some dollars; and from other circumstances, we considered that there must be a great many under them.

On the 26th we removed one of the smaller rocks and met with a favourable result, and the large one was bored for removing on the first favourable occasion. During the whole month we had but seven days on which we could work in the cove, and I took the opportunity of refitting the ship, examining and repairing the boats and gear, regulating the suspension cable, examining and repairing the fastenings, and giving our huts a thorough repair, which they were much in want of. We unfortunately had now again an increasing sick-list, there were several bad cases of inflamed liver, and the number of complaints before mentioned, as being prevalent, and with which we had been less seriously affected, now increased, and assumed a very obstinate and troublesome character. The number on the sick-list amounted to twenty.

DECEMBER.—We were unable to work until the 9th of December, on which day Lieutenant Dechamps, who had recently joined, descended in the bell, and continued the survey commenced by Lieutenant Delafons and Mr. Pope, and likewise found some treasure; however, our great point now was to remove the large rock and the smaller ones examined by the latter officers; accordingly, the following day we succeeded in displacing them, and found a mass of treasure, on which we worked whenever we were able, and on the 15th had taken up to the value of about 30,000 dollars from a space not more than eight feet square.

On the following day we removed two other rocks and found some treasure ; but in the course of the forenoon the swell increased, and in attempting to lower the bell between the rocks, it was forced violently against one of them, and a hole burst high up in it, through which the sea rushed ; the signal was immediately made for more air, and the greatest possible force was applied to the air-pump, but still the signal was rapidly repeated, which, of course, indicated that something was the matter ; orders were therefore given to raise the bell, and on its arriving at the surface it was found that the bell-men, with their accustomed intrepidity, had remained until they were nearly up to their shoulders in water, and had had a very narrow escape, as we were working in very deep water at the time. The bell was repaired in the course of the night.

On the 19th we had a thorough search in the cove, but with comparatively little success.

The Commander-in-Chief having returned to Rio de Janeiro from the Cape of Good Hope and the Mauritius, sent for me, and on the 20th I proceeded to him in the Adelaide, being at the time in very bad health. I was absent till the 30th, then returned in the Pigeon packet, and resumed my duties ; and I should be glad could I add, under more comfortable feelings. During my absence, although every exertion had been made, little treasure was found, but a considerable quantity of the ship's equipment had been taken up. I had now to lament the loss, for the present, of two important aids in our work ; namely, Mr. Jones, the carpenter, and John Leary, the blacksmith, who were on board the ship very ill, and continued so for a considerable length of time.

On the 31st I made my fifth shipment by the Pigeon packet, in value about 65,000 dollars.

During the month of December the numbers of sick amongst the officers and crew increased to an alarming ex-

tent, the complaints being of the same description as before specified, but of a very severe character; the cases, in the whole, amounting to the alarming number of forty.

For some time past we had been taking up a considerable quantity of stores, such as ballast, shot, crow-bars, chain-plates, hammock-stanchions, copper and iron bolts, &c., which the removal of rocks, and of a great quantity of rubbish, had left exposed; but no treasure was found at present. The weather had hitherto been of a nature not to admit of my venturing to send in the anchors and guns in such boats as we had, even if we had taken them up, without a much greater risk than their value would justify.

The whole of the suspension cable gear having recently undergone a thorough examination, and having been regulated so as to bring the purchases immediately over one of the anchors, we were quite prepared for this work whenever a favourable opportunity should offer. The season of light winds had arrived; the current, which caused us so much labour and anxiety in getting the boats through the gut, was consequently less rapid, and the unceasing heavy swell which had from the first so much incommoded us, and had been so dangerous to the bell-men, might now be expected in a measure to subside.

JANUARY.—On the 10th of January, 1832, the swell was very much less than heretofore, particularly the underdraft, the wind was very light off the land, and in fact every thing was favourable for the nature of the work; I therefore on that day determined on commencing it, and succeeded in taking up two bower-anchors, which were got safely into the harbour; one of them was landed by the derrick, but towards the evening the swell increased so much that we could not venture to place the boat between the detached rocks before spoken of, and consequently could not land the second, but it was placed near the other on the following morning.

The enterprise, from beginning to end, was one of expedients and contrivances, and on this occasion we were quite put to our shifts; for the launch was not equal to the reception of an anchor while the diving-bell was suspended to her; we therefore managed in this way,—as soon as the anchor was hove up by the cable-purchase high enough for the launch to be placed under it, the diving-bell was lowered into the large pinnace, the anchor was then placed in the launch, the bell suspended to the cable, and the former boat was thus left available to tow the latter. On the 11th we took up two thirty-two-pounder carronades, when our hoses became leaky, and we were obliged to cease working at an early hour in the afternoon, but they were repaired in the course of the night and following day.

Although we occasionally had some heavy showers of rain, yet the intense heat caused such a great evaporation that our pool of water soon became very low, independently of which, some animals, but of what description we never could discover, took the liberty of using it at night as a cold bath, so that we were in a measure deprived of one of our greatest necessities, in consequence of which some hands were employed in digging a small reservoir and cutting wood for the purpose of covering it over. On the 22nd we made an attempt at the chain cables, but they were so entwined amongst the rocks, and entangled of themselves, that after a most laborious day's work in endeavouring to get them up entire, we failed. Towards the evening the diving-bell became leaky; in fact it was quite worn out by concussions against the rocks, and a new one was necessary, which I put in hand under Heans, and on which neither he nor his party ever ceased working until it was finished, in thirty-six hours from its commencement; the construction however was greatly facilitated by the tank bineg in a measure prepared, and the strengthening bars, slings, &c., of the old bell being

available for the new one, which was brought into operation on the 26th. This was the fifth diving-bell that we had constructed.

In the evening of the 25th there was a good deal of distant lightning to the westward, which usually indicated a change, but the wind was so strong from the north-eastward that it was impossible to get the launch into the harbour, and she was as on former occasions moored in the cove with a watch. The weather continued in this state until early in the morning of the 26th, when it became exceedingly threatening, and our exertions were suddenly called forth to save the launch. The wind fell light as it were in a moment, the sky became as quickly completely overcast, and thunder and lightning rapidly approached nearer and nearer. All hands were immediately called; the launch's crew were sent over the cliffs to be conveyed to her by the dingy (which had been left in the cove for the purpose of communication), to cast off the warps and get up the moorings, while the other boats were manned with all speed, and proceeded to the cove to tow the launch in. By the time we got through the gut it was a perfect calm, and the night was so dismally dark, save during the flashes of lightning, that it was impossible to judge how near we were to the rocks excepting by guessing at the distance from the line of white surf just distinguishable through the deep gloom. We had not reached more than half way to the cove when a terrific storm burst over our heads; the thunder reverberated in echoing peals along the stupendous cliffs from one end of the island coast to the other, in a continuous roar like hundreds of cannon, and the vivid flashes of lightning following in rapid succession affected the eyes to such a degree that we could scarcely see where we were going, and caused the rocks to appear much nearer than they really were, while every rising swell seemed threatening to cast us against them. The whole circum-

stances, taking into consideration the perilous situation in which we were placed, rendered it the most awful and appalling night I ever experienced. Fortunately, however, we got the launch into the harbour by four o'clock, where we had scarcely reached before the wind blew very strong; this, however, was of short duration, and the storm having subsided, we were again at work before noon.

Finding it impossible to heave up the cables whole, I was induced to adopt another plan, which was by unshackling them at the bottom in lengths; but this was a most irksome job; the forelocks and bolts had become so oxidized as to cause the bell-men great labour in removing them, which was much increased by the extreme difficulty of using a large hammer in the confined space of the bell; still they succeeded, and by these means we were enabled to unreeve the lengths singly from the mass, and they were thus recovered; but the taking up of the cables was decidedly, when the length of time it occupied is taken into consideration, the heaviest work in the whole undertaking, rendered the more so by the reduction of our force through sickness, which put me under the necessity of leaving the *Lightning* with only six hands besides the sick and convalescent to take care of her; but by the end of the month I had the happiness of seeing a great improvement in the general health of both officers and crew, the number of cases being reduced to fifteen.

FEBRUARY.—On the 5th of February the Commander-in-Chief arrived in his Majesty's sloop *Pylades*; he came to the island two or three times, and walked up to the cliffs, and also went to the cove and witnessed the operation of taking up some chain-cable. He sailed for Rio in the *Ade-laide* on the 15th. On the 16th we took up two eighteen and one twelve-pounder long guns, which were carried to the harbour in the pinnace and landed by the derrick.

Like all the other plans we had adopted, the harbour-



*Photos Core during a Gale of Wind,
showing the Suspension Cable and Diving Bell hanging to it*

derrick answered to admiration, but in landing one of the guns, a rock on the side of the hill to which a tackle was led became detached, and, accompanied by numerous fragments, came rolling down amongst us, to the imminent danger of the whole party ; but on this, as on many other similar occasions, being constantly on the look-out, we were fortunate, and escaped without loss of life, the only injury occurring from the accident being a few cuts and bruises.

The number of sick during the month of February continued to be comparatively small, and our general health to improve.

MARCH.—On the 1st of March I was deprived of the services of a most assiduous and able officer, Mr. Dabbs, who, although he had not been liable to the dangers incident to our laborious occupation, yet had with the rest of us been subject to the same exposure and the other evils of residing on the island ; and his unceasing attention to the sick, which he carried to such an extent as on some occasions to visit them every hour by night and day, for the greater part of the time without an assistant, had brought on what was considered to be a complaint of the heart, which induced him to apply for a survey on himself, and I accordingly sent him to Rio for that purpose.

