

As the subject of our next serial story will be Kronstadt, the following description of the fortifications in the Gulf of Finland and the Bay of Kronstadt will be read with especial interest. The description, which was published anonymously forty years ago, is the work of a well-informed writer. Though the fortifications have undergone many alterations since the date of publication, and the modern implements of warfare are much more formidable than those then employed, the main features described here have remained unchanged.

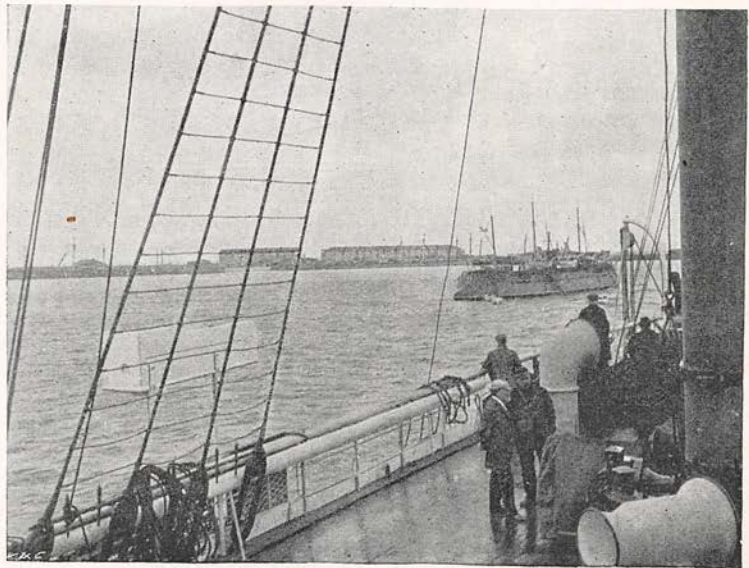
## KRONSTADT THE IMPREGNABLE.



**B**EFORE arriving at Revel a small bay is passed, the scene of one of the most brilliant exploits in the annals of the British navy. In 1810 a Russian squadron of nine sail of the line was sighted off Hango Head, the western end of the northern shore of the Gulf of Finland, by the combined force of ten Swedish and two English line-of-battleships. The two latter, the *Implacable* (Sir Byam Martin) and the *Centaur* (Sir Samuel Hood), outsailed their colleagues, and the *Implacable* attacked the sternmost Russian vessel, the *Sevolod*, and made her haul down her pendants after an action of half an hour's duration. The enemy now bearing down to the rescue, the two English ships made for the Swedish fleet, then ten miles to leeward, when the *Implacable's* prize was taken in tow by a Russian frigate. On this the *Centaur* and *Implacable* made a fresh attempt to secure the *Sevolod*, and drove off the frigate, but had again to retreat in consequence of the Russians bearing down a second time upon them. The enemy now stood in to the harbour of Port Baltic (Rogerswick), and the *Sevolod* running aground at the entrance, our two ships for the third time returned to the attack, and after a

sharp contest took possession of and burnt the Russian, making the whole of her crew prisoners. This (with the exception of two gunboat actions in 1809) is almost the solitary occasion on which English and Russian vessels have come into hostile contact. In the succeeding year the presence of two of our liners, with a frigate and sloop, was sufficient to clear the Gulf of Finland and to strike such terror into the enemy that he never ventured to leave his harbours!

Leaving Port Baltic and keeping along the Esthonian shore, four hours' steaming brings you to Revel Roads. A vessel approaching from the north-west would first pass Karl Island, and then, at the distance of a mile and a half, be commanded by a semicircular fort, mounting ninety-six guns in casemates in three tiers. This work is followed at a distance of 150 yards by a battery of twenty-



NEARING KRONSTADT.



four guns, and half a mile farther on commences the Mole, on which are placed sixty-two pieces. These three batteries are intended to protect the front of the town, and are built in deep water 500 yards from the shore, but as not one is properly supported by either of the others, and as three-deckers can anchor within point-blank range of any part of the whole line, they can hardly be considered as offering any "material guarantee" against a bombardment. At the same time it may be observed that Revel has no special attractions for our screws; it has no docks and no men-of-war—nothing but an unimportant fortified town with a good port, where four or five sail of the line usually pass the winter in a state of congelation.

