

(No 65.)

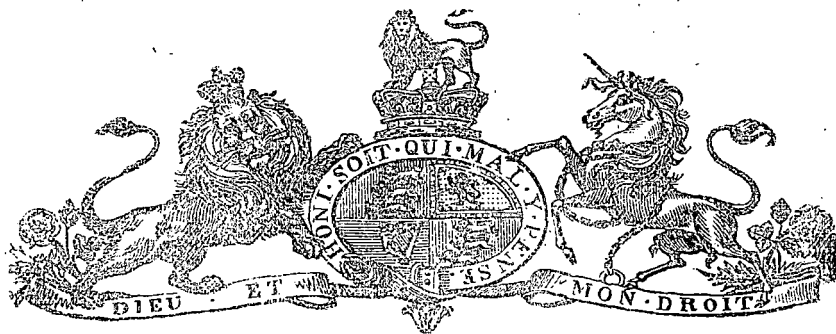


1885.

PARLIAMENT OF TASMANIA.

REPORT ON DEFENCES, TASMANIA.

Presented to both Houses of Parliament by His Excellency's Command.



REPORT ON DEFENCES.

Head Quarters Office, Hobart, 21st July, 1885.

SIR,

I HAVE the honor to report as follows on the Defences of the Colony. Before dealing with the various forts and batteries, with their armament, it will be convenient to refer generally to the nature of the recommendations contained in my confidential Report to Ministers, dated 30th June, 1884, which, having been approved by Sir Peter Scratchley, led to the authorisation by Government of the new armament now being supplied from England. In this Report each Fort on the Derwent was dealt with in succession; recommendations put forward as to a new battery on the eastern shore to complete the defence of the Port; and reference made, in dealing with floating defences, to the necessity of purchasing another torpedo boat. The Tamar was likewise dealt with, and plans submitted for a battery on Garden Island which would close the entrance of the River to hostile vessels. A recapitulation of the Report contained a revised statement of the armament proposed in it, in which was included two heavy breach-loaders for the battery at Jane Point recommended by me.

On the 7th April I was requested by His Excellency to send in an immediate Report on the Forces and Armament available for the defence of this Port, and I embodied in this a series of recommendations which had received the approval of Sir Peter Scratchley in his letter to the Hon. the Premier dated 30th March last, and had been the subject of two urgent communications from me in March. At an Executive Council held on the 9th April, the guns and war material mentioned respectively in the following sections were ordered as the result of this Report.

I propose, first of all, to refer to what has been done towards completing the Batteries, the construction of which was in progress last year, treating likewise of their armaments, and then to pass on consecutively to new works and armament ordered since the recent war scare. The "nature" of the guns is in all cases omitted for prudential reasons.

Queen's Battery.

The guns spoken of in my Report of last year have been sent to England and are now in process of conversion. When the present ordnance are replaced by these guns a very powerful shell fire can be maintained from this battery, as a much needed flank defence to Kangaroo Bluff, and as a protection to this part of the Derwent which, for certain reasons, is highly important. It is right to mention that the conversion of these guns is referable to work ordered since the recent war scare.

Kangaroo Bluff.

This Battery was not completed until some time after the expiration of the contract, and was not handed over to the Defence Department until the end of the year. The heavy guns were consequently mounted, under my direction, some time before the completion of the work. They were fired on 14th February for the purpose of testing the carriages and loading gear, and made admirable practice at an exceedingly long range. The mounting of the guns is all that can be desired, the platforms and carriages working admirably. Some little trouble was at first experienced with the accumulators of the mechanical loading-gear, but I think it can be stated that everything now works satisfactorily, and the necessity for hand-loading is not likely to occur.

The smaller guns on the flanks of the work arrived two or three days after the ferryboat *Kangaroo* was laid up, and a delay of a couple of months occurred before they were mounted. This was done by the men of the S.T.V.A. as afternoon work. It may be mentioned that these guns, with a liberal supply of ammunition, have been presented to the Colony by the Imperial Government. The eastern flank gun will play an important rôle in the land as well as the sea defence of the Battery.

Since the threatened outbreak of hostilities between England and Russia a powerful gun of position, together with a "Nordenfeldt," has been ordered from England to remedy the defect which I have elsewhere pointed out. Filled sand-bags have been supplied to this battery, and the ground in rear of the work prepared for the fire of the defenders.