We continued on all favourable occasions taking up guns and other heavy articles, and by the 3rd we had recovered twenty-seven guns, nearly the whole of the chain-cables, and three bower-anchors, and continued recovering ballast, shot, and other stores. Occasionally a little treasure was obtained by their removal, but not nearly so much as from the previous course of our work might reasonably have been expected ; still we persevered in our exertions with spirit ; perseverance was our motto, and the same energy pervaded during our less profitable work as had existed during the greatest height of our good fortune. There

was, however, one spot in particular in which I had great confidence of success. During the survey of Lieutenant Dechamps he observed a few dollars between the rocks where the capstan was lying ; those rocks had been displaced, and some treasure discovered thereby ; four guns also were uncovered, which we had now obtained, and on the 4th of March the capstan was taken up ; on that and the following day a quantity of rubbish was removed ; and on the 7th and 8th some more treasure was found in a part from which we had removed several other guns ; the place from which the capstan was taken was quite cleared, and here I had determined to have a thorough examination by digging, feeling assured that the excavating of this part would produce all the treasure that could be obtained ; and as nearly all the public stores which had been seen were recovered, our labours were drawing to a close ; but while I was enjoying the pleasing anticipation of a speedy and successful termination to the enterprise, on the 6th I was surprised by the arrival of his Majesty's sloop *Algerine*, with orders from the Commander-in-Chief to me to resign the charge to Commander the Hon. J. F. F. de Roos, of that sloop. It appears that the Admiralty had been led to think that no more property could be rescued, and therefore ordered my removal. I could not but feel this a most mortifying circumstance. I had been the only person who had come forward to attempt the recovery of the large property which was considered to be irretrievably lost ; I had devised the whole of the methods by which a very large portion of it was recovered, and in giving effect to them I had endured peril, sickness, toil, and privation, during a period of more than a year, to the injury of my constitution ; and the work was now reduced to a mere plaything compared with what it had been, and yet I was not allowed to put the finishing hand to it. Notwithstanding this, the deep interest I felt in the undertaking remained unabated, and I was determined

that nothing should be wanting on my part to ensure a successful termination to it. On the 7th I ordered the necessary survey on the stores previous to their being turned over to the charge of other hands ; and while the proper officers were performing this duty, I took Commander de Roos to examine the air-pumps and hoses, store-houses and stores, and on the cliffs, to inspect the various fastenings and machinery, and afford him every minute verbal explanation and information respecting the operations that he should consider would be advantageous to him, and offered him the perusal of my log-book, that he might abstract from it any thing that he might think useful, in fact to make him thoroughly acquainted with the whole establishment. Fortunately the 8th was a very favourable day for pursuing our operations in the cove ; I therefore ordered Commander de Roos to attend there with his officers and men to witness the mode of working the bell, and receive various instructions thereon ; this was repeated on the 9th ; and being most anxious that there should not be any information wanting as to the situation of stores and treasure still remaining unrecovered in the cove, although I was in a very ill state of health at the time, I took a bell-man with me and descended to take a thorough survey of the bottom. Immediately on reaching it we proceeded to the place from which the capstan, rocks, and guns, as before mentioned, had been removed ; here we commenced digging, and very soon found a great quantity of treasure ; in fact, in a space of several square feet there was a large mass of it, deeper than, by loosening it, I could work my arm down into. After having sent up several bucket-fulls of it I proceeded with my survey. With a feeling which I thought would be properly appreciated by a brother officer, I did not continue to take up this treasure, which I was quite at liberty to have done if I had chosen, but left it for the benefit of our successors, observing at the time that

“the world should not say that I had left them nothing to do but the labour of removing rocks and rubbish.” The survey being completed, I devoted the remainder of the day to a personal scrutinizing examination of every bolt, capstan, and crab, bollard and other fastening, and in short every part of the apparatus, to satisfy myself that they were secure and in good repair. I selected twenty of my most useful men, discharged them as lent to the *Algerine*, and drew up the following letter of instructions, which I delivered to Commander de Roos on the succeeding morning, and then resigned the enterprise to his charge and direction.

*His Majesty's Sloop Lightning, Cape Frio,
10th March, 1832.*

Sir,—Pursuant to orders from the Commander-in-Chief that I should deliver to you a written account of the state of the enterprise carrying on here, I am to call your attention to the following remarks.

It is necessary to a clear understanding of the cove and the position of the various stores and treasure still remaining at the bottom of it, to have some point from which all directions should diverge, and I therefore consider the stage which is attached to the suspension-cable to be the most appropriate for that purpose. Immediately under and for a considerable space on the south-east, south-west, and north-west sides of it, there are quantities of shot, ballast, and various other articles of ship's equipment; also many copper bolts strewed about, much of which is recoverable, although a part is so jammed between, and partly covered with huge rocks, that perhaps any attempt to take them up would be unavailing. On the south-east side and lying in nearly a direct line towards the cliff, is about twenty-five feet of the kelson, near to which and on the sea-side is a part of the bower chain-cable, which extends thence in a nearly direct line with the south-east side of the cove towards the outer point, it is much entangled amongst the rocks, and supposed to be attached to an anchor at the outer end. The chain-cable to which the net was attached lies across about the centre of the cove. At about twenty feet from the western corner are two long guns and a carronade. These are all that are known of at present, and I am disposed to think that but few more are recoverable. The amount of treasure stated to have been in the *Thetis* when lost is

810,000 dollars, of which I have as near as I can calculate taken up 586,000, there therefore remain still 224,000, a considerable part of which I think may be found in the spot we worked in yesterday; for I felt much, and have no doubt there is a great deal more within a space of sixty feet square, taking the north-west side of the stage for the south-east side of such square.

The feature of the bottom of the cove is very irregular, being strewed with rocks from a small to a very large size, some of which I judge it necessary to move, and for which purpose you will find the lewis and purchase the most available means. After the conversation we had together and the verbal explanations I have given you on the subject, I know of nothing more that I can say for your guidance; but should any thing occur to you which will further assist you, I shall be happy to attend to it at your suggestion.

With the most sincere wishes that you may bring to a termination this great undertaking with as much success and as little casualty as it has been commenced and conducted up to the present time,

I am, Sir,

Your most obedient humble servant,

(Signed) THOMAS DICKINSON (b), Commander.

The Hon. J. F. F. De Roos,

Commander H. M. Sloop Algerine.

P. S. I think it necessary for the satisfaction of the renter of the island, that three of the best huts which I have built should be left standing when you quit the place.

The suspension cable and all its gear had lately undergone a thorough examination and refit, and was in an excellent state; all the boats were in good repair, the diving-bells were nearly new, and there were three air-pumps, which with the air-hoses had recently been put in good condition. Thousands of tons of rock had been excavated from the cliffs; and roads and platforms formed, affording facility for working the machinery, and innumerable bolts and other fastenings had been placed in every situation requisite for carrying on the work. Hundreds of tons of rocks, some of

them, of large magnitude, which presented serious impediments, had been removed at the bottom and rendered the working of the bell infinitely less dangerous than before, and a system of operations was matured which the experience of more than a year proved to be the best, and indeed the only effectual one that could be pursued, and which was attended with unexampled success ; and the most favourable period of the year for continuing the work was commenced.

With all this information and all these means ready provided, together with the additional advantage of twenty excellent men who had, under my directions, been trained to the use of them, I could not but feel that if the same course was persevered in, a successful conclusion to the enterprise must be the result. Still I determined on remaining in the harbour for three days, in order to afford any further information or instructions that might be required, and to be assured that every thing was going on well. Immediately on Commander de Roos assuming the direction, his party commenced working on the treasure I had discovered during my survey, and continued during our sojourn in the harbour to take up thence the value of about ten thousand dollars a day, and on the return of my people I had the gratification of knowing that my anticipations were realized, for they informed me that nearly the whole of the treasure they recovered subsequently to my quitting was taken from this spot. On the 11th I received a letter as follows from Commander de Roos.

*His Majesty's Sloop Algerine,
Cape Frio, 11th March, 1832.*

Sir,—I beg to avail myself of the offer contained in your letter of yesterday to attend to any suggestion or inquiry which may occur to me in furtherance of the important service on which I have the honour to be employed.

I have to request that you will be good enough to furnish me with any plan or plans of the cove, which you or any of your officers may

possess, pointing out such parts as have been worked by you, and the spots where the most valuable of his Majesty's stores and other property may be supposed to remain.

I shall be obliged to you for an abstract from your journal of the wind, weather, and swell in the cove, in the months of March, April, May, June, and July last.

I shall also thank you to inform me of the name and residence of the renter of the island; and if any terms have been entered into between yourself and that individual.

I thank you for the kind wishes expressed at the end of your letter; I already feel much pleased with my present success, and I am very sanguine for the future.

I have the honour to remain,

Sir,

Your most obedient humble servant,

J. FREDK. F. DE ROOS, Commander.

To Commander Thomas Dickinson,

H. M. S. Lightning.

To this I replied on the 12th :—

Sir,—I have received your letter of yesterday, and am most willing to afford you any further information and assistance in my power; but it appears strange to me, after the clear description of the cove which I have given you, both verbally and written, that you should still feel at a loss as to the situation of his Majesty's stores, and other property which still remain in it.

In a state of health very ill adapted to such an undertaking, I descended in the diving-bell, and surveyed the bottom, expressly for your information, and in order to resign to you the direction of the enterprise under as advantageous terms as I possibly could, the result of that survey as well as information derived from the bell-men is contained in my letter of the tenth instant, and my having placed you in the situation I did whence you might immediately proceed to the recovery of a large part of the treasure as well as stores, is one proof that the instructions and description I have given you thereon are sufficient for your guidance. With respect to the abstract you wish for, I am surprised that you did not avail yourself of my offer of my log, from which you might have abstracted any thing you pleased, but I

do not think any information you might have derived therefrom as to wind and weather would be of any use, they are so uncertain ; and I would therefore recommend you to guide your management by an unceasingly anxious watchfulness ; this has been my system. However, by a reference, I find that the north-easterly and easterly winds (which are those during which I have been most able to work the bell) have blown as follows :—in March seven, April seventeen, May seventeed, June twenty, and July sixteen days, in 1831 ; but I wish to impress on your mind not to take this as a rule for the present year. The Renter (Arrematante) of the island resides at the village of Praya de Anjou ; his name is Miguel Borges ; I have never seen him but once and then for a very short time. I have made inquiry, and believe he is perfectly satisfied up to the present time ; he bears a very bad character, and I should therefore advise that whatever you may have to do with him should be through the medium of the Juiz de Pas (Magistrate) of the district.

I am, Sir,

Your most obedient humble servant,

(Signed) THOMAS DICKINSON (b), Commander.

