

SESS. II.—1884.  
NEW ZEALAND.

# MARINE DEPARTMENT

(ANNUAL REPORT OF THE.)

*Presented to both Houses of the General Assembly by Command of His Excellency.*

SIR,—

Marine Department, Wellington, 29th May, 1884.

I do myself the honour to submit the following report of this department for the year ended on the 31st March last:—

**LIGHTHOUSES, ETC.**—These have been maintained in good order during the past year. At five different revolving lights—Portland Island, Cape Saunders, Cape Foulwind, Akaroa Head, and Mokohinou—the lights have, owing to slight accidents, remained stationary for a short time. At the Brothers one of the keepers fell asleep on watch, and the light ceased to revolve; the principal keeper reported this on the next trip of the attending steamer, and the offending keeper was at once suspended, and, on his case being brought under the notice of the Minister, his services were directed to be immediately dispensed with. In none of these cases did any report reach this department that the lights in question had been seen stationary by any vessel, so it is believed that no inconvenience or danger was caused to mariners from these stoppages.

**Moko Hinou.**—This light was first exhibited on the 18th of June last, and on the same day the Tiri Tiri Light was made to show red from outside the Flat Rock across the passage to Kawau Island.

**Waipapapa Point.**—The works in connection with this light were brought to a satisfactory completion, and the light was first shown on the night of the 1st January last. This light is a 10" flashing white light of the second order dioptric. It is understood that it is of great service to mariners.

**Kaipara Heads.**—A foreman and party have started the erection of this lighthouse, and it is now progressing satisfactorily. The lantern has arrived in the colony, and the apparatus, machine, &c., ought to be soon received. It is anticipated that the light will be completed ready for lighting before the end of the present year. The land on which the lighthouse, signal-station, &c., stand, has been reserved from sale.

**French Pass.**—It has been decided to place a red light of low power on the point of the mainland opposite to the end of the reef. A foreman and party have accordingly been at work building a cottage for the use of the keeper, making road, &c. It is believed that the light, which will be placed in a wrought-iron tower on a concrete foundation, will be ready for exhibition in a few months. It is hoped that this light may be of great use to mariners. A light on the beacon would of course have been preferable; but owing to its cost, and its liability to be carried away by vessels, it was decided, in the meantime at all events, not to place one there.

**Light at Eastern Entrance to Hauraki Gulf.**—A survey has been directed to be made of the best site for establishing a light in this locality. The selection appears to lie between Cuvier and Red Mercury Islands.

**Stephens Island.**—I would again reiterate my remarks in previous reports on the necessity that exists for a light on this island. It is to be hoped that it may be found possible ere long to provide the funds necessary for building this important light.

**Cape Campbell.**—The lighthouse reserve has been fenced in, the materials having been supplied by the Government, and the labour provided by the owners of the adjoining station. Material for a coal-shed and privy to be erected by the keepers has been landed.

**Taiaroa Head.**—A coal-shed and privy have been erected by the keepers, and it is proposed shortly to erect a concrete oil-store.

**Dog Island.**—A dwelling for the third keeper has been erected at this station, the work having been done by the lightkeepers without any outside assistance. Materials for a new oil-store have been landed: this too will be built by the keepers. A new set of burners for the argand lamps in use at this station has been procured from England.

**Whale Rock, Bay of Islands.**—A large iron buoy has been placed to show the position of this danger.

**Jackson's Head Beacon.**—An iron and timber beacon having been made for the rock off Jackson's Head, a foreman and party were sent to erect it, and it was completed just after the close of the financial year.

**HARBOURS.**—New Harbour Regulations were made by Order in Council of the 5th of last June,

and they came into force on the 1st July. They are divided into Harbour Regulations, which are in force in all ports of the colony, and Harbour By-laws, which are only in force in ports where there is no Harbour Board established. As usual the services of the "Stella" have, as far as possible, been utilized for laying and cleaning buoys at the various harbours. A supply of buoy-chain of the same description as that used by the Trinity Board has been received from England. This description of chain is much preferable to that previously used, which was the ordinary chain of commerce.

At Manukau a contract for supplying iron buoys has been let. The signal-mast, &c., have been thoroughly overhauled.

At Raglan and Kawhia beacons to lead across the bar have been erected. This work was done by Captain Fairchild, of the "Hinemoa." Those at Kawhia were cut down by the Natives, but were again erected, and are still standing.

At Kaipara, the steam-launch at present in use being nearly worn out, a contract has been let to Messrs. Fraser and Tinné, of Auckland, to build a launch with engines of about 13-horse power, at a cost of £2,375. This vessel will be of great use to the Harbourmaster and pilot.

At Gisborne a large iron buoy has been placed on a sunken danger near the usual anchorage.

At Westport the signal-station has been moved to the South Spit, a situation more suitable than the old one, as it is nearer the bar.

At Karamea repairs have been effected to the signal-staff.

At Greymouth the signal-station has been moved to the end of the training-wall. The resignation of the Harbourmaster, Captain Allardyce, having been accepted, Captain Turnbull, Harbourmaster at Hokitika, was removed to this port.

At the Wairau River a sum of £310 16s. 8d. has been spent in improving the navigation. The work was carried out under the direction of the Lower Wairau River Board of Conservators.

At Nelson the boatshed has been removed and re-erected. I regret to have to report the death, by drowning, of the four men forming the crew of the pilot-boat. The pilot had boarded the "Wanaka," and it is believed that shortly afterwards a sea carried away the rudder of the pilot-boat, and she capsized.

At Waitapu arrangements have been made to have leading lights erected.

*Mokau River.*—Instructions have been given to have a survey made of the entrance to this river, and a surveyor has been despatched to carry out the work.

*Otago Harbour.*—Plans for works at Otago Heads were, at the request of the Otago Harbour Board, forwarded for the consideration of Sir John Coode.

The following Orders in Council under the provisions of the Harbours Acts have been issued during the past year:—

May 2: Approving of plans of alterations in first portion of Wanganui bar improvement works.

May 2: Approving of plans of wharf extension at Gisborne.

May 9: Authorizing Helensville Flour-mill Company to build a wharf at Helensville.

May 17: Authorizing Kaihu Valley Railway Company (Limited) to build a wharf at Dargaville.

June 5: Authorizing Warkworth Cement Company to build a wharf at Warkworth.

June 5: Approving of plans of Manawatu Railway Company's bridge and embankment, Porirua Harbour.

June 25: Approving of plans of alteration in first portion of Wanganui bar improvement works.

July 2: Vesting management of Kaikoura Wharf in Kaikoura County Council.

August 13: Authorizing Hobson County Council to build a wharf at Whakahara.

August 20: Approving of plans of third deviation from approved plans of Timaru Breakwater.

August 27: Approving of plans of ocean steamer's jetty, Lyttelton Harbour.

August 27: Authorizing Auckland Brick and Tile Company (Limited) to build a wharf at Avondale, Auckland Harbour.

August 27: Authorizing Mercury Bay Timber Company (Limited) to construct a boom across Kaimarama Creek, Mercury Bay.

September 11: Approving of plans of wharf at Petone, to be built by Gear Meat-Preserving and Freezing Company (Limited).

September 18: Approving of plans of two booms to be constructed by Union Steam Saw Moulding, Sash, and Door Company (Limited) across Waikahikatea Creek, Kaipara.

September 25: Approving of plans of wharf to be built in Auckland Harbour by New Zealand Timber Company (Limited).

September 25: Approving of plans of reclamation in Auckland Harbour to be carried out by New Zealand Frozen Meat Company (Limited).

October 2: Approving of plans of wharf and reclamation in Auckland Harbour to be built by Colonial Sugar-refining Company.

October 17: Approving of plans of graving dock, Calliope Point, Auckland Harbour.

October 17: Approving of plans of wharf at Riverton.

October 18: Licensing Union Steam Saw Moulding, Sash, and Door Company (Limited) to use and occupy foreshore on Waikahikatea Creek for construction of booms.

November 24: Approving of plans of wharf at Devonport, Auckland Harbour.

December 11: Approving of plans of wharf at end of Hobson Street, Auckland Harbour.

December 11: Approving of plans of bath at Forbury Point, St. Clair, Caversham.

December 11: Approving of plans of two jetties at Sumner.

December 11: Approving of plans of groin between north training-wall and adjacent foreshore, Wanganui River.

December 18: Licensing Caversham Borough Council to use and occupy foreshore for construction of bath at Forbury Point, St. Clair.

January 2: Approving of plans of extension of New Zealand Frozen Meat Company's reclamation, Auckland Harbour.

January 21: Approving of plans of reclamation wharf, Te Kopuru, Kaipara.

February 11: Approving of plans of harbour works at Otago Heads.

February 19: Approving of plans of coal hopper, Port Waikato.

February 19: Approving of plans of booms across Kaiarara, Kiwiriki, and Wairahi Creeks, Port Fitzroy, Great Barrier Island.

When licenses are issued authorizing private persons or companies to occupy the foreshore, a charge is made for issuing the order, and an annual rental collected.

*Notices to Mariners.*—Fifty-eight Notices to Mariners were issued during the past year: of these, twenty-six related to matters within New Zealand. Copies of these were as usual circulated to harbour authorities, &c. They related to the following subjects:—

Sunken rock on which s.s. "Tarawera" struck, Smith's Sound, Doubtful Inlet.

Gas-light at end of Invercargill Jetty, New River.

Report survey of rock off Tiri Tiri, Whangaparaoa Passage.

Position of Whale-rock Buoy, Bay of Islands.

Date of exhibition of Moko Hinou light, and alteration of Tiri Tiri light.

Colour of light on Curtis's Wharf, Thames, changed to white; and sailing directions for Thames River.

Second anchor laid to fairway buoy, Kaikoura.

Sailing directions for entering New River Harbour.

Rocky patch at Poverty Bay.

Establishment of Port of Hokitika.

Remarks on Auckland Islands.

Beacons erected at Raglan.

Depth of water on Hokianga bar.

Sailing directions for entering Buller River, consequent on removal of flagstaff to South Spit.

Red light on wool jetty, Wellington.

Beacons erected at Kawhia.

Preliminary notice, Waipapapa Point light.

Waitara Harbour light and night signals.

Dredging operations outside Lyttelton Breakwater.

Exhibition of light at Waipapapa Point.

Description of Waterfall Inlet, with its anchorage, Auckland Islands.

Passage through French Pass not safe to be taken by any vessel against the tide.

Buoy to mark rocky patch near Poverty Bay.

Beacon, north shore of Jacob's River, Port of Riverton.

White light at end of rubble training, breakwater, Wanganui River.

Lights on mole breakwater, Oamaru Harbour.

*Port Chalmers Graving-Dock.*—This dock has been, in accordance with the provisions of the Otago Dock Trust Act of last session, handed over to the Otago Harbour Board.