The Barrack accommodation referred to, with plans, in my Report of last year has not been supplied, and the only means of housing a Force will be to use the blindage in the interior of the fort.

Alexandra Battery.

Since the date of my Report the alterations to and new fittings for the heavy muzzle-loading guns have been completed by Messrs. Clark and Co., and they have, together with the guns, been mounted on the seaward flank of the battery. This was done by the men of the S.T.V.A., who always come forward with commendable willingness for day work of this kind. Preparations for the new breech-loading guns, with their hydro-pneumatic carriages and platforms, were commenced in September last, but the work was stopped by Government in October, owing to the funds for this particular purpose not having been voted. Expecting the arrival of the guns early in the year I reopened the question, and provision was then made for the completion of the works. The strained relations between England and Russia immediately followed, and this particular work merged into the general extension of the fortification. This much-needed step was taken in April, when the extensive work contemplated by General Scratchley, was commenced, with a very large staff of workmen, under the Public Works Department, and is now complete, with the exception of a few details.

The expenditure has been heavy, owing to the rocky nature of the site and consequent expense in blasting, and, further, owing to the original plan having been extended. The very difficult nature of the ground as regards site, and exposure to an enemy's fire both by sea and land, became more and more apparent as the work was proceeded with, and I was obliged to provide against this disadvantage by epaulments and traverses in order to defilade the parapets as much as possible. Additional provision has also been made for the working of machine guns, which are necessary in all fortifications at the present day, but particularly so in this one. The breech-loading guns above mentioned, with their machinery, arrived in April, and are now mounted and in working order. These guns are the first of their kind yet mounted in fortifications either at home or in the Colonies, and the most powerful of their size yet constructed. This system of mounting has worked well in Roumania and elsewhere, I believe, abroad, and is being adopted by the British Government and by the other Colonies, and though costly and complicated, affords such thorough protection to the gunners that these disadvantages are thereby outweighed.

The armament for the outworks just referred to has been ordered and may be expected to arrive in a very short time, and consists of machine guns and very powerful guns of position, which latter will not only sweep the whole country in rear and to the south, but will furnish an auxiliary fire to the guns of the main work on the Derwent.

The care and working of these guns will necessitate, in my opinion, as stated in my previous Reports, the existence of a Permanent Force. Although the Volunteers, in whose ranks, owing to the social status of the men, a high standard of intelligence exists, are capable, as I have already proved at Kangaroo Bluff, of drilling well at these guns, still they cannot give the time necessary to a thoroughly efficient service of guns of this modern type.

As a fortification, the Alexandra Battery will not be complete without the addition of barrack accommodation. Fortified space is now available for this, but owing to the nature of the site the barracks will have to be of the pattern known as "casemate" in order to ensure the requisite amount of safety to the defenders. The present scheme did not contemplate the erection of barrack accommodation, and I merely draw attention to the matter with a view to the future decision of Ministers.

Eastern Shore Battery.

In concluding this report on the existing fortifications of the Derwent, which are, in these latter days of *very long range fire*, not sufficiently "advanced," it is right, I think, again to refer to the new work on the eastern shores of the river proposed in my confidential report. It is satisfactory to note that this idea has been favourably received by Sir Peter Scratchley, Sir Wm. Jervois, and General Harding Steward, our Military Adviser at home. The site is most central, and from it, as demonstrated by the sketch plans submitted last year, the whole surrounding water, western shores

of the Derwent, and almost the entire surface of Ralph's Bay, would be effectively swept by two heavy guns. The position is no more isolated than that on which many fortifications have of late years been constructed, and the water-way to it from the city would be entirely under the fire of its own guns and those of the existing fortifications. I am aware that in the minds of many the idea of a floating battery is more favourably received; but, though admirably adapted as gunboats are for offensive purposes, particularly when armed with heavy ordnance, unless they are very well manned, and possess a very high rate of speed, much dependence cannot be placed upon them for defensive purposes. Given the construction of the battery here advocated, the auxiliary floating defence of the Derwent would, if I mistake not, be better obtained by the acquisition of one, or still more, two, Whitehead torpedo boats. This latter want was pointed out at page 8 of my last year's report.

Defences of the Tamar.

