

was directly to leeward of them, and in the cone of still water. The vessel then steamed slowly towards them, sounding without success. When within a cable's length of the S.W. point, midway between the ship and the shore, a sunken rock was observed from the foretop, which appeared to have about 3 fathoms over it, so the vessel was steered to the northward; experience proving that it was safe to steam close to the rocks, the vessel was secured by a hawser to a knob on the point of the northeast side of the little cove (see fig. 86). When so secured the bow was in 104 fathoms half a hawser's length from the shore. The Challenger remained quietly secured in this manner until the morning of the 29th, but it must be borne in mind that the circumstances which rendered it prudent to run the risk of remaining in such a position were peculiarly favourable: the wind being steady in direction and light in force; the sea moderate, although sufficient to cause a considerable break on the weather side of the rocks; a current coinciding in direction with the wind, of sufficient force, even to leeward of the rocks, to keep a uniform tension on the hawser; and the season of the year rendering it highly improbable that any change would take place.

St. Paul's Rocks consist of a number of small islets separated from each other by deep chasms (see Pls. III.-VI.) through which the sea is constantly pouring, as wave after wave strikes against this ocean pinnacle. The whole group occupies a space of two cables in length in a N.N.E. to S.S.W. direction, and one cable in breadth; its highest point is 64 feet above the level of the sea. The N.W. and S.E. sides are steeper than the S.W. side, for whereas depths of 500 fathoms are found nine cables from the islets in each of the former directions, the 500 fathom line of soundings is at a distance of over 2 miles to the S.W., and there appear to be also some shallow soundings (that is, soundings under 100 fathoms) at a distance of half a mile in that direction (see Sheet 13).

Between the two largest islets is a small cove 300 feet in length and 170 feet across (at its entrance), the depths in which vary from 5 to 10 fathoms. Constant rollers, produced by the swell recurving round the islets, enter the cove, and, meeting with the almost continuous stream of water coming through the narrow chasms, separating the islets, make a very confused sea, consequently, as the only landing is in the cove, it is necessary to be cautious. When once a man has succeeded in jumping on shore, a rope stretched across the entrance renders the operation comparatively easy, as then the boat can be steadied by the rope as it rises and falls with the swell.

Excellent astronomical and magnetic observations were obtained on shore, but no tidal register could be taken owing to the swell.

During the time the ship remained at these islets their dangerous character was more than ever apparent, for although their white guano-covered peaks when lit up by the moon, were plainly visible from the ship 100 yards distant, they were not sufficiently distinct to be recognised as land at a distance of over a mile, and, without the moon, would probably not be seen more than a quarter of a mile; in short, the sound