*Light Dues.*—During the past year the sum of £8,194 was collected as light dues on foreign and intercolonial trading vessels, being £9 5s. 10d. less than was collected the previous financial year. A further sum of £1,205 was paid to the credit of light dues, being the amount payable by the San Francisco mail steamers.

*Government Vessels.*—The "Hinemoa" has as usual been employed almost entirely on special service when not laid up. The "Stella" being away when the Jackson's Head beacon was ready to be sent away, the "Hinemoa" made a special trip with this, going on to French Pass with cargo for the lighthouse in course of erection there. The "Stella" has been continuously employed in work connected with this department, besides which her services have as far as possible been made available for other departments of the Government service. She laid cables to Tiri Tiri and Somes Island for the Telegraph Department, and made a special trip to the Campbell and Auckland Islands in connection with the loss of the boat's crew from the "Sarah W. Hunt." Last winter some repairs were made to the boiler, &c., and she is now in good order, with the exception of her funnel, which requires renewing; it is proposed to do this and make some small improvements during the present winter. During the past year she has steamed 16,405 miles, been 2,310 hours under steam, burnt 818 tons of coal, taken on board and landed 999 tons of cargo, and has carried 352 passengers.

The schooner "Kekeno" has been employed in making visits to the Auckland and Campbell Islands and West Coast sounds in connection with the protection of the seal fisheries. A boat's crew belonging to the American sealing schooner "Sarah W. Hunt," having been driven off Campbell Island, got back to Perseverance Harbour after their vessel had left that place for Lyttelton; and, the "Kekeno" having fortunately arrived there soon afterwards, she was enabled to afford assistance to the men, who had suffered considerably from exposure to the weather in an open boat. A full supply of provisions and clothing has been sent to replenish the dépôts at the Auckland and Campbell Islands, and it is hoped that common humanity will prevent these dépôts from being plundered again.

*Timber Floatage.*—Numerous applications having been received from persons residing in the Auckland District for licenses under "The Timber Floatage Act, 1873," powers to deal with the various applications have been delegated to the Commissioner of Crown Lands, Auckland.

*Examination of Masters, Mates, and Engineers.*—Certificates of competency have been issued to 119 candidates, 70 being for masters, mates, and engineers of sea-going vessels, and 49 for masters and engineers of river steamers.

*Survey of Steamers.*—Certificates of survey under "The Shipping and Seamen's Act, 1877," have been issued to 174 steamers, of 22,757 aggregate tonnage and 8,087-horse power, being 12 more steamers than were surveyed last year.

*Wrecks and Casualties.*—The following table is an analysis of the casualties that have been reported to this department:—

## SUMMARY of CASUALTIES to SHIPPING and SEAMEN reported to the Marine Department during the Financial Year ended the 31st March, 1884.

Nature of Casualty.	Casualties on or near the Coasts of the Colony.						Casualties outside the Colony.						Total Number of Casualties reported.		
	Steamers.			Sailing Vessels.			Steamers.			Sailing Vessels.			Total outside Colony.		
	No. of Vessels.	Tonnage.	No. of Lives Lost.	No. of Vessels.	Tonnage.	No. of Lives Lost.	No. of Vessels.	Tonnage.	No. of Lives Lost.	No. of Vessels.	Tonnage.	No. of Lives Lost.	No. of Vessels.	Tonnage.	No. of Lives Lost.
Strandings,—															
Total wrecks	1	1,797	..	13	1,306	2	..	..	..	7	879	6	21	3,982	8
Partial loss	10	2,032	..	8	871	..	..	..	..	1	46	..	19	2,949	..
Slight damage	7	1,678	..	8	677	..	..	..	..	..	..	..	16	2,817	..
No damage	8	2,363	..	7	1,793	..	..	..	..	..	..	..	14	3,699	..
Total strandings	26	7,870	..	36	4,652	2	..	..	..	8	925	6	70	13,447	8
Foundering,—															
Total loss	1	21	..	3	169	12	..	..	..	4	2,160	69	8	2,350	81
Collisions,—															
Partial loss	1	55	..	..	55	..	..	..	..	1	..	..	1	55	..
Slight damage	2	2,001	..	3	552	..	..	..	..	5	..	..	5	2,553	..
No damage	2	1,213	..	..	..	..	..	..	..	2	213	..	2	213	..
Total	5	2,269	..	3	552	..	..	..	..	8	2,821	..	8	2,821	..
Miscellaneous, including damage to boilers and machinery, hull, yards, and sails, and one vessel capsized and recovered	3	388	..	5	511	1	..	..	..	8	849	1	10	2,154	1
Total casualties to shipping	35	10,498	..	47	5,884	15	..	..	..	82	16,382	75	96	20,772	90
Loss of life only	3	..	4	6	..	16	..	..	..	9	..	11	17	..	31
Total number of casualties reported	38	10,498	4	53	5,884	31	..	..	..	91	16,382	86	113	20,772	121

Of the lives lost in or near the coast of the colony, 4 were lost in the "Hannah Barratt," 5 in the "Wave of Life," and 3 in the "Wild Wave" (these vessels being lost with all hands), 1 from the "Mary Ogilvie," 2 from the "Koranui," 2 from the "Huia" (at different times), 6 from the "Sarah W. Hunt," 3 from the "Pleiades," 2 from the "Rangatira," 1 each from the "Wanganui," "Sovereign of the Seas," and "Isabella," and 4 by the unfortunate accident to the pilot-boat at Nelson; making a total of 35. Of those lost beyond the coasts of the colony, 35 were lost in the "Loch Fyne," 17 in the "Loch Dee," 10 in the "Mary King," and 7 in the "Adieu" (these vessels having been lost with all hands), 3 each from the "Agnes Bell" and "Makea Ariki," 3 from the "Jessie Readman" (the evidence, and the correspondence as to further inquiry into this casualty being made, have been sent to the Board of Trade), 2 from the "Westland," and 1 each from the "Cooleen," "Mataura," "Westland," "Sarah W. Hunt," "Seatoller," and "Buttermere;" making a total of 86.

*Inspection of Machinery.*—The annual reports from the Chief Inspector and the various Inspectors of Machinery are attached. During the past year lifts have been brought under the provisions of the Act, and the period for inspecting boilers solely used for threshing and boiling-down purposes has been, under certain conditions, extended to two years.

*Harbour Improvement Plans.*—In accordance with a promise made, the various Harbour Boards were informed that any information, showing the improvements effected during each year at the ports under their control, that could be supplied in such a shape that it could readily be lithographed or printed, would be published with the Marine Department Report. This information has been supplied by the Harbour Boards at Moeraki, Oamaru, Otago, Timaru, and Wanganui; and the plans, with descriptions, &c. (where supplied), printed on the backs, are attached hereto.

*Returns.*—The usual annual returns, wreck chart, &c., are appended hereto.

I have, &c.,

WILLIAM SEED.

The Hon. the Minister having Charge of the Marine Department.

RETURN showing the Cost of Maintenance of the New Zealand Lighthouses, and the Quantity of Oil consumed at each, during the Year ended the 31st March, 1884.

Name of Lighthouse.	Salaries.	Oil.		Stores and Contingencies.	Totals.
		Gallons consumed.	Value.		
Cape Maria van Diemen .. ..	£ s. d. 343 6 8	905	£ s. d. 69 15 2	£ s. d. 118 9 0	£ s. d. 531 10 10
Moko Hinou .. ..	338 10 5	659	50 15 11	77 17 8	467 3 7
Tiri Tiri .. ..	254 3 4	542	41 15 7	137 4 2*	433 3 1
Ponui Passage .. ..	160 0 0	78	6 0 3	18 4 10	184 5 1
Bean Rock .. ..	150 0 0	72	7 18 8	7 3 10	165 2 6
Portland Island .. ..	357 16 9	695	53 11 5	82 6 0	493 14 2
Napier Bluff .. ..	36 0 0	Gas used 24 8 7	1 5 0	61 13 7	
Pencarrow Head .. ..	248 6 8	871	67 2 9	95 17 4	411 6 9
Somes Island .. ..	236 3 11	216	16 13 0	27 6 1	280 3 0
Cape Egmont .. ..	281 13 4	433	33 7 6	40 15 3	355 16 1
Manukau Heads .. ..	281 10 8	535	41 4 9	66 11 8	389 7 1
Brothers .. ..	475 16 0	632	48 14 4	72 14 8	597 5 0
Tory Channel .. ..	90 0 0	174	13 8 3	7 12 7	111 0 10
Cape Campbell.. ..	230 9 8	567	43 14 1	114 14 2	388 17 11
Godley Head .. ..	271 8 6	478	36 16 11	57 6 3	365 11 8
Akaroa Head .. ..	268 12 7	516	39 15 6	68 15 4	377 3 5
Moeraki .. ..	260 0 0	491	37 16 11	53 7 4	351 4 3
Taiaroa Head .. ..	267 10 0	510	39 6 3	46 18 3	353 14 6
Cape Saunders .. ..	250 15 0	517	39 17 0	49 4 1	339 16 1
Nugget Point .. ..	260 0 0	934	71 19 11	46 5 0	378 4 11
Waipapapa Point .. ..	76 13 4	105	8 1 10	10 5 2	95 0 4
Dog Island .. ..	336 2 2	801	61 14 10	190 8 6†	588 5 6
Centre Island .. ..	397 10 4	819	63 2 7	72 13 8	533 6 7
Puysegur Point .. ..	350 16 8	829	63 18 0	90 19 3	505 13 11
Cape Foulwind .. ..	300 0 0	543	41 17 1	91 16 7	433 13 8
Farewell Spit .. ..	342 10 0	497	38 6 2	64 15 11	445 12 1
Nelson .. ..	290 0 0	212	16 6 10	7 0 0	313 6 10
Totals .. ..	7,155 16 0	13,631	1,077 10 1	1,717 17 2	9,951 3 3

\* Includes £37 2s. 8d., cost of altering light to show red over Flat Rock. burners.

† Includes £102 9s. 3d., cost of new

RETURN showing the Total Ordinary Expenditure of the Marine Department during the Financial Year ended the 31st March, 1884.