To Commander the Hon. J. F. F. De Roos,

H. M. Sloop Algerine.

Feeling that nothing more could possibly be wanting from me, I sailed on the 13th for Rio, and arrived there on the 14th, myself, officers, and crew, having suffered very much in health, many with shattered constitutions ; and poor Delafons fell a victim to this most severe service. That excellent and amiable young man died at the instant of letting go the anchor, as if it had been the signal for his departure from the world. On my return from Rio in December I found him in a very weak state from excess of fatigue, and repeatedly urged him to go on board to recruit his health, but he evidently expected promotion would accrue to him from his exertions in so arduous, hazardous, and important a service, and always replied that he hoped I would not insist on his quitting his duty at the island, as he felt that his situation of first-lieutenant called on him to bear a conspi-

cuous part, and he should soon be better ; to this wish, so zealously and urgently expressed, I for some time conceded ; but at length, seeing that he was fast declining, ordered the surgeon to take him off to the Lightning, whence he never was removed until taken to his grave, attended by the officers of the squadron, and buried with the usual honours.

On the 23rd I made my sixth and last shipment, by his Majesty's ship Maidstone, of the value of about 64,000 dollars, making in the whole 588,801, and the Algerine subsequently recovered about 161,500, making about fifteen sixteenths of the whole property sunk. We also recovered a large quantity of Government stores, of the value of about 2000/.

Any officer of right feeling will readily acknowledge that there cannot be a more agreeable act of a superior than that of setting forth the meritorious conduct of those serving under him, and on this point I had an ample field for gratification ; but I felt that the magnitude of the enterprise, the numerous difficulties encountered and overcome during the space of fourteen months, presented so many instances of collective and individual merit, that I could not compass them in the space of an ordinary public letter sufficiently to do justice to my officers and crew ; and being most anxious that their deserts should be known where I did not doubt but they would be appreciated, I drew up a concise narrative of our operations and delivered it, accompanied by a letter (*vide* Appendix, No. III.) to the Commander-in-Chief, to be forwarded by him for the information of My Lords Commissioners of the Admiralty, in order that they might be made acquainted with the whole of the circumstances. This was an agreeable public duty ; nor can I here resist the pleasure of bearing testimony to the praiseworthy conduct of those persons by whose extraordinary and united efforts this most singular service was achieved ; which, notwithstanding the

general impression of its hopelessness, they entered upon in a spirit of undauntedness, which, throughout the whole period of its continuance, never forsook them, and at all times exhibited a resolution to contend against obstacles which threatened difficulty and duration, and required great labour and perseverance to surmount; they underwent the severest toil, fatigue, and disease with invincible patience and unwearied fortitude; and during the whole protracted period of such a complication of disasters and constant privation to which they were exposed, they demonstrated that intrinsic firmness which was requisite for the consummation of so hazardous and laborious an undertaking; throughout the whole signaling that intrepidity of character for which the naval profession has at all times been renowned.

As an appropriate illustration, I shall subjoin a list (*vide* Appendix, No. IV.) of the quantities and varieties and estimated value of the treasure recovered daily, also the affidavit of the surgeon (Appendix, No. V.), which will exemplify our sufferings from disease.

In this narrative I have, perhaps inadequately, but at least faithfully, set forth the nature of the service, the circumstances under and the means by which it was accomplished; and thereby shown how great results may be attained by the well-directed and united efforts of a small body of men. So far my task has been an agreeable one, and here would have terminated, were it not that there remains a duty to myself, from the performance of which, however unpleasant, I shall not flinch until I have made it clear to the members of my profession and the public that I am fully entitled to the merit I have assumed as the originator and contriver of the enterprise, and that I, and no other person, was entitled to that character; nor until I have removed an impression which I fear exists in the minds of some of my

brother officers, who have not made themselves sufficiently acquainted with the subject, that I could have prevented the vexatious, tedious, and expensive litigation in which the salvors were involved. In handling this subject I hope not to be considered as being solely actuated by an angry spirit, my great object being, by a fair statement of facts and references to documents, to defend myself from the charge of litigious feeling, and to prove that I was justified in taking the position since legally confirmed.

With this view, I, in the first place, assert that salvage is a reward for *personal* services exerted in the rescue or recovery of property; and secondly, that salvage service differs from the ordinary services of naval co-operation, such for instance as joint capture, where the mere being in sight entitles a vessel so situated to share with the actual captor; for, "in respect of salvage services, there is not known in law any such principle as *constructive* assistance; but the principle adopted by the Admiralty Court in awarding salvage, has heretofore been uniformly in proportion to the fatigue, anxiety, determination to encounter danger, spirit of adventure, skill, and dexterity, and especially danger and hazard of life exercised and incurred by actual salvors and no others." Now this being the nature of salvage, as I was advised, could I, without depreciating the services of my officers and crew, no less than my own, consider myself in any other light than as the *principal* salvor? a title so indisputable that I surely cannot, by the most unprofessional of my readers, be accused of presumption in assuming it, particularly when that title has been since confirmed by two solemn decisions: still it *was* denied me; and, to my surprise, I found a competitor, not merely for the honour, but for the reward.

Immediately on our first success in the recovery of the treasure, I received a letter from Messrs. Samuel, Phillips,

and Co., of Rio de Janeiro, of whom I had some previous knowledge, offering to become my agents ; and shortly afterwards one of the firm came to Cape Frio on the subject. It appearing to me to be necessary that there should be appointed on behalf of the salvors some competent person at Rio for the purpose of effecting insurances on the transmission to England of the property saved, and for general objects, we were induced to appoint Messrs. Samuel, Phillips, and Co., as our agents at Rio, with directions to communicate and act with our general prize agent, Josh. Woodhead, Esq., of London. The first proposition of the firm was, that the property saved should be sent to Rio, and thence forwarded by them to England : and in the next place, that their correspondents in London should be empowered to act there on our behalf, both of which proposals met with a positive refusal ; it being my determination that for my own justification, and for the security no less of the owners of the property (whether the Crown or underwriters) than of the salvors generally, no part of the treasure saved should be allowed to enter the hands of third persons, but be shipped from the place of recovery, so far as circumstances might allow, direct to the Bank of England. These points being settled, we calculated on the services of Messrs. Samuel and Co., and for a short period, not doubting their utility (especially as we were apprized, by a letter from them of the 4th of May 1831, that the business of effecting the insurances had been commenced, in compliance with *my* wishes), I from time to time furnished them with the particulars of our services ; then indulging myself in the hope that they, or our general agent, Mr. Woodhead, might find opportunities of discovering the owners of the property, and of entering into some arrangements for the settlement of the salvage ; not foreseeing the complication of interests and circumstances which afterwards rendered legal proceedings unavoidable.

My first ground of complaint against Messrs. Samuel and Co. arose on finding, that instead of effecting insurances through Mr. Woodhead, they had, contrary to my express directions, transferred the business into the hands of their firm in London. This was followed by a total absence of information as to their proceedings on our behalf. Other circumstances led me to doubt of their zeal for our interest, and on the 23rd of June I found myself under the necessity of addressing them a letter expressive of my disapprobation.

According to my own notion and the tenor of my instructions, the enterprise had been undertaken as a matter of *public service*, and apparently it so continued to be considered at head quarters, at least during the unprofitable services of February and March : our subsequent success I need not repeat, and here only refer to it, to introduce the following fact : By a letter from the Admiral, bearing date 29th May 1831, and which was subsequently brought into court by his legal advisers, I was informed that he had appointed Messrs. Samuel and Co. to be his agents, and desiring me to understand that the salvage had been originated by him on “private account,” and directing me to apply to those gentlemen “for such assistance of men or materials as might be deemed advisable for the complete accomplishment of the work.” I simultaneously received a letter from these agents of the Admiral in which they stated, “We shall attend to your wish, and not pay bills without your orders, *having received the Commander-in-Chief’s directions to that effect; this of course applies in his absence only, and relates solely to the part in which you are responsible, which is only for what you sign; the rest remains with us as agents to the owners and underwriters at Lloyd’s, as before explained in his absence.*” If my confidence in Messrs. Samuel and Co. had been previously shaken, this correspondence justified my doubting how far the interests of the salvors were

likely to be served by them, for it was now but too evident that they were attempting to act in the triple capacity of agents to the salvors, of agents to the Admiral, and as agents also to the underwriters, the latter wholly incompatible with their duty no less to the first than to the second named party; not to mention the knowledge which in all probability they then possessed of the Admiral's intention to claim and contest his precedence as principal salvor. On the 21st of July I again expostulated with Samuel and Co., and again received an unsatisfactory reply; and as a climax, on arriving at Rio in July (the Admiral having sailed early in the month for the Cape of Good Hope and the Mauritius), I found that Messrs. Samuel and Co., presuming on a letter addressed to them by the Admiral on the 18th of May 1831, had the audacity to assume an authority over me and my ship, declaring that both I and my ship had been placed under their control; and moreover refused to furnish me with the copies of the policies of insurance which they had already advised me had been effected by my order. It cannot be surprising that all further connection with the firm of Messrs. Samuel and Co. was at once broken off, and having given them due notice of our determination, our London agent, Mr. Woodhead, was furnished with a detail of circumstances, and instructed to counteract what was anticipated might be the adverse measures of Samuel and Co. or their correspondents, and in which foresight I had reason to be satisfied. It was early in August 1831 that the first shipment of the treasure recovered by the officers and crew of the *Lightning* arrived in England, and upon its arrest for the Crown as property found derelict, Mr. Woodhead caused an appearance to be entered in the Court of Admiralty on our behalf by our proctor, Mr. Poynter, who alleged us to be the salvors, and prayed a reward. This appearance took place on the 13th of August. On the 18th, at the instance of the

London firm of Messrs. Samuels, an appearance was entered for Rear-Admiral Sir T. Baker, who was alleged to be "*a salvor.*" Thus matters stood until the 23rd of September, when the same firm directed a second appearance to be given for us, and which was accordingly entered by the proctor of the Admiral. An expostulation was made as well by Mr. Woodhead our agent, as by our proctor, against so unprecedented and unauthorized a procedure, which the London firm justified by asserting themselves to be *our* agents, denying the right of Mr. Woodhead and by inference the legality of his acts, and at the same time withholding from him our power of attorney, which in confidence had been placed in the hands of the firm at Rio to be transmitted to him. I have been necessarily led to dwell on these dates and circumstances, in order to show the perplexing situation in which I and my agent were placed at the outset, and which was the cause of much unnecessary litigation, in order to obtain the annulment of the appearance which had been so artfully entered for us by the London firm of Samuel and Co., and no doubt intended to prevent Mr. Woodhead from protecting our interests.