There is a little entry in the annals of this place which can hardly fail to fill our sailors with a lively desire to criticise the Czar's military architecture here. The date is 1801, the year of the great "battle of the Baltic." On the murder of the Emperor Paul (that harshly judged and much libelled monarch, whose little eccentricities and impetuosities were imitated with such success by an esteemed son) Nelson's intended visit to the Gulf of Finland was so long delayed that a Russian squadron which had been lying at Revel during the winter escaped to Kronstadt before his arrival.

The granite wall which forms the northern shore of the Gulf of Finland is broken up into countless groups of rocks and islets, which form a natural outlying barrier against vessels trying to penetrate the bays and islets with which the coast is everywhere indented. The natural difficulties of a tortuous navigation through narrow-winding channels are alone, in the case of ships of heavy draught, very great, and without the

aid of buoys and beacons almost insurmountable. If, however, it be taken for granted that such difficulties can be overcome by screw steamers, it must not be forgotten that there is a fresh element to be considered, namely, the fire of powerful batteries placed upon commanding points. It is this combination of natural and artificial fortifications which has given Sveaborg the character of impregnability and the name of the Gibraltar of the North. The town of Helsingfors is built upon a double-headed promontory stretching out into a fine bay, the entrance to which is secured by a chain of small islands. Eight of these

are included in the line of defence which bears the general name of Sveaborg, and what with shallow water in some places and dams in others, there is said to be but one passage by which large ships can penetrate into the Bay of Helsingfors. The complication of these fortifications makes it difficult to convey anything more than the most general idea of them. One stands aghast at the array—sometimes doubled and tripled—of ramps and ramparts, cunettes and counterscarps, tenailles and traversers,



THE RUSSIAN EMPEROR, PAUL.

berms, cavaliers, hornworks, caponiers, ravelins, and counterscarps. Such a chaos of awful and mysterious import would remind the reader of one of Sir Archibald Alison's sieges. We shall run quickly along these granite defences, beginning with the small island of Langern, the nearest to Helsingfors, and only about 200 yards from the southern extremity of the town. Here, as at the other points, the ramparts are scarped out of the rock, and there is no possibility of escalading them. The batteries are, from the comparative absence of casemates, of the most formidable and unassailable description, and they are armed with the heaviest description



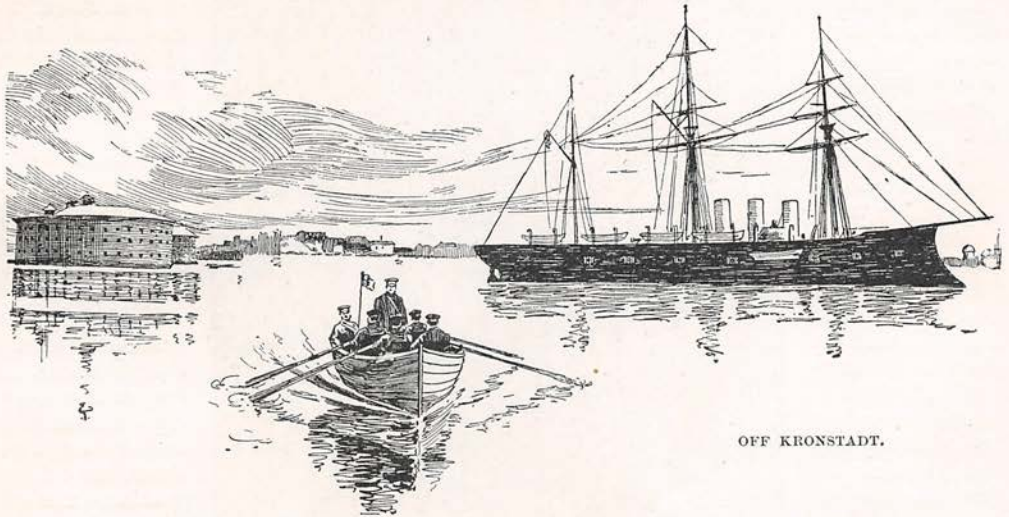
of ordnance. Each series of works is complete in itself, as regards stores of all kinds, and bomb-proof cover.

The entrance into Helsingfors Bay lies between Langern and the next island, Vester Svart. It is about 200 yards in width, and a vessel attempting it must run the gauntlet of the fire of the two islands, and in addition to this, she will be in danger of being raked by guns of Oster Lilya Svart, which lies behind the opening between Vester Svart and Langern. Next to, and in connection with Vester Svart, are Vargen and Gustav Svart, with Oster Stuur Svart in the rear. This is the most remarkable part of the works, and the constructions of Gustav Svart especially are on a scale of unparalleled magnitude. The front presented by the successive works is about a

commander, after a fruitless bombardment of twelve days, cajoled or bribed the Swedish admiral into a capitulation.