Nature of Expenditure.	Details.	Totals.	Grand Total.
	£ s. d.	£ s. d.	£ s. d.
<b>HEAD OFFICE :—</b>			
Secretary .. .. .	200 0 0		
Chief Clerk .. .. .	370 0 0		
2 Clerks .. .. .	390 0 0		
Marine Engineer .. .. .	300 0 0		
Draftsman .. .. .	220 0 0		
Nautical Adviser .. .. .	300 0 0		
<b>HARBOURS :—</b>		1,780 0 0	1,780 0 0
<b>Manukau, —</b>			
Salaries .. .. .	708 0 0		
Beacon, Mangere Reef .. .. .	90 9 6		
Contingencies .. .. .	89 14 0	888 3 6	
<b>Russell, —</b>			
Salaries .. .. .	294 0 0		
Contingencies .. .. .	10 14 3	304 14 3	
<b>Whangaroa, —</b>			
Salary .. .. .	100 0 0		
Contingencies .. .. .	3 6 6	108 6 6	
<b>Mongonui, —</b>			
Contingencies .. .. .	..	10 17 6	
<b>Hokianga, —</b>			
Salaries .. .. .	424 0 0		
Contingencies .. .. .	16 9 8	440 9 8	
<b>Kaipara, —</b>			
Salaries .. .. .	748 4 5		
New steam-launch, progress payments .. .. .	820 18 0		
Buoys and contingencies .. .. .	182 7 2	1,751 9 7	
<b>Raglan, —</b>			
Beacons .. .. .	..	6 19 2	
<b>Kawhia, —</b>			
Beacons .. .. .	..	5 3 5	
<b>Opunake, —</b>			
Salary .. .. .	60 0 0		
Contingencies .. .. .	2 5 6	62 5 6	
<b>Rangitikei, —</b>			
Salary .. .. .	128 2 0		
Contingencies .. .. .	39 0 8	167 2 8	
<b>Foxton, —</b>			
Salaries .. .. .	328 2 0		
Repairs to station .. .. .	32 1 9		
Contingencies .. .. .	52 10 5	412 14 2	
<b>Wairoa, —</b>			
Salary .. .. .	100 0 0		
Contingencies .. .. .	17 17 6	117 17 6	
<b>Wangawehi Light, —</b>			
Maintenance .. .. .	..	30 0 0	
<b>Tauranga, —</b>			
Salaries .. .. .	318 0 0		
Contingencies .. .. .	19 5 0	337 5 0	
<b>Gisborne, —</b>			
Salaries .. .. .	355 0 0		
Buoy for roadstead .. .. .	68 9 6		
Contingencies .. .. .	22 9 0	445 18 6	
<b>Wairau, —</b>			
Salary .. .. .	145 0 0		
River protective works .. .. .	310 16 8		
Contingencies .. .. .	22 17 0	478 13 8	
<b>Picton, —</b>			
Salaries .. .. .	129 0 0		
Contingencies .. .. .	19 10 1	148 10 1	
<b>Havelock, —</b>			
Salary .. .. .	20 0 0		
Beacons .. .. .	81 7 6		
Contingencies .. .. .	8 13 7	110 1 1	
<b>Nelson, —</b>			
Salaries .. .. .	971 13 6		
Removal and re-erection of boat-shed .. .. .	171 0 7		
Contingencies .. .. .	142 1 6	1,284 15 7	
<b>Riwaka, —</b>			
Contingencies .. .. .	..	1 12 0	
<b>Waitapu, —</b>			
Salary .. .. .	18 15 0		
Contingencies .. .. .	3 0 0	21 15 0	
<b>Collingwood, —</b>			
Salary of lightkeeper .. .. .	25 0 0		
Contingencies .. .. .	22 1 0	47 1 0	
<b>Karamea, —</b>			
Contingencies .. .. .	..	29 10 7	
<b>Westport, —</b>			
Salaries .. .. .	518 0 0		
Removal and re-erection of signal-station .. .. .	177 5 6		
Contingencies .. .. .	143 7 8	838 18 2	
<b>Nile River, —</b>			
Pay of signalman .. .. .	..	82 5 0	
Carried forward .. .. .	..	8,077 4 1	

RETURN showing the Total Ordinary Expenditure of the Marine Department, &c.—*continued.*

Nature of Expenditure.	Details.	Totals.	Grand Totals.
	£ s. d.	£ s. d.	£ s. d.
Brought forward .. .. .	..	8,077 4 1	
<b>HABBOURS—continued.</b>			
Greymouth,—			
Salaries .. .. .	547 1 10		
Removal and re-erection of flagstaff .. .. .	67 0 0		
Contingencies .. .. .	23 12 10		
Hokitika,—		637 14 8	
Salaries .. .. .	722 0 0		
Repairs to flagstaff .. .. .	28 0 0		
Contingencies .. .. .	58 17 8		
Okarito,—		808 17 8	
Salary .. .. .	50 0 0		
Contingencies .. .. .	20 1 0		
Catlin's River,—		70 1 0	
Salary .. .. .	125 0 0		
Contingencies .. .. .	10 13 6		
Fortrose,—		135 13 6	
Salary .. .. .	100 0 0		
Contingencies .. .. .	2 4 9		
Riverton,—		102 4 9	
Salary .. .. .	..	120 0 0	
Kakanui,—			
Salary .. .. .	150 0 0		
Contingencies .. .. .	0 10 0		
Otago Graving Dock,—		150 10 0	
Wages, coal, stores, &c. .. .. .	1,344 18 10		
Late Dock Trust expenses .. .. .	92 14 9		
Waikouaiti,—		1,437 13 7	
Survey of bay .. .. .	..	171 15 4	
Akaroa,—			
Salary .. .. .	25 0 0		
Contingencies .. .. .	1 1 0		
Kaiapoi,—		26 1 0	
Salary .. .. .	130 0 0		
Contingencies .. .. .	30 0 0		
Kaikoura,—		160 0 0	
Salary .. .. .	75 0 0		
Contingencies .. .. .	20 7 10		
Half-moon Bay (Stewart Island),—		95 7 10	
Salary, 6 months .. .. .	..	5 0 0	
General harbour contingencies .. .. .	..	423 14 4	
Removal of rocks, Whakatane .. .. .	..	3 10 0	
Survey of Mokau River .. .. .	..	20 19 1	
			12,446 6 10
<b>LIGHTHOUSES:—</b>			
Salaries of keepers .. .. .	7,155 16 0		
Lightkeepers' travelling expenses .. .. .	57 8 6		
Oil .. .. .	1,807 2 3		
Stores and contingencies .. .. .	1,717 17 2		
Pension to widow of late Keeper Deck .. .. .	24 0 0		
"Stella," s.s.,—		10,762 3 11	
Repairs .. .. .	547 10 4		
Wages, coal, stores, provisions, &c. .. .. .	4,910 8 7		
		5,457 18 11	
			16,220 2 10
Relief of distressed seamen .. .. .	..	17 4 0	
Departmental travelling expenses .. .. .	..	44 11 2	
Travelling expenses inspecting steamers .. .. .	..	274 9 0	
Charts .. .. .	..	43 11 9	
Coastal buoys and beacons .. .. .	..	93 12 7	
Sundries .. .. .	..	39 7 6	
Inspection of Machinery,—			512 16 0
Chief Inspector and Engineer Surveyor .. .. .	500 0 0		
Salaries of 4 Inspectors .. .. .	1,200 0 0		
Travelling expenses .. .. .	517 17 2		
Sundries .. .. .	80 17 3		
		2,298 14 5	
<b>Examination of Masters and Mates,—</b>			2,298 14 5
Salaries .. .. .	425 0 0		
Contingencies .. .. .	68 3 3		
		493 3 3	
			493 3 3
Inquiries into wrecks and casualties .. .. .	..	..	79 4 9
Law costs in case Williams v. Queen, action brought to recover damages to s.s. "Westport" at Westport .. .. .	..	..	567 9 1
<b>Seal Fisheries Protection,—</b>			
Schooner "Kekeno," wages, stores, &c. .. .. .	..	..	561 10 6
"Hinemoa," s.s.,—			
Wages, coals, stores, provisions, &c. .. .. .	..	..	6,553 11 5
			<u>£39,732 19 1</u>

RETURN showing the Amount of Pilotage, Port Charges, &c., collected during the Year ended the 31st March, 1884.

Name of Port.	Pilotage.	Port Charges, &c.	Total.
	£ s. d.	£ s. d.	£ s. d.
Auckland*	2,053 11 2	2,078 6 2	4,131 17 4
Russell	14 10 8	13 9 10	28 0 6
Onehunga	15 6 1	159 2 9	174 8 10
Kaipara	363 18 0	280 1 10	643 19 10
Thames*	61 1 6	..	61 1 6
Mongonui	..	58 17 4	58 17 4
Hokianga	45 13 3	..	45 13 3
Tauranga	58 10 10	..	58 10 10
Gisborne	60 7 10	..	60 7 10
Waitara*	84 7 9	36 5 0	120 12 9
New Plymouth*	44 8 0	29 15 8	74 3 8
Wanganui*	331 15 10	..	331 15 10
Foxton	101 1 6	..	101 1 6
Patea*	11 5 1	10 19 8	22 4 9
Wairoa	118 11 0	4 16 9	123 7 9
Napier*	1,035 4 2	526 14 2	1,561 18 4
Wellington*	1,368 18 7	2,232 5 5	3,601 4 0
Nelson	649 13 9	..	649 13 9
Hokitika	16 10 2	..	16 10 2
Lyttelton*	3,006 4 11	2,476 1 2	5,482 6 1
Timaru*	..	285 1 7	285 1 7
Oamaru*	411 16 9	415 19 5	827 16 2
Dunedin*	3,099 0 6	3,051 17 1	6,150 17 7
Invercargill*	..	59 18 0	59 18 0
Bluff*	634 9 8	504 8 6	1,138 18 2
Riverton*	1 13 0	..	1 13 0
Totals	13,588 0 0	12,224 0 4	25,812 0 4

\* Harbour Board revenue.

RETURN showing the Amount of Light Dues collected during the Year ended the 31st March, 1884.

	£ s. d.
Auckland	1,934 19 10
Whangaroa	3 13 4
Thames	4 1 0
Russell	27 19 8
Mongonui	20 8 4
Poverty Bay	3 1 8
Wanganui	2 8 4
Wellington	1,941 12 8
Napier	79 2 0
Nelson	61 19 8
Westport	41 13 8
Greymouth	36 6 10
Lyttelton	1,181 18 10
Timaru	144 11 6
Oamaru	68 3 0
Dunedin	1,657 19 2
Bluff	984 0 6
Total	8,194 0 0

RETURN showing the Cost of Erection of the New Zealand Coastal Lighthouses.