It was not until the 21st of January, 1832, that the Court annulled the appearance which had been entered for us by the Admiral's agents, upon which occasion the Judge directed that the proceedings to be had on behalf of the salvors were to be conducted by Mr. Poynter, our proctor. This order having deprived the Admiral's agents of the power of taking the lead under the pretended title of agents to the *Lightning*, mark their conduct: On the 23rd of February they take a new ground, an appearance is given for the Admiral alleging him to be "*principal salvor.*" This measure opened a second question for litigation, and which was unavoidable, inasmuch as it was well known to my legal advisers that at least up to that period the Admiral had never been near

Cape Frio from the commencement of our services there. Under such circumstances, then, can I or those to whom the interests of myself and people were intrusted, be blamed for denying the right of the Admiral to any such a title? Moreover, the admission of it would not merely have been playing the game of the underwriters, to which I shall have occasion to refer, but would inevitably have reduced the expected pecuniary reward of the hard services of the salvors, and (what would have affected me much more) no less the merit of the undertaking; a concession to which no person of spirit could possibly submit: my agent therefore most properly resisted so serious an encroachment by all legal means, and although ultimately successful in maintaining my rightful position and overthrowing the pretension which would have deprived me of it, the settlement of this, which apparently involved little more than a preliminary question, led in fact to much protracted litigation, and gave the underwriters a manifest advantage over the salvors generally: an advantage which unquestionably had the effect, both in the Court of Admiralty and in the Court of Appeal, of reducing the quantum of reward to which they were entitled. This part of the subject I cannot quit without lamenting that the question as to the Admiral's rights had not been conducted on his part by the gentleman who I believe is his ordinary prize agent, rather than by a mercantile firm and its solicitor: for I feel thoroughly persuaded that with the knowledge of the service and the right feeling which that gentleman possesses, the question, under his management, might have been more readily and candidly brought to an issue.

It cannot be disputed that the services detailed in my narrative had entitled the salvors of so large a property to very considerable reward, and it was but natural to expect from those to whom that property was restored a corresponding liberality. This I had never doubted; on the contrary,

feeling fully assured of it, I constantly cheered my people in the most hazardous and trying situations, by setting before them the prospect of the reward which was to crown their labours, and was in some measure thereby enabled to excite them to unusual perseverance in their more than arduous exertions. The principal part of the bullion and specie having been insured at Lloyd's, the Underwriters had an apparent interest in it from the moment the *Thetis* was lost, and upon the news of that disaster arriving in England, an "especial committee was appointed to manage the interests of that body," and was composed of the following persons: Robert Dewar (chairman), John Peter Rosch, William Leathley, Charles Richard Harford, and David Carruthers, merchants. After proof had been given of the ownership of the property saved, the Crown-officers withdrew their claim, and it was restored in due course to the representatives of the owners, upon their first paying salvage: and having arrived at that stage of the proceedings, Mr. Woodhead expressed a desire to come to such an arrangement with the Committee in respect to the salvage as would have been alike just to the salvors and creditable to those who so greatly benefited by their exertions. This, had no other impediment intervened, was prevented by the interference of the Admiral's agents, who had already, as it would appear, been negotiating as for the principal salvor; and had, no doubt, long before impressed the Committee (an impression most willingly taken, as it was for their manifest interests so to do) with the belief that the Admiral was so to be considered, and as such alone to be negotiated with; which will appear from the following facts. It appears that shortly after the commencement of my enterprise, a correspondence was opened by the Admiral with the especial committee of Lloyd's, the nature of which was unknown to me. I knew from a rumour only that a vote of thanks had been forwarded

to the Admiral as early as the 5th of April 1831,—a fact which appears from a letter of his addressed to Mr. Dewar, dated on the 7th of June 1831, and filed in the Court on behalf of the Underwriters. True it is that although my name was hardly mentioned in the Admiral's published communication to Lloyd's, I still think it scarcely possible to doubt of his having in some other parts of his correspondence acquainted the Underwriters of the real origin of the enterprise, from which the Committee might have been made sufficiently aware that the means by which their property was rescued had been invented by me, and put into operation under my immediate directions. Be this as it may, no sooner was the title of *Principal* Salvor assumed in Court on behalf of the Admiral, than the representatives of Lloyd's re-echoed it; and in all the subsequent proceedings, although the Judge had expressly, at the adjudication of the preliminary point as to who was to be considered as the true representative of the actual salvors, decided that our agent and proctor were these persons, still, the legal advisers of Lloyd's adopted a course of conduct in those proceedings not blamable, perhaps, with reference to the pecuniary interests of the Underwriters, but certainly reprehensible when viewed in relation to a candid consideration of the main question, which was simply that of a fair remuneration for services rendered: and of this conduct I consider myself the more entitled to complain, because, no sooner had the very extraordinary intervention for the Admiral taken place, than Mr. Poynter, perceiving the injury which must inevitably be done to the general interests of the salvors by any conflicting statements as of services, and which obviously would weaken the merits of the salvage, proposed to the legal advisers of the Underwriters, to allow the main question between salvors and owners of remuneration generally, to be first settled, and leave the distinct question as of appropriations of the

reward, between the parties claiming to be entitled as salvors, to a separate decision. But this proposition was rejected, and the Underwriters have therefore no right to complain of having been mixed up with any extraneous question, since it was in effect their own option : it was a course advisedly adopted by them, and by which they no doubt have largely profited, inasmuch as the value of the salvage service was materially affected, to the prejudice of the actual salvors, by the conflicting question of the Admiral's claim to *the chief merit of the enterprise*.

Much as I may have wished that legal proceedings could have been altogether avoided, and which I certainly at first thought was possible, I am now convinced of the contrary, and cannot but concur in the advice originally given me, that the salvors could not securely discharge themselves of the treasure without the sanction of a Court of competent jurisdiction : at the same time, the proceedings merely necessary for such a purpose would have been little more than formal, and when the Court had pointed out the true owners of the property, those owners might, one would think, have been readily dealt with in respect of the quantum of the reward. Passing over here, as I sincerely wish I could altogether have done, the unfortunate collision (so injurious to our general interests and mine individually in particular) with the Admiral, which encumbered and mystified the proceedings, I proceed to show how impossible it would have been to have avoided litigation with the Underwriters,—those very Underwriters whose complaint it is that they have suffered by my litigious disposition, and who boast of liberality and straight-forward dealing.

The statement of our services up to my latest communication with England having been filed by our proctor, he prayed the Court to pronounce for an adequate reward ; and what was the answer of the Underwriters ? Did they deny

the facts? No, not one fact was denied or attempted to be controverted; on the contrary,—let me quote the very words of their legal reply: “a meritorious service has been performed in raising and recovering the bullion and treasure which is the subject of the present question.” Such an admission one would naturally suppose must have been followed up by the offer of some specific sum, or portion of the property saved, correspondent to their view of the services rendered; but not so: on the reverse (and were it not for the papers on the file of the Admiralty Court, I could hardly venture to assert the fact), *they denied our right to any salvage*. Here are their words, “That all the several persons engaged therein and now claiming to be salvors, as well officers as men, were during the period referred to, as they now are, in his Majesty’s service and receiving pay as such; that it was the unquestionable duty of the said alleged salvors to proceed in their public capacity upon any service which might call for the exercise of their skill and labour, without reference to any private emolument to be derived therefrom;” an answer not to be forgotten by the navy of Great Britain. Such being the avowed disposition of the Underwriters, the mask being withdrawn, what chance I ask would there have been in attempting to negotiate with them? nay, more, what security would there have been for us, had we parted with the treasure or any part of it into their hands? This extraordinary reply of the Underwriters being before me, I cannot avoid referring to another passage, in order to show in how anomalous a position I found myself when placing *their* view of my duty in contrast with certain expressions of the Admiral, viz. the Underwriters say, “it was the duty of Captain Dickinson to obey the orders of Admiral Baker,” inferring, as was the fact, that I acted under a public order of the Admiral; and thence arguing, as before quoted, that on that account the officers and crew of the *Lightning* were

not entitled to a reward. Now what says the Admiral? why, "you are employed on private account"!! Here was I then between Scylla and Charybdis.

It is scarcely necessary to assert, that there is no instance in which a Commander-in-Chief, *as such*, has been admitted to share in salvage; at the same time, if Admiral Baker conscientiously considered himself entitled to share (no other arrangement being made), it would have been quite right in him to advance his claim; of this I never should have complained; my complaint is, that he was set up as the principal salvor, and which claim was persevered in after it must have been known by his agents, his attorney, and his proctor,—for all these were retained for him,—that he had never been within *seventy miles of the place in which the salvage service was performed, from its commencement until it had been in progress more than a year, and that during that period he had been absent for about five months at the Cape of Good Hope and the Mauritius*. This position having been claimed for the Admiral, it became necessary to support it by statements of which also I have just cause to complain, because, without advancing the merits of the Admiral one tittle as a salvor, those statements were framed with a view to reduce mine: a short-sighted policy when viewed with relation to the main question, and in fact not sustainable, while it furnished the Underwriters with abundant arguments for undervaluing the general services. As an instance, I will quote one clause: "Captain Dickinson having mentioned to" the Admiral "an engineer named Moore" the Admiral "had an interview with him; and finding him very intelligent in his profession, authorized Captain Dickinson to benefit by his abilities and aid in the construction of the diving-bell and its appendages, undertaking to remunerate Mr. Moore for his labour. An air-pump for the bell was made by M. Fleury, a French artisan residing in Rio de

Janeiro at" the Admiral's "expense." Now without disputing the Admiral's having made this arrangement with Moore (although it certainly never came within my knowledge), I would ask, why is not also stated in this document this fact, that when I took him to the Admiral I stated that he, Moore, was already engaged by me, and that the terms were agreed on? The truth is that Moore had been for some time in my employ, and had received pecuniary assistance from me before the Admiral knew there was such a person in existence, and that he only knew him from the circumstance of my having taken him to his house; the same remark applies to statements of a similar character respecting Fleury, who was paid for the air-pump by me on board the *Lightning*, although I admit that the Admiral did repay me, and so far the instrument was certainly made at his expense. Nor is it only of this method of glossing facts that I have reason to complain.