The necessity for a fortification at the mouth of the River Tamar, together with the best plan of construction, armament, and garrisoning the same, was fully dealt with in the confidential report above referred to, but this proposal has not been approved of. I still consider that such a fortification would be the most effective defence for this river; and as regards its manning in time of war, this could be done by a local corps, and annual practice could likewise be carried on from the guns by the Launceston Artillery, conveyed thither by steamer. Failing this, the best inner line of defence is at Brown's Bluff, which has certain strategic merits as a position, and where the guns at present in charge of the Force in the North could, if protected, do considerable service. I have therefore prepared plans and submitted an estimate for an earthwork which is about to be constructed. At this locality the East and West Tamar roads can be defended by the field guns at present at Launceston, together with those which I have recently asked for, which I trust will be included in the measures in course of preparation.

Torpedo Boat.

At the date of my last Report above mentioned, the Torpedo Boat was on the slip in Mr. Lucas's yard. Her engines were cleaned by a discharged seaman from H.M.S. *Nelson*, who had had experience of such machinery, and after that a member of the Torpedo Corps, who had been thoroughly recommended by Mr. Cundy, the Locomotive Superintendent of the Tasmanian Main Line Railway Co., was placed in charge of the engine and boiler rooms, and also of the general up-keep of the boat. She remained on the slip until on or about the 10th October, when I was requested to get her ready for inspection and trial by the Chief Engineer and Torpedo Lieutenant of the *Nelson*. I accompanied these officers on the trial, on which she registered a speed of over 16 knots per hour. The Officers of the *Nelson* expressed to me their approval of the condition of the boat, and in their Report, dated H.M.S. *Nelson*, Sydney, 20th October, 1884, they write as follows: "On the request of the Colonel Commandant we got up steam in their Torpedo Boat and ran it at full speed, which was most satisfactory." After the trial moorings were laid down in Government House Bay for her accommodation. In the meantime she was moored off the Prince's Steps, in order that she might be under the eye of the Master Gunner. After lying here a few days she was removed to her permanent moorings.

Being acquainted with the foul nature of the river, and knowing the risk of leaving her at open moorings, where she would be exposed to damage, wilful or otherwise, I pointed out to the late Chief Secretary the necessity of having a shed built for her reception, and, in company with him and the Engineer-in-Chief, selected a site in June last. My letters urging the necessity for this work are in your possession. Some delay took place in providing funds for the erection of this shed, which was not commenced until January. I obtained permission to have the boat slipped at Williams's slip in the Domain in February, when her bottom was thoroughly cleaned and her hull painted throughout. The shed and slip were finished in April when the boat was taken up. The slip was not long enough in the first instance, and the length has been increased. The centreways and crutches, which have been asked for on several occasions, have not yet been completed. They are absolutely necessary, as has already been pointed out, for the safe accommodation of the boat, as she will not bear the pressure of crossways, some of her rivets having drawn twice in slipping and unslipping, and indents formed by the pressure of the narrow bearings of the crossways. The repairs thus rendered necessary have been from time to time effected by Mr. W. Pitfield, an engineer of this town.

During the training of the Torpedo Corps I took the boat out for exercise and drill on five occasions, when I manœuvred her myself. Frequent exercise is required in order that the hands on board may be thoroughly conversant with the working of the spar and the system of attack with this sort of boat. Last year, however, I had only opportunities to take her out on the occasions above referred to. Having had experience at Portsmouth in the running of torpedo boats, I can speak most highly of her capabilities. Her turning powers could not, I think, be excelled, and on the last day of the year she did over 15 knots with her bottom exceedingly foul, a result which I do not think could be surpassed. On the 27th and 30th December exercise was carried on with a live mine charged with gun cotton, which on the last day was exploded under a raft made for the purpose, with very satisfactory results. The boat was driven by the engineer above-mentioned on all occasions, and I append a Report on the working of her engines. (Enclosure A.)

Frequent runs of the boat have been recommended officially by our Military Adviser, but I had no opportunity of taking her out this year until the 15th May, when she was launched under the superintendence of an officer of the Public Works Department from her new slip and taken by me to Ralph's Bay on survey service. Her track, together with soundings, is laid down on the confidential copy of the Map prepared by the Superintendent of Surveys from observations taken by himself on the trip.