Name of Lighthouse.	Cost of Erection.
	£ s. d.
Pencarrow Head	6,422 0 4
Nelson	2,824 8 9
Tiritiri	5,747 7 2
Mana Island*	5,513 0 1
Taiaroa Head	4,923 14 11
Godley Head..	4,705 16 4
Dog Island	10,480 12 8
Farewell Spit	6,139 11 8
Nugget Point	6,597 3 7
Cape Campbell	5,619 2 6
Manukau Head	4,975 2 4
Cape Foulwind	6,955 9 1
Brothers	6,241 0 0
Portland Island	6,554 14 5
Moeraki	4,288 13 2
Centre Island	5,785 19 0
Puysegur Point	9,958 19 5
Cape Maria van Diemen	7,023 14 8
Akaroa Head	7,150 6 5
Cape Saunders	6,066 6 3
Cape Egmont†	3,353 17 11
Mokohinou	8,186 5 0
Waipapapa Point	5,969 18 11
Ponui Passage‡	..
Miscellaneous and unallocated	1,322 2 2
Total	142,810 6 9

\* Light discontinued; moved to Cape Egmont.

† Cost of iron tower, lantern, and apparatus which were removed from Mana Island is not included in this.

‡ Built by Provincial Government of Auckland; cost not known in Marine Department.

RETURN showing the Expenditure on New Lighthouses, &c., out of Immigration and Public Works Loan, during the Year ended the 31st March, 1884.

Nature of Expenditure.	Amount.
	£ s. d.
Waipapapa Point Lighthouse	4,817 2 0
Mokohinou Lighthouse	519 1 8
French Pass Lighthouse	321 5 3
Kaipara Lighthouse	695 3 4
Jackson's Reef Beacon	377 3 1
Total	6,730 5 4

RETURN showing the Certificates of Service issued to Masters, Mates, and Engineers during the Year ended the 31st March, 1884.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Thomas Hunter	Master	Home trade	25 April, 1883	2511
John Reid Brown	"	"	15 May, 1883	2512
David Arthur Stuart	"	Foreign trade	22 May, 1883	2513
Henry Bushell*	"	Home trade	28 May, 1883	2514
Robert Scollay	"	"	31 July, 1883	2515
James Joseph Conway*	"	"	9 October, 1883	2516
John Austen	"	Foreign trade	1 November, 1883	2517
George Henry Harris	"	Home trade	21 November, 1883	2518
Robert Alexander Leathart	"	"	13 December, 1883	2519
Frank Ohomemes	"	"	23 February, 1884	2521
Peter Greig Leslie*	"	"	12 March, 1884	2522
Joseph Bradley	Mate	"	20 February, 1884	2520
William Henry Burgess	"	Foreign trade	25 March, 1884	2523
Donald Ross	Engineer	Second-class	16 May, 1883	1039
Thomas Burns*	"	"	9 June, 1883	1040

\* Renewal.



## DESCRIPTIVE RETURN of New Zealand Coastal Lighthouses.

Name of Lighthouse.	Order of Apparatus.	Description.	Period of Revolving Light.	Colour of Light.	Tower built of	Dwellings built of	Date first lighted.
Cape Maria van Diemen	1st order dioptric	Revolving	1'	White .. ..	Timber	Timber	24 Mar., 1879
Moko Hinou	..	Fixed	..	Red, to show over Columbia Reef	..	..	..
Tiri Tiri	1st order dioptric	Flashing	10"	White .. ..	Stone	Timber	18 June, 1883
Ponui Passage	2nd	Fixed	..	.. ..	Iron	..	1 Jan., 1865
Portland Island	5th	..	..	White and red ..	Timber	..	29 July, 1871
Pencarrow Head	2nd	Revolving	30"	White .. ..	..	..	10 Feb., 1878
Cape Egmont	..	Fixed	..	Red, to show over Bull Rock	..	..	..
Manukau Heads	2nd order dioptric	..	..	White .. ..	Iron	Timber	1 Jan., 1859
Brothers	2nd	..	..	.. ..	..	..	1 Aug., 1881
Cape Campbell	3rd	..	..	.. ..	Timber	..	1 Sept., 1874
Godley Head	2nd	Flashing	10"	.. ..	..	..	24 Sept., 1877
Akaroa	3rd	Fixed	..	Red, to show over Cook Rock	..	..	..
Moeraki	2nd order dioptric	Revolving	1'	White .. ..	Timber	Timber	1 Aug., 1870
Taiaroa Head	2nd	Fixed	..	.. ..	Stone	Stone	1 April, 1865
Cape Saunders	2nd	Flashing	10"	.. ..	Timber	Timber	1 Jan., 1880
Nugget Point	3rd	Fixed	..	.. ..	..	..	22 April, 1878
Waipapapa Point	3rd	..	..	Red .. ..	Stone	Stone	2 Jan., 1865
Dog Island	2nd	Revolving	1'	White .. ..	Timber	Timber	1 Jan., 1880
Centre Island	1st order catadioptric	Fixed	..	White, with red arcs over inshore dangers	Timber	Timber	16 Sept., 1878
Puysegur Point	1st	Flashing	10"	White .. ..	..	..	1 Mar., 1879
Cape Foulwind	2nd	Revolving	30"	.. ..	..	..	1 Sept., 1876
Farewell Spit	2nd	..	1'	White, with red arc over Spit end	..	..	17 June, 1870
Nelson	4th	Fixed	..	White, with red arc to mark limit of anchorage	Iron	..	4 Aug., 1862
French Pass	..	..	..	.. ..	..	..	Building.
Kaipara	2nd order dioptric	Flashing	10"	.. ..	Timber	..	..

RETURN showing the Fees, &c., received under the Shipping and Seamen's Act, the Merchant Shipping Act, the Inspection of Machinery Act, the Fish Protection Act, for Pilotage and Port Charges, for the Use of the Otago Graving Dock, and Sale of Charts, &c.

Nature of Receipts.	Amount.
SHIPPING AND SEAMEN'S ACT,—	£ s. d.
Fees for shipping and discharge of seamen, and sale of forms .. ..	1,158 6 4
Survey of steamers .. ..	1,001 2 0
Examination of masters, mates, and engineers .. ..	154 10 6
Light dues (including £1,205 on San Francisco mail steamers) .. ..	9,399 0 0
Merchant Shipping Act .. ..	132 17 0
Inspection of Machinery Act .. ..	2,624 0 0
Pilotage and port charges .. ..	1,960 11 7
Otago Graving Dock dues .. ..	2,115 5 9
Sale of charts .. ..	60 9 0
S.s. "Hinemoa," ration-money and services performed .. ..	67 10 0
S.s. "Stella," ditto .. ..	176 19 9
Amount of insurance on oil lost in ship "Waitara" .. ..	223 17 6
Sundries .. ..	68 12 6
Total .. ..	£19,143 1 11

RETURN of Steamers to which Certificates of Survey were issued in New Zealand during the Year ended the 31st March, 1884.

Name of Vessel.	Tons Register.	Horse-power of Engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Remarks.
Akaroa .. ..	43	28	Compound ..	Screw ..	Extended river	Left the colony.
Albion .. ..	591	180	Condensing ..	" ..	Sea-going ..	
Alexandra .. ..	73	30	Non-condensing	Paddle ..	River ..	
Anne Milbank .. ..	44	24	" ..	" ..	Extended river	River ..
Antrim .. ..	35	30	" ..	" ..	River ..	
Argyle .. ..	146	40	Compound ..	Screw ..	Sea-going ..	
Balclutha .. ..	84	50	Non-condensing	Stern-wheel ..	River ..	Sea-going ..
Beautiful Star .. ..	126	30	Condensing ..	Screw ..	Sea-going ..	
Bella .. ..	12	12	Non-condensing	" ..	Extended river	
Black Diamond .. ..	9	20	" ..	Paddle ..	River ..	Extended river
Blanche .. ..	8	9	" ..	Screw ..	" ..	
Boojum .. ..	14	12	Compound ..	" ..	Extended river	
Charles Edward .. ..	140	60	" ..	Twin-screw ..	Sea-going ..	River ..
City of Cork .. ..	29	40	Non-condensing	Paddle ..	River ..	
Colleen .. ..	33	18	Condensing ..	" ..	" ..	
Coromandel .. ..	68	25	Compound ..	Screw ..	Sea-going ..	River ..
Delta .. ..	60	30	Non-condensing	Paddle ..	River ..	
Despatch .. ..	18	18	" ..	Twin-screw ..	" ..	
Devonport .. ..	23	12	" ..	Paddle ..	" ..	Launch.
Diamond of the Ayon .. ..	10	10	" ..	" ..	" ..	New launch.
Dispatch .. ..	38	40	Condensing ..	" ..	Sea-going ..	
Douglas .. ..	55	30	" ..	Screw ..	" ..	
Durham .. ..	54	30	Compound ..	" ..	Extended river	River ..
Echo .. ..	3	3	Non-condensing	" ..	River ..	
Effort .. ..	13	12	" ..	Paddle ..	" ..	
Enterprise .. ..	61	32	" ..	" ..	Extended river	River ..
Fairy .. ..	4	4	" ..	Screw ..	River ..	
Fairy .. ..	33	15	" ..	" ..	Extended river	
Fanny .. ..	5	5	" ..	" ..	River ..	Launch.
Fingal .. ..	23	13	Condensing ..	" ..	Extended river	River ..
Fly .. ..	3	3	Non-condensing	" ..	River ..	
Glenelg .. ..	156	75	Compound ..	" ..	Sea-going ..	
Go-Ahead .. ..	129	45	" ..	" ..	" ..	Twin-screw ..
Grafton .. ..	242	123	" ..	" ..	" ..	
Hannah Mokau .. ..	35	15	" ..	Screw ..	Extended river	
Hauraki .. ..	73	45	" ..	" ..	Sea-going ..	" ..
Hauroto .. ..	1,276	253	" ..	" ..	" ..	
Hawea .. ..	461	160	" ..	" ..	" ..	
Heathcote .. ..	94	35	" ..	" ..	River ..	Hopper barge.
Hoihow .. ..	895	160	Compound ..	" ..	Sea-going ..	River ..
Hokianga .. ..	7	7	Non-condensing	" ..	River ..	
Huia .. ..	90	25	Compound ..	" ..	Sea-going ..	
Huia .. ..	6	6	Non-condensing	" ..	River ..	Launch.
Ida .. ..	12	10	" ..	" ..	" ..	Twin-screw ..
Ino .. ..	24	12	" ..	" ..	Extended river	
Iona .. ..	159	65	Compound ..	Screw ..	Sea-going ..	
Iona .. ..	61	45	Non-condensing	Stern-wheel ..	River ..	Screw ..
Irishman .. ..	6	8	" ..	" ..	" ..	
Iron Age .. ..	36	30	Condensing ..	Paddle ..	" ..	
Jane Douglas .. ..	75	20	Compound ..	Screw ..	Sea-going ..	River ..
Jane Williams .. ..	33	15	Non-condensing	" ..	River ..	
Jo .. ..	11	7	" ..	Twin-screw ..	" ..	
Kakanui .. ..	57	22	Compound ..	Screw ..	Sea-going ..	" ..
Kangaroo .. ..	185	45	Condensing ..	" ..	" ..	
Kati Kati .. ..	15	9	" ..	" ..	River ..	
Kawatiri .. ..	286	70	Compound ..	" ..	Sea-going ..	Twin-screw ..
Kennedy .. ..	138	50	" ..	" ..	" ..	
Kina .. ..	39	15	" ..	Screw ..	Extended river	
Kiwi .. ..	133	30	" ..	" ..	Sea-going ..	River ..
Kopuru .. ..	28	20	Non-condensing	" ..	River ..	
Koputai .. ..	5	120	Compound ..	Paddle ..	Sea-going ..	
Koranui .. ..	302	80	" ..	Screw ..	" ..	Steam-tug.
Kotuku .. ..	41	40	Non-condensing	Three screws ..	River ..	New vessel.
La Buona Ventura .. ..	4	4	" ..	Screw ..	" ..	Extended river
Lady Barkly .. ..	39	18	Compound ..	" ..	" ..	
Lalla Rookh .. ..	23	14	" ..	" ..	" ..	
Lillie .. ..	10	10	Non-condensing	Paddle ..	River ..	River ..
Lillie Denham .. ..	21	20	" ..	Screw ..	" ..	
Lily .. ..	20	10	" ..	Twin-screw ..	Extended river	
Little George .. ..	4	4	" ..	Screw ..	River ..	New launch.
Lyttelton .. ..	86	25	Condensing ..	Paddle ..	Sea-going ..	" ..
Lyttelton .. ..	39	80	Compound ..	" ..	" ..	
Lyttelton .. ..	6	14	Non-condensing	Twin-screw ..	Extended river	
Macgregor .. ..	163	60	Compound ..	Screw ..	Sea-going ..	River ..
Mahinapua .. ..	10	10	Non-condensing	Stern-wheel ..	River ..	
Mahinapua .. ..	205	80	Compound ..	Twin-screw ..	Sea-going ..	
Manaia .. ..	62	30	Non-condensing	Paddle ..	Extended river	Screw ..
Manapouri .. ..	1,020	300	Compound ..	" ..	Sea-going ..	
Manawatu .. ..	120	40	" ..	" ..	" ..	
Manukau .. ..	45	15	Non-condensing	" ..	River ..	Sea-going ..
Maori .. ..	118	60	Condensing ..	" ..	Sea-going ..	
Maori .. ..	17	8	Non-condensing	" ..	Extended river	
Memsahib .. ..	6	4	" ..	" ..	River ..	Launch.
Minnie Casey .. ..	43	25	Compound ..	" ..	Extended river	River ..
Miranda .. ..	4	4	Non-condensing	" ..	River ..	
Moa .. ..	49	25	Condensing ..	" ..	Extended river	
Moana .. ..	3	3	Non-condensing	" ..	River ..	Launch.