Exclusive merit was claimed for individuals in the performance of particular duties which I assigned to them, and this, not with a view that they might benefit beyond their legal share of the general award, but apparently with this intent, that so much merit as could be attached to them or others might be deducted from my services, and though not adding to the amount of assistance rendered by the Admiral, might, by lowering mine nearer to the level of the Admiral's services, diminish the relative disproportion: thus, in two affidavits, the carpenter and boatswain of the *Warspite* are stated to have been employed, the former in building, and the latter in rigging the derrick! Why, in the name of all those who concocted the system on which naval duties are performed, what would have been the use of either of those officers to me but to be employed in such work? But this is not all as regards them. On their quitting Cape Frio, I was induced to give each of them a certificate of his good

conduct and abilities, little thinking that this act of kindness on my part, could ever by possibility be brought forward against me : yet so it was, these very certificates were put into Court, not by any means to serve those officers, but to prove, that because I had the assistance of their abilities; there was so much the less of talent shown by me, and consequently less reward due, and proportionably the more to the Admiral who placed them under my orders. In reply to such statements, it was proved that they, forming a part of a considerable force, were for nearly two months at Cape Frio before my arrival, without having made any effort whatever towards, or even preparatory to, the recovery of the treasure. I regret the necessity of making those remarks, because the general conduct of those officers during the short time they were with me, fully justified my approbation. And now for a few words as to Moore, to whose *intelligence* in his profession so much importance was attached by the Admiral's representatives, and, of course, re-echoed by the Underwriters. I have stated in my narrative, that at the time I engaged him, I had an impression that we should have a great deal of work of a purely mechanical nature to perform. On my arrival at Cape Frio, I found otherwise, and therefore employed him in making roads, excavating rocks, fixing bolts, and such work. He soon complained to me, that his affairs at Rio required his personal attention, and requested to go there, for which purpose I furnished him with money, and gave him leave of absence, and he was away for a week or ten days. On the 16th of May I sent him to Rio with the fire-engine supplied me by Captain Owen of the *Eden*, to get it altered to an air-pump, according to the plan I furnished him with; on this occasion, he was away upwards of seven weeks, during which time the derrick and two diving-bells were lost, the suspension-cable constructed, two other diving-bells made

and brought into use, and the kind of work in which he was most useful was greater than at any other period of the undertaking. On the 1st of July he returned *without* the air-pump, with which disappointment I could not but feel angry : on my expressing myself so, I immediately discovered a great change in his deportment. From the period of my first engaging him, up to the time he left, he had conducted himself as an humble individual, perfectly obedient, and willing to be employed in any way that I directed ; but on this occasion, he assumed an air of consequence which very ill accorded with my notions of discipline, and on my calling on him to account for his change of behaviour, and putting various questions to him, he expressed himself very ambiguously, and being pressed for an explanation, he said something about having been advised to write a letter ; this conduct, combined with other circumstances, which had not escaped my observation, and communications I had from Rio, determined me on promptly putting an end to the matter. I therefore told him, that as he had thought proper to absent himself for so great a length of time during the period of our greatest difficulties, and when his services might have been useful, and as I had not in the slightest degree been inconvenienced by his absence, I could for the future dispense with his services altogether ; and therefore desired that he would not in any, the slightest way, interfere with the work, but added, that I should fulfil my engagement to him as to compensation ; and, in answer to his question, whether he was to remain at the island, I replied, that assuredly I should not prevent his doing so, provided he rigidly obeyed my orders as to the non-interference in the work, and that if he wanted money for the purposes of amusement, I would give it him ; he availed himself of my offer, and continued with us until his death, as stated in the narrative.

Another affidavit, sworn to by six persons upwards of a year after the loss of the *Thetis*, contains twenty-one clauses, in nineteen of which the expressions that they were "informed" "and believe" occur, either separately or connectedly, *twenty-eight* times. My only object in mentioning this is to show the nature of the evidence adduced by the Admiral's representatives in support of his claim. Another affidavit, on which the Judge could not resist passing the censure of declaring, that expressions contained in it "were very improper, and could apply to no one with propriety;" and that the statement was "not proper to be put on the records of the Court," I will not quote. Suffice it to say that the course of proceeding, which was unfortunately adopted on behalf of the Admiral, had a most prejudicial effect on the award of salvage, and materially assisted the object of the Underwriters.

This lamentable course of proceeding having naturally met with every facility and encouragement from the Underwriters, at whose instance the Judge had been induced to decline to separate the two distinct questions, the one to ascertain the amount to be awarded as between the salvors generally and the Underwriters, and the other that of the apportionment of the award as between the Admiral and the actual salvors; the case, encumbered with the subordinate question as of the Admiral's claim, at length came on to be argued, and the counsel for the Admiral, still claiming as principal salvor, attempted to open the arguments: the interference of the Judge, however, gave the lead to the counsel for the salvors of the *Lightning*, and from that time the title of principal salvor being found untenable was no longer asserted for Rear-Admiral Sir Thomas Baker, but it was decided by the Court that I was the originator and director of the enterprise. Having heard arguments on all sides, the Judge, after mature deliberation, on the 20th

March 1833, pronounced the sum of 17,000*l.* to be due to the whole of the salvors, including those of the *Algerine*, amounting to near 400 persons. This award was so manifestly inadequate to the service performed, that, setting personal consideration entirely out of view, common humanity towards persons who had, by excessive exertions and fatigue, for the space of fourteen months, suffered so greatly in health and constitution, rendered my duty on the occasion obvious enough : I immediately determined on appealing to the "Judicial Committee of the Privy Council."

However unjust the decision in respect of award, the true position of the several parties had been ascertained, and being desirous of avoiding further legal proceedings, Mr. Woodhead wrote to the organ of the Underwriters as follows :—"If you do feel desirous to make such offer of compromise as shall be creditable to yourselves as British merchants and Underwriters, and equitable to those who have saved you from total loss, I shall, with pleasure and promptitude, make it my business to see Captain Dickinson and to recommend his acceptance thereof." To this Mr. Dewar replied—"The Committee, necessarily acting as trustees for the parties interested, feel it to be quite out of their power to make any offer to you of compromise." After this, nothing remained but to apply for the judgment of a higher tribunal. The Admiral also appealed ; while the Agent of Captain De Roos entertaining, no doubt, a very sound judgment with respect to the services of his principal, remained content with a decision which, by including the commander and crew of the *Algerine* in the distribution of the 17,000*l.*, did ample justice to their services. To the latter circumstance I should not have alluded, had not the "Special Committee" availed themselves of the fact of the Commander of the *Algerine* abstaining from an appeal using it as an argument, and produced an unsubstantiated statement of the services of

the officers and crew of that vessel in evidence against me ; insisting, that because the Commander of the Algerine rested satisfied with the award, I and my party of salvors must be held to be adequately compensated ; at the same time magnifying and lauding (on the ground of that statement, which, be it remembered, was the only document in the cause which was not sworn to) the exertions of the Commander of the Algerine, avowedly in order to depreciate mine. In the unsubstantiated statement referred to, there are many points, as connected with the proceedings, to which I might allude more in detail, but from which I refrain, unless compelled by future circumstances. To one fact, however, I think it here requisite to refer, and it is this ; that although immediately upon Captain De Roos taking charge of the enterprise, namely, on the *10th of March*, there were large quantities of treasure taken up by his people from the very spot previously discovered by me and pointed out to him ; and treasure continued to be thenceforward recovered from the same spot for a considerable time ; yet the first mention made by Capt. De Roos in the statement of his services, of his success in recovering any of the treasure, is on the date of the *22nd of May*. For this omission or suppression it is not for me to account ; but the inference drawn from it, and argued upon on behalf of the "Special Committee" before the "Privy Council," was, that at the period of my delivering over my charge, I considered that no more treasure was recoverable. Of the fallacy of such an assertion my original letter of instructions to Captain De Roos is quite conclusive. But if more be necessary to disprove such and similar mis-statements, a reference to the Lightning's journal of the proceedings at Cape Frio for the 9th and 10th March, cannot fail to set that question at rest. "Friday, March the 9th, 1832 ; wind north-easterly ; A. M., moderate breezes and fine, 6h. 15m., out to work the bell ; worked it all day, and obtained some

copper bolts and articles of iron. Employed sending ship's stores on board. P. M. fresh breezes, with heavy gusts : the Captain descended in the bell to survey the bottom of the cove, previous to giving up charge of the enterprise to the Hon. Captain de Roos of the Algerine. In the evening, not being able to get the launch in, moored her in the cove. *Recovered to-day* 517 dollars, 189lbs. 14½ oz. of bar silver, 224lbs. 8oz. of plata pina, 8lbs. of old silver." "Saturday, 10th March; wind north-easterly; A. M. fresh breezes with heavy gusts; delivered over the charge of the enterprise to the Hon. Captain De Roos, of H. M. sloop Algerine, who immediately took possession; and at 7h. 30m. commenced working the bell. Employed getting every thing belonging to the ship on board, and seventeen boxes of treasure. *At the period of resigning the enterprise we were working in a part in which there was a large quantity of treasure.*" Such were the advantageous circumstances under which the Algerine commenced her part of the enterprise, *the whole of which are omitted in the statement.* But enough on this point.

The cause came on before the "Privy Council," on the 19th of June, 1834; on the following day it confirmed the decision of the Admiralty Court in all respects except as to the amount of award to the appellants, decreeing the sum of 12,000*l.* in addition to the 17,000*l.* already awarded. As Captain De Roos and his party were not appellants, of course they did not benefit by that augmentation.

From my Narrative and the few succeeding remarks, the reader may have been enabled to form a judgment of the relative merits of myself, the Admiral, and Captain De Roos. I therefore proceed to advert to the subsequent treatment which I received at the hands of the Underwriters. In the United Service Journal for January 1835 the following statement appeared :—"At a meeting of the Underwriters and

parties interested” “to receive a report from the Committee to whom had been intrusted the management of their important interests in regard to the treasure saved from the wreck of the *Thetis*, man-of-war,” “the following resolutions were unanimously agreed to :”—

“ 1st. A vote of thanks to Admiral Sir Thomas Baker, for his zeal and exertions.”

“ 2nd. The same to Captain De Roos, of the *Algerine*, and a grant of 2000*l.* to himself, his officers, and crew, being the amount they would have received had they been parties to the appeal.”

“ 3rd. To mark the sense of the Meeting of Captain De Roos’s conduct, they further voted to this officer a piece of plate, of the value of 100 guineas.”