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Sveaborg and Revel are each about two hundred miles west of the mouth of the Neva. As you sail up the Gulf, the Finnish coast on the north and the Esthonian and Ingrian coasts on the south, gradually recede till they are separated by an interval of eighty miles—double the distance from Sveaborg to Revel. Beyond the Bay of Narva, the opposite shores approach, and after two further contractions the Gulf becomes a mere channel eighty miles broad, at the east end of which are St. Petersburg and the estuary of the Neva. It was to defend the entrance to the last of these contractions that Peter the Great built



OFF KRONSTADT.

mile in length, and the more northern fortresses—that is, those nearer to Helsingfors, viz., Langern, Vester and Lilya Svart—not only defend the narrow channel above alluded to, but they also command points on the mainland where an enemy who had previously taken the town might attempt to establish his batteries. The second group would, it is hoped, be able to repel any attack which could be made from the water. Whether all this formidable and complicated apparatus would be likely to defeat an attempt from the land-side by the force of 25,000 men, or from the sea by screw line-of-battleships, or by both combined, we shall not inquire. The capture of Sveaborg by the Russian army in 1808 proves nothing either the one way or the other; it was undertaken, too, in winter, and the Russian

the fortress of Cronslott, and thus began the system of defences we are about to describe.

The strength or the impregnability (as the case may be) of the position of the bulwark of St. Petersburg will be easily understood by attention to the following considerations. The island of Kotlina is an irregularly-shaped acute triangle, seven miles long, planted in the Gulf of Finland in an oblique direction, with its base towards St. Petersburg and its apex seawards. The broad and eastern end is covered by the town of Kronstadt, the sharp and north-western point being marked by the lighthouse of Tollboken.

If, then, any vessel, bound for the mouths of the Neva, make the Tollboken, she may apparently continue her course either by rounding Kronstadt to the north, and consequently steering between the island and the



Finnish shore, or by steering to the south of Kronstadt, and therefore between the island and the Ingrian shore.

But this northern channel is not available for the purposes of navigation. The Russian Government has stopped the passage by driving a double or triple row of piles, five or six miles in length, which, together with blocks of stone and other obstructive materials, form, between Kronstadt and Lisi Noss, a barrier impassable by any but very small craft. As this is but the application to the sea of the principle elsewhere established in the case of a river, we feel confident that this work has been ably and effectually performed. The destruction of the Sulina mouth of the Danube is of itself a "material guarantee" that the engineers of the Baltic have not laboured in vain.

It remains to examine the approach on the south of the island, and to show the numerous difficulties to be encountered by an enemy's fleet attempting to force the passage.

The fair channel, which only averages a depth, at first, of five and then of seven fathoms, takes the shape of a triangle, of which the base lies between the two large forts, Alexander and Risbank (now called Fort Paul), and the apex in the narrow opening of 300 yards between Kronstadt and the end of the sand-bank known as the Oranienbaum Spit. If, then, we would enter the roads of Kronstadt we must pass between the two outside forts, and in close proximity to both of them.

On our left, and 800 yards distant, is Fort Alexander. This fort is, in its ground-plan, of somewhat elliptical shape, and consists of a front with four tiers of embrasures and two flanks, each of three tiers, and a rear

wall mounted with guns *en barbette*. It is built with blocks of granite on a foundation of piles driven in 18 feet of water. The appearance of Fort Alexander is most imposing. As you go round the fort you are commanded by a hundred and sixteen 8-inch and 10-inch guns, all in casemates.

To the right, also 800 yards distant, is Risbank, which has been many years erecting, and was last summer still obscured by scaffolding. It stands in 16 feet of water, and is built of granite, on the plan of Alexander, except that in form it is oblong.

Looking again to the left, and always advancing, we find ourselves under the guns of the centre bastion of Fort Peter. It has three towers or bastions, joined by two curtains, the first commanding the approach to the rear of Fort Alexander, the second and third sweeping the main channel.

To the right is Cronslott, which, though it deserves respect from having been founded by Peter the Great, has an appearance quite out of keeping with the threatening and bombastic look of the other works. To the sea it presents

nothing but a low line of timber casemates, forming a battery of forty guns, placed *à fleur d'eau* and disposed in the half of each of two bastions, with a connecting curtain. Cronslott is, in fact, nothing but a kind of mole or causeway supported on piles and surrounding several acres of water.