RETURN of Steamers to which Certificates of Survey were issued, &c.—*continued.*

Name of Vessel.	Tons Register.	Horse-power of Engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Remarks.
Mohaka.. ..	20	12	Non-condensing	Screw	Extended river	
Moki .. ..	10	4	"	"	River	
Moturoa .. ..	10	10	"	"	Extended river	Launch.
Mountaineer .. ..	66	25	Compound ..	Paddle	River	
Murray .. ..	78	18	Condensing ..	Screw	Sea-going	
Napier .. ..	48	24	Compound ..	"	"	
Neptune .. ..	44	18	"	"	River	New vessel.
Noko .. ..	15	9	Non-condensing	"	Extended river	
No. 222 .. ..	502	120	Compound ..	Twin-screw	Sea-going	Dredge.
Omapere .. ..	352	160	" ..	Screw	"	New vessel.
Orawaiti .. ..	283	120	" ..	"	"	New vessel.
Oregon .. ..	20	16	Non-condensing	Paddle	River	
Oreti .. ..	117	43	Compound ..	Screw	Sea-going	
Paiaka .. ..	10	10	Non-condensing	"	River	
Patiki .. ..	37	22	"	Paddle	"	
Pearl .. ..	9	7	"	Screw	"	
Pelorus .. ..	18	12	"	"	"	
Penguin .. ..	442	180	Compound ..	"	Sea-going	
Peninsula .. ..	31	18	Non-condensing	Paddle	River	
Picton .. ..	7	8	"	Screw	"	Launch.
Pioneer .. ..	5	5	"	"	"	Launch.
Planet .. ..	13	8	"	"	Extended river	
Plucky .. ..	29	40	Compound ..	"	Sea-going	Tug.
Port Jackson .. ..	53	40	" ..	"	"	New vessel.
Progress .. ..	200	50	" ..	"	"	Oamaru hopper-dredge.
Rangiriri .. ..	30	30	Non-condensing	Stern-wheel	River	
Result .. ..	13	10	"	Paddle	Extended river	
Reynolds .. ..	14	14	"	Screw	River	Launch.
Ringarooma .. ..	623	300	Compound ..	"	Sea-going	
Riro Riro .. ..	4	4	Non-condensing	"	River	Launch.
Rose Casey .. ..	99	40	Compound ..	"	Extended river	
Rosina .. ..	19	14	Non-condensing	"	"	
Rotoiti .. ..	17	15	"	Twin-screw	"	
Rotomahana .. ..	864	450	Compound ..	Screw	Sea-going	
Rotomahana .. ..	138	45	Condensing ..	"	"	
Rotorua .. ..	576	172	Compound ..	"	"	
Rowena.. ..	74	30	" ..	"	"	
Ruby .. ..	32	14	" ..	"	Extended river	
Sappho .. ..	9	6	Non-condensing	"	River	
Scotchman .. ..	20	10	"	"	"	
Sea Gull .. ..	31	3	"	"	"	New launch.
Shag .. ..	31	27	"	"	"	
Sir Donald .. ..	29	12	"	"	Extended river	
Snark .. ..	6	6	"	"	River	Launch.
Southern Cross .. ..	139	50	Compound ..	"	Sea-going	
Staffa .. ..	40	25	Condensing ..	"	Extended river	
Star of the South .. ..	175	45	Compound ..	"	Sea-going	
St. Kilda .. ..	174	45	Condensing ..	"	"	
Stormbird .. ..	137	40	Compound ..	"	"	
Sumner .. ..	94	35	Non-condensing	"	River	Hopper-barge.
Suya .. ..	177	55	Compound ..	"	Sea-going	
Taiaroa .. ..	228	110	" ..	"	"	
Tainui .. ..	41	22	Non-condensing	Paddle	Extended river	
Tainui .. ..	8	8	"	Screw	River	Launch.
Takapuna .. ..	58	20	"	Paddle	"	
Tam O'Shanter .. ..	10	7	"	Screw	"	
Tangihua .. ..	20	15	"	"	"	
Tarawera .. ..	1,269	250	Compound ..	"	Sea-going	New vessel.
Te Anau .. ..	1,028	250	" ..	"	"	
Te Aroha .. ..	50	14	Non-condensing	Paddle	River	
Terrier .. ..	3	3	"	Screw	"	Launch.
Terror .. ..	10	10	"	"	"	Launch.
Titan .. ..	21	55	Condensing ..	Paddle	Extended river	
Tongariro .. ..	39	10	Non-condensing	"	"	
Tongariro .. ..	62	25	"	"	"	
Tui .. ..	64	20	Compound ..	Screw	Sea-going	
Vesta .. ..	3	5	Non-condensing	"	River	Launch.
Victoria .. ..	93	40	"	Paddle	"	
Vivid .. ..	13	13	"	Screw	"	
Waiau .. ..	3	3	"	"	"	Launch.
Waihi .. ..	63	20	Compound ..	"	Sea-going	
Waihora .. ..	1,269	265	" ..	"	"	New vessel.
Waikato .. ..	61	14	Non-condensing	Paddle	River	
Waipara .. ..	70	13	"	Twin-screw	Sea-going	
Wairarapa .. ..	1,023	292	Compound ..	Screw	"	New vessel.
Waitaki .. ..	228	90	" ..	"	"	
Waitara .. ..	11	15	Non-condensing	"	Extended river	
Waitoa .. ..	27	16	"	Twin-screw	River	
Waiwera .. ..	6	10	Compound ..	Screw	"	Launch.
Wakatipu .. ..	1,158	256	" ..	"	Sea-going	
Wakatu .. ..	75	30	" ..	"	"	
Wallabi .. ..	101	25	Condensing ..	"	"	
Wallace .. ..	64	50	"	Paddle	"	
Wanaka .. ..	277	120	Compound ..	Screw	"	
Waverley .. ..	77	25	" ..	Twin-screw	"	New vessel.
Weka .. ..	53	20	"	Screw	"	New vessel.
Wellington .. ..	261	80	" ..	"	"	