Although, abstractedly, I should not set a very high value on the opinion of any body of men who could have sanctioned a course of proceedings such as were adopted on behalf of the Underwriters against the salvors, yet the votes to which I have referred, having been intended to convey towards me a formal censure, I cannot pass that part of their conduct without some short observations, and in the first place, call to notice the evident inconsistency of their conduct. According to the tenor of the second vote, it acquiesces in the justice of the appeal of the salvors to obtain a proper compensation for services, and for services certainly equal to those of the officers and crew of the *Algerine* ; it then places the latter, in point of pecuniary reward, on the same footing as the appellants, and omits any mention of the *Lightning*’s officers and crew ; presenting such a specimen of petty feeling, and indeed of black ingratitude, as is consistent only with a plea, which had in effect denied one sixpence to be due for the salvage of 588,800 dollars. This omission of the *Lightning*’s officers and crew I should not have condescended thus to dwell upon, were it not that the public

might be misled into a belief, that it was to the Admiral and Captain De Roos alone the Underwriters were indebted for the recovery of their property ; a feeling which induced me, in the following month, to address a letter to the editor of the *United Service Journal*, stating, that, “ I protested “ against the possibility of their present to the Commander “ for services rendered by him, as being contradistinguished “ from those rendered by me ; for, most assuredly, if it had “ not been for the machinery invented, devised, and constructed by me and those acting under my orders, directions, and superintendence, and not by the suggestion of “ any person at a distance from the scene of operations, he “ never could have recovered a dollar.” This letter drew forth a reply, in which the writer attempts to justify the conduct of the Underwriters : “ But, without detracting from Captain Dickinson’s merit *in inventing the machinery by which so large a share of the specie was saved*, I will, without fear of contradiction from any one but the complaining officer, aver that Captain De Roos exerted himself in the most praiseworthy way ; *that he confined himself continually, and for whole days, in the diving-bell*, and persevered in his endeavours *in a stage of the proceedings that Captain Dickinson considered forlorn.*”

An acknowledgment of the merit of “ inventing the machinery” which led to such important results, is certainly a novel way of justifying the omission of the name of the inventor, and the stupid and preposterous fallacies contained in the last four lines of the quotation, are so palpable and so completely refuted by common sense, and my letter of instructions to Captain De Roos and the *Journal of Cape Frio* for the last two days, that it would be a waste of words to remark on them ; at the same time, I am not by any means disposed to deny, that the exertions of Captain De Roos in the diving-bell were considerable. But mark what

follows in the letter referred to : " Had Captain Dickinson " relied on the liberality of Lloyd's Coffee-house, *he would not have been a poorer man.*" Here, then, we arrive at the development of the real feelings of the Underwriters : here is exposed the head and front of my offending.

Rely on the liberality of Lloyd's Coffee-House ! of the men who *denied that the salvors were entitled to any reward !!* So that because I would not abandon my duty to my officers and crew, or separate my interests from theirs, and place myself and them at the mercy of the Underwriters, the initiation of the enterprise and the services of fourteen months, besides the rescue of nearly 600,000 dollars, are to be merged or considered as utterly unworthy of mention. Can it be necessary, in order to entitle a British officer to honourable mention in Lloyd's Coffee-House, that he should abandon a right, and, succumbing to the feet of its mighty Committee, accept a donation, doled out too with all the ostentation of a gratuitous liberality, that very reward which legally took precedence even of the ownership of the property rescued ! !

Having, as I hope and believe that I have, succeeded in showing my true position in the enterprise, and also that litigation was not occasioned by me, it remains for a discerning public to decide to whom the merit of this extraordinary and unique service is due : to its judgment I submit my Narrative, and with its judgment I shall rest satisfied." " *Palmam qui meruit ferat.*"

In conclusion : Until my late collision with the Underwriters, I was willing to believe that they maintained the same feelings which did them, as a body, so much honour during the late war, and out of which originated an institution never equalled in any other nation,—I mean the Patriotic Fund, which is so intimately connected with the brightest pages in the history of our country ; but so little of a similar spirit has been demonstrated towards the officers and crew

of the Lightning, whose application to Lloyd's was not for a gratuity but for a compensation, not merely legally due, but earned by services of an extraordinary nature, and crowned too by so successful a result, that I think myself justified in questioning whether with the ancient liberality of Lloyd's its notions of equity may not also have evaporated. For the honour of the *modern* Lloyd's, they may seek others to court and truckle; I am not ambitious of distinctions from such hands, not because I, as an officer, undervalue the good opinion and honourable notice of the merchants and ship-owners of my country, but only because I am convinced that the merchants and ship-owners of Great Britain are not duly represented by any committee in Lloyd's Coffee-House, which could have allowed personal feelings to mystify and divert the current of common justice to the extent exemplified in the case of the Thetis.

FINIS.

APPENDIX.

APPENDIX, No. I.

(Referred to in page 21.)

“ By Thomas Baker, Esquire, C. B., Rear-Admiral of the Red, and Commander-in-Chief of his Majesty's ships and vessels employed and to be employed on the South American station.

“ You are hereby required and directed to put to sea to-morrow morning in his Majesty's sloop under your command, and proceed to Cape Frio for the purpose of relieving the Algerine in guarding the wreck of his Majesty's late ship Thetis.

“ After receiving from Captain Martin, of the Algerine, every information he has to communicate relating to the position and present state of the wreck, you will lose no time in commencing operations with the diving-bell and other apparatus with which you are furnished, for recovering as far as practicable the public property and treasure sunk in the Thetis, and which it is believed are still attached to the remains of that ship.

“ I feel that it would be superfluous for me, after what I have seen of your persevering attention to this subject, to urge upon your zeal and ability, on which I place entire reliance, the advantage of making localities subservient as far as you possibly can in forwarding the interesting duty upon which you are to be engaged; but you will take every precaution to avert those unforeseen disasters and accidents to which your endeavours to accomplish so peculiar a service must be liable.

“ You will keep me constantly acquainted with your proceedings, of which I would recommend you to form a distinct journal; and you will not fail to point out, whenever it may be advisable, any way by which I can afford you assistance.

"In the mean time I have instructed Captain Martin to remain with you a few days, in the event of your requiring any assistance beyond what the Adelaide and the two launches can afford you, which vessels you are to employ as you may find necessary.

"An account is to be kept in the annexed form of the property you may succeed in recovering, making separate reports of what may prove to belong to individuals from that belonging to the Crown: And you are to continue on this service until further orders.

"Given on board the Warspite, Rio de Janeiro, 22nd January, 1831.

(Signed)

"THOMAS BAKER,

"Rear-Admiral and Commander-in-Chief.

"To Thomas Dickinson, Esquire,
Commander, his Majesty's sloop Lightning.

"By command of the Commander-in-Chief,

(Signed)

"ALEXANDER KANT,

"Secretary."

APPENDIX, No. II.

(Referred to in page 87.)

Appeared personally, William Fitzwilliam Owen, Esquire, a captain in the royal navy, and made oath, that being in the command of his Majesty's frigate Eden, he arrived in the harbour of Cape Frio on the 13th of May, 1831, in order to receive on board his Majesty's said ship, treasure saved from the wreck of his Majesty's late frigate Thetis, and convey the same to England, the deponent being bound thither: That his Majesty's said frigate Eden on the said occasion remained at Cape Frio five days, during which time the deponent proceeded in a boat to the cove in which the Thetis was wrecked, and the deponent afterwards ascended (from the land side) the cliffs which surrounded the said cove: That the deponent thereby had a full opportunity of observing with accuracy, and did observe the derrick, which at that time was stepped or fixed in a socket or excavation in the rocks within the said cove, and a few feet above the water's edge, supported at its other extremity by a chain-cable made fast above to the rocks at the height of 150 feet or thereabouts, with various other stays, whereby the outer end of the said derrick was raised to the height of about 40 feet above the sea: That the deponent was at the time informed, and

he believes, that the said derrick was of the length of 158 feet, and had been made up of 22 separate pieces of spars and put together in a masterly manner : And that the summit of the cliff, being as aforesaid about 150 feet perpendicular height, had been levelled, and that holes had been worked in the granite of which the said hills were composed, and wherein capstans and crabs were fixed, the said crabs having been formed, as the deponent was informed and believes, out of the stumps of the topmasts saved from the wreck : That the deponent during the same period observed the operation of a large diving-bell which was suspended beneath a stage at the end of the said derrick : That the said bell was raised or lowered by a capstan fixed on the summit of the said cliff : And that crabs were fixed on the cliffs at other points of the cove to which guys were led for the purpose of moving the head of the said derrick from side to side : The persons employed at such capstan being directed by a series of signals conveyed in the first instance from the bell to the stage, and from thence to the platforms on the said cliff, whereby the said bell was hoisted, lowered, or moved in any direction at the will of the persons therein : That the deponent also observed that the service of working in a diving-bell in the said cove, and at a depth of between five and six fathoms, was one of considerable risk, and always of great labour and exposure to danger, the action of the sea in the said cove being for the most part heavy on account of the said cove lying open to the ocean : That the construction, rigging, and working, of the said derrick greatly excited the admiration of this deponent : And the deponent, who has been for forty-four years in continued and active employment in his Majesty's service, is of opinion that the aforesaid works and operations do infinite credit to the talent, zeal, and seamanlike tact of the individual under whose orders and directions the said works and operations were carried on and accomplished, and that the erection of the said derrick as viewed by this deponent, under the great disadvantages of the locality aforesaid and very limited means of effecting the same, forms a work which under such circumstances could only have been performed by British seamen, and certainly has never been equalled within his knowledge : And he lastly saith, that he observed that every person employed in the said salvage service gave his utmost exertions with admirable cheerfulness in furtherance of the same ; and that it appeared to this deponent, and he verily believes, that the expectation of a liberal reward for such their services, acted as a strong stimulus to their said exertions.

And he further saith, that during the period before-mentioned Thomas Dickinson, Esq., the Commander of his Majesty's sloop *Lightning*, was (save the deponent) the senior officer on the said island of Cape Frio, and that the whole of the operations there carried on in respect of the salvage of the treasure aforesaid during such period were carried on by, or under the immediate orders and personal direction of, the said Thomas Dickinson: And it is the opinion and belief of the deponent, that the success of the service on which the said Thomas Dickinson was then employed depended entirely on his own great personal activity, and promptitude of mind and action in obviating and repairing those casualties to which the same was continually and inevitably exposed and subjected; and that it would have been next to impossible for any person not on the spot to have given the said Thomas Dickinson either counsel or instructions of such a nature as to have been in any way serviceable to him in the aforesaid operations, depending as they did entirely on local and transient circumstances, and requiring his constant attention and instantaneous decision, as well as a diversified application of his means, on every change of wind or weather either moderate or violent.