The acquisition of Whitehead torpedoes to be fired from dropping gear from the side of this boat was comprised in the Report submitted to His Excellency for the better defence of the Derwent, and this material was ordered from England by telegram, together with the guns before mentioned in this communication. The services of a mechanical expert for the care and working of the machinery of the Whiteheads, which, as you are aware, is secret, has been applied for, and this official is expected shortly from England. This man will have nothing to do with the working of the engines, however, and as the boat is without an Engineer, I would recommend to your favourable consideration the services of Mr. Pitfield in this respect. When the boat is fitted with Whiteheads she will require to be run oftener than she ought to be as a spar-boat, she will require a trained Engineer, Fireman, Coxswain, and Electrician, who should be chosen from the Engineer Corps, as nerve, coolness, and experience are of consummate importance in the handling of a torpedo boat. It is my duty here to impress this most urgently on the notice of the Government.

With a view to increasing the defensive power of the boat, the acquisition of a Nordenfeldt, to be fitted to the conning tower, was included in the requisition for *matériel* above referred to. This gun will shortly arrive.

In my confidential Report, as stated above, reference is made to the necessity for the supply of a second torpedo boat. As there pointed out, the extent of water comprised in this estuary and D'Entrecasteaux Channel is too great to be guarded by one boat. An attack on a hostile vessel, to secure the maximum amount of success, should be conducted by at least two boats,—the difficulty in resisting such a combined attack being more than proportionate to the number of boats employed. There is, further, the risk of torpedoes miscarrying or failing, or a boat itself being beaten off by machine gun resistance. The machinery already ordered will suffice for the charging of any number of "Whiteheads," and I have no doubt that these torpedoes will be presented by the Imperial Government if the Colony will incur the expense of another boat.

Torpedo Stores.

The dynamo machines for the electric light have been exchanged, and a more powerful pair obtained from the Electric Light Company. These, together with the engine, have been erected in the new engine-house, and are in course of preparation for trial. The rest of the plant has been supplied, but some of it has required a good deal of overhauling and adjusting. A new dynamo machine and reflectors has been recently ordered from England in connection with a more extended scheme of torpedo defences contemplated during the recent war preparations.

War Matériel ordered from England.

The following is a *résumé* of the *matériel* applied for during the recent preparations for war, to which must be added requisitions sent to England at the end of last year, and a large amount of *matériel* applied for at the time of and since submitting the estimates:—

- Whitehead torpedoes, machinery, and stores connected therewith.
- Machine guns and ammunition.
- Conversion of 5 smooth-bore guns into rifled guns.
- 900 Martini-Henry rifles and carbines.
- Ammunition for ditto.
- Breech-loading guns of position.
- Equipment and ammunition for ditto.
- Artillery ammunition to increase equipment throughout district.
- Ground mines and electric cable.
- Camp and field equipment.
- Valise equipment, belts, pouches, kit-bags, &c.
- Barrack and hospital stores.
- Revolvers and ammunition.
- Great coats and khakee uniforms.

I have the honor to be,
Sir,

Your obedient Servant,

W. V. LEGGE, *Lt.-Col. (R.), R.A.,*
and Colonel on the Staff, Commanding Tasmanian Forces.

The Hon. the Treasurer.

Hobart, 1st July, 1885.

SIR,

I HAVE the honor to give, at your request, a Report of the working of the engines of the Thorneycroft Torpedo Boat of the Tasmanian Government under steam; also of the state of the engines after having effected repairs to the boat and repacked the engines.

On the 10th December, 17th December, 23rd December, 27th December, and 30th December last year, and 15th May of the present year, I was engineer in charge of the machinery during the trips made on the Derwent on those days. The engines were on each occasion in thorough working order. The revolutions of the several engines when at full speed were as follows:—Propelling engines, 610 per minute; blowing engine, 800 per minute; circulating engine, 500 per minute. The boiler pressure was 125 lbs. per square inch; vacuum equal to 28 in. mercury; temperature of feed water, 95 degrees; air pressure in stoke-hole equal to $2\frac{1}{2}$ inches water: all these results being obtained at full steam. On each of the trips all the bearings ran smoothly, without heating, and no service water was used on same. The condensing machinery always worked well, there never having been any occasion to use sea water.

On the 27th May last, after effecting repairs at the hull and repacking engines, I left all the machinery in thorough working order.

I have the honor to be,

Sir,

Your obedient Servant,

W. PITFIELD.

Colonel W. V. LEGGE, *Commandant Tasmanian Forces.*