RETURN of Masters, Mates, and Engineers to whom Certificates of Competency were issued during the Year ended the 31st March, 1884.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Thomas Walsh .. .. .	Only Mate ..	Foreign trade ..	3 April, 1883 ..	330
William Cormack .. .. .	First .. .. .	" .. .. .	17 " " ..	331
Thomas Nicholson Clarkson .. .. .	Master Ordinary ..	" .. .. .	19 " " ..	332
Frank Bell .. .. .	First Mate .. .. .	" .. .. .	4 May, " ..	333
Charles William Todd .. .. .	Master Ordinary ..	" .. .. .	10 " " ..	270
Carl Julius Neuhaus .. .. .	" .. .. .	" .. .. .	12 " " ..	228
John Newman Cave .. .. .	Only Mate .. .. .	" .. .. .	21 " " ..	334
Charles Beach .. .. .	First .. .. .	" .. .. .	4 June, " ..	335
Horatio Charnock Hayward .. .. .	Master Ordinary ..	(renewal) ..	4 " " ..	336
William Cozens .. .. .	" .. .. .	" .. .. .	7 " " ..	337
Charles Robert Cleveland .. .. .	First Mate .. .. .	" .. .. .	8 " " ..	338
Henry Cawley .. .. .	Master Ordinary ..	" .. .. .	4 July, " ..	339
Andrew Anderson .. .. .	Second Mate .. .. .	" .. .. .	10 " " ..	340
Thomas Henry Malcolm .. .. .	" .. .. .	" .. .. .	13 Aug., " ..	341
Alfred Labruyere Kemp .. .. .	Master Ordinary ..	" .. .. .	13 " " ..	342
Robert Carnie .. .. .	" .. .. .	" .. .. .	20 " " ..	198
Bror Albert Wiking .. .. .	Second Mate .. .. .	" .. .. .	4 Sept., " ..	343
John Hutcheson .. .. .	First .. .. .	" .. .. .	5 " " ..	344
Walter Smith .. .. .	Only .. .. .	" .. .. .	11 " " ..	345
Andrew Sloane .. .. .	Master Ordinary ..	(renewal) ..	14 " " ..	346
Ritchie Watt .. .. .	" .. .. .	" .. .. .	24 " " ..	158
Edward Shaw .. .. .	Second Mate .. .. .	" .. .. .	9 Oct., " ..	347
Charles Henry Hyde .. .. .	Only Mate .. .. .	" .. .. .	10 " " ..	348
John Mackay .. .. .	" .. .. .	" .. .. .	23 " " ..	349
William Neagle .. .. .	" .. .. .	" .. .. .	23 " " ..	350
Bernard Anderson .. .. .	Second Mate .. .. .	" .. .. .	26 " " ..	351
Duncan Downie .. .. .	Master Ordinary ..	" .. .. .	26 " " ..	352
George McDonald .. .. .	First Mate .. .. .	" .. .. .	26 " " ..	353
Robert Williamson .. .. .	Only .. .. .	" .. .. .	5 Nov., " ..	354
George Lambert .. .. .	Master Ordinary ..	" .. .. .	7 " " ..	260
Charles Christie .. .. .	Only Mate .. .. .	" .. .. .	8 " " ..	355
John Charles Kerr .. .. .	Master Ordinary ..	" .. .. .	19 " " ..	356
Daniel Mathieson .. .. .	First Mate .. .. .	" .. .. .	21 " " ..	357
Arthur James Wilds .. .. .	" .. .. .	" .. .. .	3 Dec., " ..	358
Thomas Angel Fry .. .. .	Master Ordinary ..	" .. .. .	6 " " ..	359
William Geddes .. .. .	" .. .. .	" .. .. .	13 " " ..	360
William Hutchinson Gresham .. .. .	First Mate .. .. .	" .. .. .	21 " " ..	361
John Charles Catlow .. .. .	Second Mate .. .. .	" .. .. .	15 Jan., 1884 ..	362
Thomas Powell .. .. .	" .. .. .	" .. .. .	16 " " ..	363
Olof Johnson .. .. .	Master Ordinary ..	" .. .. .	29 " " ..	149
Joseph Moeller .. .. .	Only Mate .. .. .	" .. .. .	29 " " ..	364
Albert Molkin Andresen .. .. .	" .. .. .	" .. .. .	14 Feb., " ..	365
Aristide Bénier .. .. .	Second Mate .. .. .	" .. .. .	18 " " ..	366
Robert Johnston .. .. .	Only .. .. .	" .. .. .	11 March, " ..	367
George Nicholas Homand .. .. .	Mate .. .. .	Home trade ..	19 June, 1883 ..	5,251
Walter Smith .. .. .	Master .. .. .	" .. .. .	10 July, " ..	5,252
Henry Rawnsley .. .. .	Mate .. .. .	" .. .. .	13 " " ..	5,253
Johann Friedrich Rust .. .. .	" .. .. .	" .. .. .	17 " " ..	5,254
Oscar Jarman .. .. .	Master .. .. .	" .. .. .	27 " " ..	5,150
John Nelson .. .. .	Mate .. .. .	" .. .. .	2 Aug., " ..	5,255
Peter Lang .. .. .	" .. .. .	" .. .. .	6 Sept., " ..	5,256
Walter Samuel Pope .. .. .	" .. .. .	" .. .. .	26 Oct., " ..	5,257
John Wilson Harris .. .. .	Master .. .. .	" .. .. .	29 " " ..	5,258
Alfred Stoddart .. .. .	Mate .. .. .	" .. .. .	29 " " ..	5,259
Diedrich Grünekle .. .. .	" .. .. .	" .. .. .	13 Nov., " ..	5,260
Thomas Henry Clarkson .. .. .	Master .. .. .	" .. .. .	14 Dec., " ..	5,261
Vincent Somers Wilson .. .. .	Mate .. .. .	" .. .. .	15 Jan., 1884 ..	5,262
Collin Francis Post .. .. .	" .. .. .	" .. .. .	25 March, " ..	5,263
David Mitchell .. .. .	2nd Class Engineer ..	Foreign trade ..	25 April, 1883 ..	95
Alexander Helmbrecht .. .. .	" .. .. .	" .. .. .	28 " " ..	96
William Cecil Ferdinand Richardson .. .. .	" .. .. .	" .. .. .	23 June, " ..	97
Herman Nielsen .. .. .	" .. .. .	" .. .. .	21 Aug., " ..	98
William James .. .. .	" .. .. .	" .. .. .	11 Sept., " ..	99
Robert Rutherford Douglas .. .. .	1st Class Engineer ..	" .. .. .	5 Oct., " ..	68
John Stevenson Chapman .. .. .	2nd Class Engineer ..	" .. .. .	7 Jan., 1884 ..	100
Joseph Hambleton .. .. .	1st Class Engineer ..	" .. .. .	18 " " ..	28
Robert Burns .. .. .	2nd Class Engineer ..	" .. .. .	21 " " ..	101
James Mackintosh .. .. .	" .. .. .	" .. .. .	4 March, " ..	102
John Baird Rankin .. .. .	" .. .. .	" .. .. .	21 " " ..	103
Alexander Reid Douglas .. .. .	" .. .. .	" .. .. .	29 " " ..	104
Elijah Charlton Hedditch .. .. .	Master .. .. .	River trade ..	10 April, 1883 ..	3,066
George Hume .. .. .	" .. .. .	" .. .. .	9 May, " ..	3,067
Lemuel John Bagnall .. .. .	" .. .. .	" .. .. .	16 " " ..	3,068
George Dunkley .. .. .	" .. .. .	" .. .. .	25 " " ..	3,069
John Cook .. .. .	" .. .. .	" .. .. .	4 June, " ..	3,070
Charles Henry Harris .. .. .	" .. .. .	" .. .. .	13 July, " ..	3,071
Oscar Bartholomew Gregory .. .. .	" .. .. .	" .. .. .	24 " " ..	3,072
Thomas Major Lane .. .. .	" .. .. .	" .. .. .	27 Aug., " ..	3,073
James McDowall .. .. .	" .. .. .	" .. .. .	4 Sept., " ..	3,074
Edwin McDonald .. .. .	" .. .. .	" .. .. .	4 " " ..	3,075
Thomas Taylor .. .. .	" .. .. .	" .. .. .	17 " " ..	3,076
James William Pearce .. .. .	" .. .. .	" .. .. .	17 " " ..	3,077
John Alexander Pritchard .. .. .	" .. .. .	" .. .. .	17 " " ..	3,078
Hugh Arthur Bishop .. .. .	" .. .. .	" .. .. .	17 " " ..	3,079
Robert Dyason .. .. .	" .. .. .	" .. .. .	26 Oct., " ..	3,080



## RETURN of WRECKS and CASUALTIES to SHIPPING reported to the Marine Department, from the 1st April, 1883, to the 31st March, 1884.

Date of Casualty.	Name of Vessel, also Age and Class.	Rig.	Register	Number of		Nature of		Number of Lives Lost.	Place where Casualty occurred.	Wind.		Decision of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1882. Oct. 18	Coronet, 11 years	Schooner	95	7	7	Copra ..	Stranded; total loss	..	N.E. extreme of Astrolabe Reef, between Kadavu and Viti Levu, Fiji	E.N.E.	Strong gale	Strong current carried vessel on to reef ..	Horatio Char-nock Hayward.
1883. Jan. 10	Rokeby Hall, 20 years, AAI at Lloyd's	Ship ..	1044	24	30	General cargo	Yards carried away, damage \$72	..	Atlantic Ocean	..	..	Fore-yard and maintopsail - yard parted in slings in a violent squall	Daniel Berry.
Supposed April 2	Hannah Barratt, 10 years	Schooner	57	4	..	Ballast ..	Supposed capsized; total loss	Supposed 4; all hands	Supposed off Terawhiti, New Zealand	S.E.	Heavy gale	After vessel left Wellington a heavy S.E. gale sprang up, and, as she has not since been seen, and various articles belonging to her have been picked up, she is supposed to have been lost with all hands	Frederick W. S. Renner.
April 5	Tui, s.s., 6 years	"	55	14	16	General	Collision; partial loss	..	Close to outer edge of bar, Wanganui River	S.E.	Light	In taking the bar Captain Williams committed an error of judgment in following so closely the s.s. "Tui," which was in charge of the pilot. He was ordered to pay the costs of the inquiry, £4 17s.	Charles Quentin Pope.
"	Kennedy, s.s., 18 years	"	135	16	11	"	Collision; no damage	..	Pier Heads, entrance of Napier Harbour	..	Calm ..	No blame attached to pilot or any person concerned in removal of vessel	Edward Stafford Williams.
"	Johann Adolph, 1 year	"	310	9	..	Colonial produce	Stranded; partial loss	..	Okura Reef, Okura Bay, near the Wade, New Zealand	..	..	Casualty caused by master keeping too close to shore off Okura Point through mistaking inner for outer headland. Master ordered to pay costs of inquiry	David John Jackson.
"	City of Cork, s.s., 6 years	"	42	3	..	Ballast ..	Ditto ..	Supposed 7; all hands	Supposed mid-ocean, between Greyhound and Melbourne	..	..	Vessel left Greyhound for Melbourne on 10th April, 1883, and has not since been heard of	Joseph Hayton Rice.
May 2	Adieu, 13 years	Brigantine	174	7	..	Coal ..	Supposed foundered; total loss	1	Three or four miles N. of Terawhiti on voyage from Wellington to Wanganui	S.	Strong ..	A passenger, James Monro Bertram, fell overboard in a rough sea and was drowned	Richard Berri-man.
"	Huia, s.s., 5 years	Schooner	..	..	..	General	Loss of life only	..	End of protective works, mouth of Hokitika River	S.W.	Light ..	Stranding caused through vessel's keel touching a bank in channel and remaining fast until she swung against end of protective works	William Ralph Scott.
"	Murray, s.s., 24 years	"	78	16	7	"	Stranded; no damage	..	On voyage from Wanganui to Wellington	..	Calm ..	The mate, Alexander Murphy, fell overboard and was drowned. Supposed to have tripped over a passenger lying on the deck	Richard Berri-man.
"	Huia, s.s., 5 years	"	..	..	..	"	Loss of life only	1	Entrance to Waitara River	..	..	Master was guilty of great carelessness—1st. In giving a course S. & E. by both compasses without having previously compared the two. 2nd. In not examining and laying off the vessel's position on the chart when land was observed on the starboard bow. 3rd. In not examining the log to ascertain distance run, when he saw red light, before altering	Francis Holmes.
"	Haweia, s.s. ..	"	462	34	..	"	Stranded; slight damage	..		..	..		