W. F. OWEN.

Sworn before me, on the 19th November 1832,

J. ADDAMS, Surrogate.

APPENDIX, No. III.

(Referred to in page 153.)

His Majesty's sloop *Lightning*, Rio de Janeiro,
10th April, 1832.

SIR: I have the honour to transmit you a narrative of my proceedings at Cape Frio, while employed in the recovery of the public stores and treasure sunk in his Majesty's late ship *Thetis*, which I request you will be pleased to communicate for the information of my Lords Commissioners of the Admiralty.

In describing the progress and the incidents of the enterprise, replete with difficulties and dangers never exceeded, I have been as concise as I could without the sacrifice of perspicuity.

It is impossible for me to speak in too high terms of praise and admiration of those under my command. Such an undertaking could not have been carried on without a perfect union of unceasing zeal and exertion on the part of all; where these have been so eminently

conspicuous, it is difficult to particularize a few without appearing invidious to many, yet I cannot refrain from noticing Mr. Charles Pope, the master, on whom a heavy share of the duty fell, with the additional charge of the extra stores. He has throughout the undertaking evinced ardent exertion and attention.

To Mr. George Henry Dabbs, the surgeon, we are all much indebted, myself particularly so. Every soul belonging to the ship has suffered from disease in some shape or other; his perpetual solicitude and anxiety were never surpassed, and to them and his professional talents may be mainly attributed the extraordinary little loss of life that has occurred.

Mr. Frederick Read, mate in charge of a watch, is entitled to my commendation; nor must I omit Mr. Jones, the carpenter, from whose ingenuity and quickness and perception of my various plans, as well as laborious exertion in adapting them, I have derived great assistance. These officers, I trust, sir, you will be pleased to recommend for the favourable consideration of their lordships.

The anxiety of my First Lieutenant Delafons to bear a large share of the duty, induced him to persevere, when in a very ill state of health, and to this I fear may be attributed his death. It was with great reluctance he at length went on board the ship when I found it necessary to order him there, where he suffered the greatest agony for about eight weeks, and departed this life at the moment of letting go the anchor in this port. He was a young man of amiable disposition and manners, and much esteemed not only by all his shipmates, but also by all his acquaintances, and is greatly regretted.

The universally steady conduct, the indefatigable and laborious exertions in periods of great danger and difficulty, and the willing promptitude with which my people have cheerfully performed their arduous duties, cannot be too much admired; and it has been thereby that a mere handful of men have performed a work which I believe may be placed on the list of the greatest undertakings performed by the British navy, and which British seamen alone could have accomplished.

I have the honour to be, Sir,

Your most obedient humble servant,

THOMAS DICKINSON,

Commander.

To Rear-Admiral Sir Thomas Baker, K. C. B.
Commander-in-Chief, &c., Rio de Janeiro.

APPENDIX, No IV.

(Referred to in page 154.)

AN ACCOUNT of the Treasure, as recovered daily, at Cape Frio, under the direction of THOMAS DICKINSON, Esq.,
Commander of his Majesty's ship Lightning, between the 31st day of March, 1831, and the 9th day of March,
1832.

D A T E.	Number of Doub- loons.	G O L D.			B A R S I L V E R.		P L A T A P I N A.		O L D S I L V E R.		G O L D and S I L V E R U n i t e d .		—
		lbs.	oz.	drchms.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	
1831.													
March	31	..	4	15	243	8	36	10	5	4	..	..
April	1	..	13	12	..	..	..	..	12	4	17	6	
..	5	..	..	..	341	4	42	4	7	..	1	6	
..	7	..	9	13	68	8	23	..	19	..	23	12	
..	8	..	..	..	230	4	6	..	3	8	1	6	
..	12	..	..	..	133	12	10	..	4	12	..	..
..	13	..	15	7	67	8	8	..	4	4	..	4	
..	14	..	..	13	66	..	..	10	2	4	2	..	
..	18	..	..	..	..	..	20	12	2	14	..	..
..	19	..	..	..	..	..	26	8	5	15	5	5	
..	20	..	..	..	..	..	6	8	5	10	..	..
..	21	..	8	11	68	..	143	8	23	4	1	9	
..	22	..	1	12	236	14	265	8	43	..	6	2	
May	8	..	..	..	111	14½	53	2½	6	9½	..	..
..	12	..	..	..	..	..	11	11½	3	5½	..	..
..	13	..	..	..	..	..	..	..	..	2½	..	..
..	14	..	..	..	..	..	7	2	3	9½	..	..
..	15	..	..	..	..	..	2	5	1	4	..	..

..	16	5,168	27½	..	2	4	8	130	8	138	..	24	..	..	..	82	8½	..	8½
..	17	14,650	44½	..	2	13	6	401	12	432	..	6	..	..	..	9	..	..	..
..	18	4,107	15	..	2	4	12	74	10	56	..	2	..	..	..	10	4	10½	..
..	28	2,389	4	..	4	14	1	..	..	50	..	4	..	..	..	2	10½	0½	..
..	29	5,931	9	..	4	5	4	135	2	71	..	4	..	..	..	6	8	2½	..
..	30	6,299	8	..	4	4	2	262	7	109	..	0	..	..	..	3	2½	..	..
		87,078	108	..	31	5	4	2,571	15½	1,521	0½	199	8½	..	..	82	8½	..	..
June	13	14,045	4½	..	18	1	15	715	13	198	15	57	6	..	..	9	..	..	..
..	14	8,346	3	..	3	3	9	73	13	245	15	24	4	..	..	10	..	..	..
..	15	12,945	9	..	3	2	9	185	7½	147	6	42	4	..	..	2	..	..	..
..	16	7,047	2	..	2	4	2	136	8½	206	4	15	12	..	..	9	..	..	..
..	17	3,610	..	..	6	6	9	467	13½	10	..	15	8½	..	..	6	..	..	..
..	18	4,162	..	..	1	6	3	144	10½	26	..	12	15½	..	..	3	..	..	..
..	24	7,863	97	..	..	3	3	260	8½	51	..	23	7½	..	..	1	..	..	..
..	29	4,651	32	..	3	13	7	..	..	40	..	3	7	..	..	8	..	..	..
..	30	15,039	5	..	..	..	..	675	12	23	9	12	7	..	..	..	..	..	..
July	8	2,824	2	..	..	2	1	..	..	33	1	5	1	..	..	..	..	..	..
..	9	973	..	..	..	..	..	..	..	..	..	..	14½	..	..	..	..	..	..
..	12	421	..	..	..	1	12	..	11½	52	..	5	2½	..	..	..	..	..	..
..	13	2,274	1	..	..	3	9	137	..	128	14½	5	14½	..	..	7	..	..	..
..	14	6,918	..	..	3	2	12	507	11	40	2	52	3½	..	..	..	..	..	..
..	15	6,598	2	..	..	1	4	69	2	..	6	9	3½	..	..	..	..	..	..
September	2	5,337	..	..	..	..	..	177	7½	15	1	31	4	..	..	5	5½	..	..
..	5	10,389	..	..	..	1	6	72	3½	37	14	31	8	..	..	2	14½	..	..
..	6	7,709	..	..	..	4	12	68	5½	16	..	20	1½	..	..	..	10½	..	..
..	12	6,145	..	..	3	3	7	..	..	13	..	34	9½	..	..	..	..	..	..
..	13	3,025	..	..	..	..	..	243	3	91	14	48	12	..	..	3	..	..	..
..	14	5,995	..	..	..	7	1	119	9	1	14½	41	15	..	..	..	7	..	..
October	1	1,737	..	..	..	4	1	..	..	20	12	5	10½	..	..	..	..	..	..
..	2	6,265	..	..	..	..	..	..	..	19	13½	33	11	..	..	36	..	..	..
Carried forward		231,396	265½	..	77	14	14	6,627	10½	2,941	12	733	2½	..	..	189	13½	..	..

APPENDIX, No. IV. (continued.)

D A T E.	Number of Dollars.	Number of Doub- loons.	G O L D.			B A R S I L V E R.		P L A T A P I N A.		O L D S I L V E R.		G O L D and S I L V E R U n i t e d.		—
			lbs.	oz.	drachms.	lbs.	oz.	lbs.	oz.	lbs.	oz.	lbs.	oz.	
Brought forward	231,396	265½	77	14	14	6,627	10½	2,941	12	733	2¾	189	13½	
October.....	3 314	..	..	..	..	75	15½	..	..	9	2	3	2½	
..	2,058	5	..	..	..	124	13	37	12	3	4	..	..
..	3,318	1	..	..	..	..	..	4	..	1	2½	..	..
..	8 917	..	..	..	..	..	..	..	12	3	2	..	..
..	3,222	2	7	11	..	..	..	24	12	3	2	5	..	
..	3,225	2	..	..	..	..	..	17	12	1	4	..	..
..	1,658	1	..	..	..	..	..	67	11	7	..	6	10	
..	462	..	..	..	..	..	..	..	5½	..	11	..	..
..	246,570	276½	85	9	14	6,828	6¾	3,094	0½	761	15½	204	9¾	
..	208	..	..	..	..	..	..	..	..	8	6	..	..
..	3,464	2	..	3	10	67	9	31	6	3	14½	1	3	
..	1,305	1	..	..	..	58	6¾	75	12	3	1	87	4	
..	974	..	..	..	..	44	9	1	14	..	..	..	..
..	828	..	..	..	..	..	..	57	14	..	12½	12	3½	
..	33	..	..	..	..	..	..	..	..	..	..	..	..
November.....	3	..	..	..	..	..	..	..	..	..	..	..	..
..	1,540	1½	10	2	..	..	..	17	14	..	6	1	8½	
..	5,349	2	..	..	14	134	5	22	..	4	14¾	3	6	
..	3,034	1	..	..	..	..	..	27	14	1	13	15	7	
..	263,308	283¾	96	..	6	7,133	4½	3,328	10½	785	2¾	325	9½	492,252½
..	429	..	..	..	..	329	1½	9	5	..	7½	..	..	6,499½
..	1,950	3	..	..	3	..	..	30	8	1	6	..	8½	2,490½
..	924	..	..	..	4	57	4	12	4	2	6	..	..	2,180½
December.....	5,300	..	16	7	11	67	..	204	6	10	6	4	6½	14,563½
..	6,404	1	7	2	1	..	..	118	..	28	2	14	14	10,976½

APPENDIX, No. V.