Cronslott is the last of the insular or detached works which defend the passage from the "Great Road" (the space between the four batteries we have been describing) into the "Little Road" (the narrow anchorage beyond Cronslott). But there are still two batteries to be noticed, and one of them is,



PETER THE GREAT.



in our opinion, the real bulwark of Kronstadt. First in order is that of the Mole, the line of which forms the seaward flank of the Merchant Harbour, and running for a distance of a 1000 yards in a direction nearly perpendicular to the approach, joins the land fortifications which here traverse the breadth of the island. The three basins, of which that allotted to merchant ships is the outermost and most western, are not excavations, but have been made by driving piles so as to enclose the area required. The piles support a superstructure, in some places of timber, in others of granite, sometimes of timber and granite together; and the flat top of the rampart so formed gives room for heavy guns. The guns, of which there used to be seventy in position, besides ten or twelve mortars, are *en barbette*, and to prevent the wood over which they work from catching fire, plates of sheet-iron are fixed on it at intervals. There is little or no available shelter for the gunners, and if a ship could safely pass all the other batteries and afford to pay no attention to the fire of Fort Menzikoff, soon to be described, she might anchor at the Mole-head and put its guns *hors de combat* by a raking fire from her quarter-deck. The first half of this battery, it may be added, would co-operate with the forts before noticed in opposing vessels attempting to pass into the Little Road; the other half would protect the shore and the back of Fort Peter from boat attacks.

We will now assume, for argument's sake, that some fortunate accident has removed the whole of this elaborate machinery for boring holes and exploding mines in the scantlings of an enemy's ships, and that a screw-liner has advanced up to the beginning of the narrow channel between Cronsloft and the Mole-head. For more than one ship at a time to attempt, amidst the smoke and confusion of battle, to run through an opening only 250 yards wide, where there is always a risk of going aground, would be almost an impossibility. And when the successful ship arrives, and that alone at the end of the Great Road, she is at once raked by a fort bearing the ominous name of Prince Menzikoff.

Fort Menzikoff, built of cubes of granite on a bastion projecting from the Mole of the Merchants' Harbour, mounts forty-four 10-inch and 8-inch guns in four tiers of casemates. The flank turned towards Cronsloft is pierced with loopholes for musketry, five on each of the three lower tiers. The back is not susceptible of defence against a

*coup de main*, but this is of little consequence, as the necessary *coup* is not very likely to reach it before the fall of Kronstadt itself.

We have before mentioned the Mole which flanks the three basins for merchantmen and ships of war. Opposite Cronsloft this Mole takes a new direction and runs for nearly a mile almost parallel to the northern side of the island, separating the Merchant and Middle Harbour from the Little Road. It has three bastions, on the first of which stands Fort Menzikoff. At the end of the Middle Harbour is the "War Harbour," which is rectangular in shape and about 900 yards in length by 350 broad. There are two bastions at the extreme end, with two on either flank, and those on the side of the Little Road have the salient angles truncated, and an opening left in them for the passage of ships. The Mole of the first two basins, with the exception of some 250 yards beneath and near Fort Menzikoff is of timber, and the western side of the War Harbour also of timber.

Beyond the end of the last basin, line-of-battleships cannot advance, though there is sufficient depth of water for steam frigates. At the back of it, and beneath the artificial embankment which runs along the south-eastern extremity of the island, there is no approach except for boats of very small craft. The bank meets a very high brick wall, about 100 yards long, and in this is a gateway, leading to a wooden pier, through which passengers, landed from the small steamboats that ply between Kronstadt and the mainland, enter the town. The gateway is reached by a drawbridge, and inside the former is a guardhouse, of regular construction, with the usual defensive accessories. It is flanked by sixteen guns, looking towards St. Petersburg, through embrasures constructed in the wall, to all intents *à l'Harco*. To these succeed a dead wall, then a loophole barrack, and next the great Kronstadt Hospital, after which comes a platform battery, at the north-east point of the island. Next is a double line of works which, consisting of rampart and *fausse-braié*, and rising immediately from the water's edge, runs from the platform to the further and north-western end of Kronstadt. Here it bends round and runs into the fortifications already alluded to as meeting the Mole. These works consist of a regular rampart, traversing the breadth of the island, in front of which is a ditch, or canal, and covered way. The interior curtain has a length of parapet of about 3000 yards.