May 16	Lyttelton, p.s., 23 years	Schooner	86	9	..	General produce	Stranded; slight damage	..	One and a half miles inside bar of Wairau River	..	..	vessel's course inshore. 4th. He showed gross neglect and inattention to his duty in being absent from the deck after the course was altered inshore to S.E. by S., especially after being twice warned by the second officer that the vessel was close inshore. His certificate was suspended for four months. The chief officer, George Dunn Alexander, was reprimanded for not making known the differences in the compasses, which he said he had observed. The second officer, Lewis Cameron Noble, showed want of prompti- tude in not stopping the engines and porting the helm when he found the vessel was in dangerous proximity to the land, but if he had had access to charts and sailing direc- tions it is probable that the vessel would have been kept out of danger	John Coles.
"	Isabella Ander- son, 9 years	"	79	6	..	Produce	Stranded; partial loss	..	Mouth of Hokitika River	E.	Light ..	Casualty caused by tow-line breaking as vessel came on to Wellington	Peter Lang.
"	Omnapere, s.s., 1 year	"	352	24	7	Coal ..	Stranded; slight damage	..	North Spit, entrance of Buller River	S.E.	Light ..	Vessel entering the river Vessel grounded while being towed out by the "Mahinapua"	William Webster.
	Loch Fyne, 7 years, 100 A1	Ship	1213	31	4	Grain in sacks	Supposed foundered; total loss	Supposed 35; all hands	On voyage from Lyttel- ton to Queenstown or Falmouth for orders	..	..	Vessel left Lyttelton on 14th May, 1883, and has not since been heard of	Thomas Hogg Martin.
	Loch Dee ..	"	700	17	..	Ditto ..	Ditto ..	Supposed 17; all hands	Ditto ..	..	..	Vessel left Lyttelton on 3rd March, 1883, and has not since been heard of	John Black.
June 1	Buttermere, 7 yrs., Al Lloyd's	Barque..	993	24	..	General	Loss of life only	1	Lat. 7° 46' N., long. 24° 56' W.	N.	..	An apprentice, John Peirce, fell from the rigging and was drowned	Simon Ogilvie.
"	Rose, 23 years	Cutter ..	25	3	..	Coal ..	Stranded; slight damage	..	Bean Rock, Auckland Harbour	..	Calm ..	Casualty caused through wind dropping when vessel was in a narrow passage, and the ebb- tide carried her on the rocks	Frank Pelley.
"	St. Kimb, s.s., 22 years	Schooner	174	15	..	" ..	Stranded; no damage	..	Abreast of barrel beacon, Nelson Harbour	S.W.	..	Stranded through taking entrance at wrong state of tide	Christen Erik- sen Greager.
"	Conference, 28 years	Barque..	399	11	4	" ..	Ditto ..	..	Between barrel beacon and Arrow Rock, Nel- son Harbour	..	..	Pilot unable to keep vessel in centre of channel	Edwin Lusher.
"	Isabella, 17 years	Ketch ..	52	4	..	Timber..	Loss of life only	1	Bar of Catlin's River ..	..	..	While two of the crew were engaged towing the vessel out with her boat, a blind roller came in and capsized the boat, and the mate, Hugh Campbell, who could not swim, was drowned	Robert Fuller- ton.
July 3	Energy, 3 years	Schooner	185	8	..	Coke ..	Stranded; partial loss	..	Grey River bar	..	..	Casualty caused through heavy rollers coming in while vessel was being towed out by a tug. Vessel was bumped on the bar and so badly strained that she afterwards put into Auck- land for repairs	Samuel Richard Savory.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the Marine Department, &c.—*continued*.

Date of Casualty.	Name of Vessel, also Age and Class.	Reg.	Number of		Nature of		Number of Lives Lost.	Place where Casualty occurred.	Wind.		Decision of Court of Inquiry.	Name of Master.
			Registered Tonnage.	Crew.	Cargo.	Casualty.			Direction.	Force.		
1883. July 5	Rotorua, s.s., 7 years	Schooner	576	36	18	General	Stranded; slight damage	..	S.	Light ..	Vessel touched rocks through defect in steering gear	John Anderson.
"	Kawatiri, s.s., 1 year	"	286	13	..	Coal ..	Collision; slight damage	..	S.E.	Strong	The "Examiner," while being towed up to wharf by s.s. "Dispatch," drifted astern when shortening tow-rope, and struck "Kawatiri," which was lying at the wharf	John Campbell.
"	Examiner, 13 years	Barque..	266	11	..	Ballast ..	Ditto ..	..	E.N.E.	" ..	Vessel went ashore through cable parting ..	Thomas Nicholson Clarkson.
"	Agnes Donald, 7 years	Schooner	62	5	..	Iron ..	Stranded; slight damage	..	N.E.	Strong gale	Bracket and starboard propeller having carried away and feed pump broken, vessel was run into Catlin's River, where she was driven on to the rocks through the port propeller fouling the kelp. After throwing overboard part of the cargo (timber) the vessel was got off a heavy sea set into the bay, which caused the cables to part and drove her ashore	Joseph Bradley.
"	Ino, s.s., 9 years	Ketch ..	32	6	..	Timber..	Stranded; partial loss	..	..	..		Peter Andrew Lyders.
"	Transit, 8 years	Schooner	79	6	..	Guano ..	Stranded; total loss	..	..	..		Francis Morton Garraway.
"	Handa Isle, 3 years	"	261	9	..	General	Damage to wheel and afterhouse	..	N.N.W.	Heavy gale	Casualty caused through heavy sea breaking on board	George Davies.
"	Australia, s.s., 8 years	"	1715	105	101	"	Collided with wharf; slight damage	..	..	..	Pilot miscalculated the state of the tide and the distance the vessel would go after the engines were stopped	A. Bannerman.
"	Loch Ken, 4 years	Barque..	590	16	2	"	Stranded; no damage	..	N.W.	Gale ..	Stranding caused through master mistaking the channel	David N. P. Wilson.
"	Kestrel, 11 years	Ketch ..	20	1	1	Firewood	Stranded; partial loss	..	S.S.W.	" ..	Casualty caused through vessel missing stays when approaching inner harbour	William Taylor.
"	Mary Ogilvie, 10 years	Schooner	68	5	..	Coal ..	Loss of sails, bulwarks, and stanchions	1	"	" ..	Damage caused by heavy gale and seas breaking on board	David Connor.
Aug. 3	Alma, 29 years	Barquentine	163	7	..	Timber..	Stranded; total loss	..	S.W. to E.N.E.	Squally	Vessel lost through default of master—1st. In leaving port in an iron ship to which he was a stranger without having ascertained deviation of compass. 2nd. In failing to keep record of compass corrections when found by observations in some form that they might be accessible to the mate or himself: the only entry kept was by entry in log. 3rd. In failing to provide sailing directions of voyage. 4th. That, although close to reef	John Paterson.



Aug. 4	Rotomahana, s.s., 4 years, Al 100, Lloyd's	Schooner	864	63	56	General	Stranded; partial loss	..	About one and a half miles from Waipapapa Point, Otago	N.W.	Light ..	on 2nd August, he did not inform mate of its proximity. 5th. In not giving special instructions to keep a look out for danger. 6th. In leaving deck in charge of A.B. on morning of 3rd August when it was dark, squally, and raining. Master's certificate suspended for three months, and he to pay costs of inquiry. Attention called to fact that the mate, Alexander Shaw, left the deck before being relieved by the master. Casualty partly due to currents continuing to run to eastward longer than anticipated. Atmospheric conditions led the captain to misjudge the distance, and the omission to heave the lead at 3 a.m. left his mistake as to distance from Slope Point undetected. Pinnacle rocks, between which the vessel was skilfully handled, probably extend further to seaward than marked on chart. Current was probably influenced by gale of wind which prevailed previously to vessel reaching Waipapapa Point. Every precaution was taken after ship struck to insure the safety of the passengers, and, with the exception of omitting to take soundings at 3 a.m., when course was altered, the master acted as a careful navigator and experienced commander	Michael Carey.
" 11	Kangaroo, s.s., 20 years	"	165	14	..	Coal ..	Stranded; considerable damage	..	North Spit, Buller River	..	Light ..	Casualty appears to have been caused by the silting-up of the bar since last soundings were taken	Alexander Stewart Ewan.
" 11	Seatoller, 17 years	Barque..	558	15	..	General	Loss of life only	1	Lat. 44° 20' S., long. 154° E.	N.N.W.	Gale ..	A boy, Duncan McIlvride, when returning from placing light in screen, was washed overboard by heavy sea	John Reid Currey.
" 12	Edith Reid, 9 years	Ketch ..	71	5	..	Potatoes	Stranded; total loss	..	Opposite pilot-station, New River	N.	Variable	Casualty caused through the vessel missing stays, and before the anchors could bring her up she drifted on the rocks	Svend Bergen-son.
" 13	Cygnat, 2 years	Schooner	46	4	..	Nil	Stranded; partial loss	..	Lefuka, Haubai Group	W.	Hurricane	Unexpected hurricane drove vessel ashore ..	William Ross.
" 13	Especulador, 23 years	Barque..	262	27	..	Whale oil	Stranded; total loss	..	"	S.W. by W.	"	Heavy gale caused vessel to part both cables and drift on to a reef, where she became a total wreck	Edward William Irving.
" 14	Nelson pilotboat	..	..	4	..	..	Loss of life only	4	Outer anchorage, Nelson Harbour	N.W.	Gale ..	Accident probably caused through rudder being carried away when in the trough of the sea, the oars unshipped, and the boat then capsizing	
" 15	Tui, s.s., 6 years	Schooner	55	..	..	General	Furnace crown of boiler came down	..	Wellington Harbour ..	..	..	Casualty appears to have occurred through a deposit of oil, used in lubricating the cylinders, finding its way into the boilers	Charles Quentin Pope.
" 22	Annabell, 5 years	Brig ..	348	11	2	Coal ..	Stranded; no damage	..	100 yards from Inner Walker Rock off Cape Jackson, Cook Strait	S.S.W.	Gale ..	Vessel was making for shelter, when wind failed and tide then carried her on to reef	John Horne.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the Marine Department, &c.—*continued*.