(Referred to in page 154.)

Personally appeared, George Henry Dabbs, Esq., a Surgeon in the Royal Navy, at present belonging to his Majesty's ship of war Satellite, and made oath, that he was the surgeon of his Majesty's sloop of war Lightning, whereof Thomas Dickinson, Esq., was commander from 28th December 1830, when the deponent joined the same at Rio de Janeiro, until the 12th day of September in the present year. That in the latter end of January of the same year, this deponent proceeded in his Majesty's said sloop Lightning, under the command aforesaid, to the island of Cape Frio, in the harbour whereof the said sloop remained from the day of her arrival, to wit, the 31st day of January aforesaid, until the 26th day of July following, when the said sloop, commanded as aforesaid, returned to Rio de Janeiro, and after remaining there for some time, again arrived in the harbour of Cape Frio, where she continued until the 13th day of March in the present year, the deponent having been on board the said sloop during the whole of such period except two short periods in (he believes) January and March, when he went on duty to Rio, and fifteen weeks when the deponent was living on shore in huts on the said island for the purpose of attending the sick of the officers and crew of his Majesty's said sloop.

And he further made oath, that previous to, and at the time of the arrival of his Majesty's sloop Lightning at the island of Cape Frio, in the month of January 1831 aforesaid, the officers and crew of the said sloop, consisting of 130 persons or thereabouts, were generally healthy, deponent not having more than five patients under his care. That in order the more conveniently to carry on the operations requisite for the salvage of the treasure lost in his Majesty's ship Thetis, the said Thomas Dickinson, on arriving at the said island of Cape Frio, caused the greater part of the officers and crew of the Lightning to be landed with their bedding; and tents were constructed in which the said officers and men were for some time stationed, when owing to the insufficient protection afforded them thereby, the said tents were replaced by huts constructed of wood procured on the said

island and thatched with grass. That the said tents and huts were situated a few feet above a long sandy beach, which was the most convenient landing-place on the said island for pursuing the operations in which the said officers and crew were employed.

And he further made oath, that during the whole of the periods of the stay of his Majesty's sloop of war *Lightning* at the island of Cape Frio aforesaid, the said Thomas Dickinson and his officers and crew were, when not prevented by sickness, and exclusive of Sundays, unremittingly employed in arduous and laborious services, far exceeding the ordinary duties of shipboard, both in respect of fatigue and of personal danger, whereby the health as well of officers as men was much injured, and the numbers of sick very greatly exceeded the average proportion of invalids among crews employed in the ordinary course of duty in his Majesty's ships stationed in tropical climates, except in those instances where epidemics have prevailed. That in the month of February, 1831, there occurred among the officers and crew of the said sloop, several cases of diarrhœa, and one of cholera, while others were attended with rheumatism, and many were suffering from ulcers resulting from insects called chigres, which perforated and buried themselves in the feet and hands; and from wounds occasioned by the accidents to which those employed on shore in the island of Cape Frio were subject, and which rendered numerous casualties altogether unavoidable. That in the following month the cases of rheumatism increased in number, as did those of cholera, and cases of ulcers became more numerous and painful. That in the month of April cases of diarrhœa became frequent, owing to the unavoidable exposure of the people to the sun; and the cases of ulcers occasioned by the chigres continued numerous and troublesome. That in the month of May the numbers of sick increased, among which were several cases of cholera and diarrhœa, besides catarrh, and an increased number of cases of ulcers, and some wounds; the bowel complaints and catarrh in particular, resulting from the severe labours and privations to which the officers and crew aforesaid were exposed during such time: That in the month of June the numbers of the sick somewhat diminished, nevertheless the cases of ulcers caused by the chigres continued to increase, and occasioned great pain to the individuals suffering thereby, frequently occasioning sympathetic buboes of short duration: and in other respects, the general health

of the officers and crew was, during the same period, considerably injured by the sudden changes of temperature occasioned by the gusts of wind which arose in the cove (outside the harbour aforesaid) in which the people were for the most part at work.

And he further made oath that during the month of July a fever of severe remittent character occurred and affected several of the crew, and one of the officers aforesaid, occasioning to those affected thereby much pain and suffering; and that there were at the same time many cases of severe catarrh, besides cases of rheumatism, and the cases of ulcers continued numerous and troublesome; That in the next month the cases of fever and catarrh continued numerous and severe, and the ulcers continued prevalent, and the number of sick rather exceeded that of the preceding month: That in the month of September the number of persons attacked by catarrh were more than double that of the preceding month, and which complaint assumed a severe character, it being frequently accompanied with enlarged tonsils, requiring much care and attention, and from which the persons affected thereby were very slow in recovering; that during the same time, many cases of inflammation of the liver occurred, besides bowel complaints, as well as many cases of ulcers, which still continued numerous: That in the month of October, the numbers of persons suffering from ulcers diminished, but cases of catarrh and of liver complaints continued to occur: That in the month of November, several cases of inflamed liver and of ulcers remained, and the number of complaints before mentioned as being prevalent, and with which the officers and crew had been previously but slightly affected, now increased and assumed a very obstinate and troublesome character.

And he further made oath that previous to the said month of November, the health of the said Thomas Dickinson had become very much impaired in consequence of his exertions on this service, and that on or about the 7th day of the same month, the said Thomas Dickinson became totally incapacitated for service, and unable any longer to superintend the operations in which, since his arrival at Cape Frio, he had been employed, and accordingly he was, under the advice of deponent, conveyed on board his Majesty's sloop *Lightning*, in order to afford him a better chance of recovery than could be expected whilst residing in a hut on the said island: That when the said Thomas Dickinson so came on board the *Lightning*, he was suffering

from an attack of inflammation of the lower part of the windpipe, from which, for a day or two, he appeared to be recovering, when he was attacked by a severe form of dysentery, which, for several days, resisted all the measures employed by deponent for his relief, and reduced him to a state of imminent danger: That the deponent very much doubting of the recovery of the said Thomas Dickinson, wrote a letter on service to Lieutenant Delafons, the first-lieutenant of the *Lightning*, informing him of the condition of the said Thomas Dickinson, and reported him as incapable of carrying on the duty of the said ship.

And he further saith that the said Thomas Dickinson continued in a dangerous state for about three or four days, when a favourable change took place, and he gradually recovered from his illness, and resumed his usual avocations, although much debilitated.

And he further made oath that in the month of December the numbers of sick among the officers and crew aforesaid very considerably increased, amounting to no less than forty, of which the greater part were attacked with catarrh of a most severe character, which for many days incapacitated almost every person affected thereby: That the cases of inflamed liver also increased, besides cases of ulcers and other casualties; and in the following month the cases of catarrh continued very prevalent, and the diseases before mentioned were particularly troublesome; after which month the health of the officers and crew underwent a gradual improvement, although in many instances permanently injured, as will be hereinafter mentioned.

And he further made oath that the prevalence of disease and sickness among the officers and crew aforesaid was occasioned in his opinion by the almost incessant employment of the same, in duties of the most fatiguing and arduous nature, carried on in the open air, and exposed to vicissitudes of temperature, almost without protection from the climate; and by their residence under tents and in huts on the island of Cape Frio, which abounded with thick wood, and was hitherto uninhabited, and which woods, retaining considerable moisture, rendered the place exceedingly unfavourable to the conservation of human health; to which may be added the scanty supply of wholesome water and of fresh provisions afforded to the said officers and crew.

And the deponent further saith that he was, during two periods of

the time before mentioned, residing on shore in huts for the purpose of attending the sick, and so resided for fifteen weeks, but found it necessary twice to return on board the *Lightning* with those who were attacked with severe catarrh as before mentioned, such cases requiring more attention and care than could be afforded on shore, where, under the circumstances aforesaid, a general want of comforts necessarily prevailed, and where the sick were particularly annoyed by quantities of fleas and chigres, the ceaseless irritation of which greatly impeded their recovery, as well as by the clouds of sand, which, at all times of high wind, penetrated the huts and mingled in the victuals of the persons on shore, and also considerably aggravated the wounds and ulcers before mentioned.

And the deponent further saith, that on the 14th day of March, last past, Henry Percival Lewis Delafons, Esq., late the first-lieutenant of his Majesty's sloop *Lightning*, aforesaid, departed this life, in consequence of disease of the lower or lumbar vertebræ, and of inflammation of the spinal marrow; and it is this deponent's opinion and belief, that the disease of which he (Lieutenant Delafons) so died, was excited in consequence of the exertion he made while employed on the service.

And the deponent lastly saith, that the health of the greater number of individuals who belonged to his Majesty's sloop *Lightning*, and were employed in the operation of the salvage of the treasure aforesaid, at Cape Frio, was in a greater or less degree injured thereby; and that the health of the said Thomas Dickinson is very materially injured, and that he was still suffering from the effects of his illness when deponent last saw him.

This deponent further states, that among the men invalided from the *Lightning*, five cases are clearly attributable to the nature of the service; one of them was a case of diseased heart, which deponent believes, from the reports he has heard, has occasioned the death of the individual affected; two of inflammation of the bronchia, or air cells; one of madness, which appears to have been excited earlier into action (than perhaps it would have been) from the exposure of the person to the sun's heat; and one case of injured knee joint, produced by carrying water over the hills, on the island of Cape Frio.

The deponent further declares it as his opinion, and thinks it necessary to repeat it, that the service was throughout one of great toil

and difficulty ; rendered more severe by the heat of the climate in which the service was carried on, and deprived of the advantages which more dashing and perhaps dangerous services acquire, from the novelty that attends them ; this being continued, with only one short interval, for above a year, and demanding from beginning to end unusual exertion of body and mind.

GEORGE HENRY DABBS, Surgeon.

Sworn at Devonport, in the County of Devon, this

24th day of October 1832, before me,

WALTER P. BLACKMORE,

A Master Extraordinary in Chancery.