Date of Casualty.	Name of Vessel, also Age and Class.	Rig.	Register.	Number of		Nature of	Number of Lives Lost.	Place where Casualty occurred.	Wind.		Decision of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.			Direction.	Force.		
1883.												
Aug. 23	Forest Queen, 11 years	Ketch ..	51	4	..	Sashes, doors, & dynamite Grain ..	..	Point in S.W. corner of Tofino Harbour, Great Barrier Island	N.N.E.	Gale ..	Wind, which was shifting and strong, set vessel on to a rocky point	Neil Macdonald.
" 25	Tokerau, 3 years	Cutter ..	35	3	..	Grain ..	..	Sunken rock off Mercury Harbour	N.N.W.	Variable	Vessel struck by squall, became unmanageable, and went on to the rock	William Cinnamon.
" 25	Sovereign of the Seas, 17 years	Ketch ..	31	3	..	Ballast..	1	About a quarter of a mile off Wellington Head, Great Barrier Island	S.W. by W.	Blowing hard, with squalls, heavy sea	One of the crew, William Mash, was knocked overboard while assisting in hauling in the mainsheet	John Cole.
" 28	Murray, s.s., 24 years	Schooner	78	12	20	General	..	Collision; no damage	S.	Light	W. T. Paul, second mate of "Murray," censured severely for not reporting cutter's lights to master; and master blamed for not stopping steamer when hailed from cutter, and also severely censured for not stopping engines as soon as he became aware of the accident, in order to render assistance if required	William Ralph Scott.
" 29	Phoenix, about 40 years	Cutter ..	11	2	..	Gravel ..	..	A little to N. of magazine, Nelson Outer Harbour	S.W.	..	When vessel coming in and abreast of North Spit the wind fell light, and, night coming on, master anchored in nine fathoms, but when vessel swung round at turn of tide she struck the ground three or four times, but swung to the anchor all right adfoat	John Westrupp.
" 30	Anthons, 8 years	"	133	7	..	Coal, coke, and fire-brick	..	Bar of Grey River	..	..	Blind rollers caused vessel to bump on bar while crossing in tow of tug	John Carr.
Sept. 3	Falcon, 18 years	Ketch ..	37	4	..	Ballast..	..	West beach, near mouth of Waitara River	..	..	Vessel was being towed to sea, when tow-line became slack and she drifted ashore	Peter Greig Leslie.
" 3	Thornhill, 3 years, 100 A Lloyd's	Three-masted schooner	275	9	..	" ..	..	Greymouth ..	N.	..	Whilst shifting berth of the "Thornhill" in tow of tug "Dispatch," a gust of wind and an eddy in river set the vessel foul of the "Mary Campbell," which vessel sustained no damage	George William Tozer.
" 5	Rangatira, 7 years	Cutter ..	27	4	1	Firewood	2	Great Barrier Island ..	E.N.E.	Gale ..	Strong wind drove vessel on to rocks	Tenetahi.
" 6	Grafton, s.s., 30 years	schooner	242	26	27	General	..	Inside bar, North Spit, Buller River	..	..	Casualty caused by vessel taking run on the sea to N.E. and not steering well at time, and through the engines going full speed when master thought they were going half speed	Henry Edward Hill.
" 11	Reliance, 8 years	Ketch ..	65	4	..	Nil ..	..	Waipu Beach, Whangarei	E.S.E.	Light	Stranding caused through vessel being left in charge of one man, the remainder of the crew having gone after master, who had been knocked overboard	Theodore William Haultain.

Sept. 11	Jessie Readman	Ship	962	..	General	Loss of life only	3	Lat. 42° S., long. 15° 42' E.	S.S.E.	Gale	Three A.B.s. John Lawson, Robert Kelly, and Richard W. Farnat, while engaged in furling foretopsail and jib, fell overboard. Casualty caused by wind suddenly dropping as vessel was crossing bar.	Matthew Gibson.
"	14 Isabella, 17 years	Ketch ..	51	4	Timber..	Stranded; total loss	..	Bar of Catlin's River ..	..	..	Casualty caused by wind suddenly dropping as vessel was crossing bar.	Robert Fullerton.
"	20 William and Jane, 4 years	Schooner	69	5	Oats and oatmeal	Ditto ..	..	North Spit, Waikato Heads	S.W.	Fresh	Casualty caused through vessel attempting to enter river at half ebb-tide.	William Burnett Jones.
"	22 Half - Caste, 3 years	Cutter ..	16	2	Firewood	" ..	..	Boat Harbour, near Tairua, East Coast, New Zealand	E.	Gale	Vessel went ashore in attempting to beat out of Tairua Harbour, the jib having carried away, and subsequently the anchor chain	Cotton Murray.
Oct. 2	Hero, 19 years	" ..	30	2	Timber..	Mainsail and galley burnt, gaff charred, and deck burnt nearly through; no damage	..	Cullen's Point, Harbour, Pelorus Sound	..	..	Not known how fire originated	James Parker.
"	4 St. Kilda, s.s., 22 years	Schooner	174	15	1 Coal	Stranded; through no damage	..	About three cables length S. of North Head, Wanganui River	..	..	Insufficient water in channel. When pilot signalled vessel to enter, he mistook her for another vessel drawing 2 feet less water	Christen Erikson Greager.
"	4 Sarah W. Hunt	"	109	15	Nil	Loss of life only	1	On voyage from Boston, U.S., to Campbell Island	..	Gale	One of the crew washed overboard ..	Sanford S. Miner.
"	6 Westland	Ship ..	..	..	General	Ditto ..	2	Lat. 46° 40' S., long. 61° 30' E.	..	Gale, with very high sea	While two A.B.s, Arthur Simpson and Charles Trayner, were making fast mainroyal, a sudden squall struck ship, and the two men were thrown into the sea and were not afterwards seen	Thomas Moffatt.
"	8 Westland	" ..	..	..	"	" ..	1	Lat. 44° 18' S., long. 81° E.	..	Ditto	An apprentice, Alexander Harcourt Weir, while loosing main upper-topsail, fell into the sea	"
"	8 Pirate, 5 years	Schooner	78	..	"	Stranded; total loss	..	Island of Manike, lat. 10° 20' S.	..	..	Wind fell and swell set vessel on to the reef ..	George Henry Trayte.
"	13 Wanganui, 9 years	"	78	..	..	Loss of life only	1	About half a mile E. of The Brothers, Cook Strait	S.E.	Gale	An A.B., Peter Oster, while engaged taking in the foresail, fell overboard	Peter Liang.
"	Wave of Life, 22 years	"	73	5	Ballast..	Supposed foundered; total loss	Supposed 5; all hands	Supposed off coast between Kalkoura and Cape Campbell	S.W.	"	Vessel left Lyttelton for Pelorus Sound on 22nd October, and has not since been heard of. Supposed to have foundered during heavy gale blowing about 23rd to 26th October	George Herbert.
"	Wild Wave, 21 years	"	39	3	"	Ditto ..	Supposed 3; all hands	On voyage from Lyttelton to Pelorus Sound	..	"	Vessel supposed to have foundered in a heavy squall. Has not been heard of since leaving Lyttelton on 12th October	Charles Smith.
Nov. 3	Cabarfeidh, 9 years, Lloyd's A1 9 years	Barque..	333	9	"	Stranded; slight damage	..	Sunken rock on eastern side of outer rock, Barrett's Reef, Port Nicholson	E.	Light variable	Casualty caused by a failure of wind at a critical time and position	Frederick Ohlson.
"	4 Thames, 24 years	Ketch ..	23	2	1 General	Stranded; partial loss	..	Breastwork, near Lion Foundry, Wellington Harbour	S.E.	Gale	Vessel was jammed against the breastwork by strong wind and sea, and a projecting nut on a pile tore holes in her side	John Garnes.

## RETURN of WRECKS and CASUALTIES to SHIPPING reported to the Marine Department, from the 1st April, 1883, to the 31st March, 1884.

Date of Casualty.	Name of Vessel, Age and Class.	Rig.	Register	Number of		Nature of		Number of Lives Lost.	Place where Casualty occurred.	Wind.		Decision of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.	Casualty.			Dirac-tion.	Force.		
1883. Nov. 4	Malay, 21 years	Barque..	328	9	..	Coal	Starboard bulwarks and stanchions carried away, and plank started below deck-line Stranded; partial loss	..	Brothers Light, S. about twenty miles, Cook Strait	S.	Gale ..	Vessel struck by heavy sea while lying-to in a furious gale	Ferdinand Holm.
6	Douglas, s.s., 2 years	Ketch ..	60	10	1	General	..	..	Off the Airedale (or Tani-wha) Reef	E.S.E.	Light ..	Casualty caused by master steering for light which was not the Waitara light. He was close inshore before he discovered his mistake, and then, in putting vessel's head to S.W., he did not alter his course sufficiently to clear the reef. Master ordered to pay costs of inquiry	Charles Bonner.
11	Pleiades ..	Ship ..	997	..	..	..	Loss of life only	3	Entrance to inner harbour, Napier	N.E.	Moderate	While ship's boat crossing the bar a blind roller broke and capsized her, and three of the crew were drowned	William Setten.
16	Mahinapua, s.s., 1 year	Schooner	275	24	3	Coal	Stranded; slight damage	..	Reef off Jackson's Head, Cook Strait	N.W.	Gentle ..	Vessel was suddenly enveloped in smoke of tide, which drove vessel towards rock, against which she grazed, without doing herself any damage beyond a slight indentation on port side amidships	John Bernech.
18	Annie, 5 years	Ketch ..	42	4	..	Ballast..	Damage to bulwarks, &c.	..	Alongside wharf at Greymouth	W.	Fresh ..	Schooner "Mary Wadley," in being towed from wharf, swung round and fouled the "Annie," causing the damage	Thomas Edward McIntosh.
19	Oreti, 's.s., 6 years	Schooner	117	16	2	General	Stranded; no damage	..	Inside mouth of Hokitika River	S.W.	Fresh ..	Casualty caused by vessel not answering her helm quickly, owing to the tide catching her bow	William Robert son.
21	India, 30 years	Barque..	203	10	..	Sawn timber	Stranded; total loss	..	Martin's Bay, Hokianga River	W.N.W.	Moderate breeze	Vessel drifted ashore in broad daylight, after having swung and fouled her anchor. Master guilty of gross carelessness, and his certificate suspended for six months	Kenneth McKenzie.
23	Takapuna, s.s., 1 year, A1 100	Schooner	370	52	18	Ballast..	Stranded; partial loss	..	Little to southward of Cape Egmont Light-house	..	Calm ..	Vessel brought into foul ground through want of experience of second mate. Master neglected to take proper precautions for steering safe course, and was absent from deck when rounding Cape Egmont, leaving safety of vessel to judgment of young officer unacquainted with coast. Log-books and other official records of ship, and absence of night order book, show great general carelessness	Frederick Jones.

Nov.	27	Tui, s.s., 9 years	Schooner	55	6	..	Produce	Loss of propeller only	..	Three miles S. of Mana Island, Cook Strait	S.E.	Light ..	<p>ness on the master's part. His certificate suspended for six months. Second mate cautioned that he should always ask for chart, &amp;c. Chief engineer neither entered in his register the damage done to vessel, nor reported striking to the inspecting engineer. Chief mate, Smith, failed to enter in log record of what occurred on various occasions, and made irregular additions to it. Master to pay costs of inquiry</p> <p>Shaft broke while vessel on way from Wanganui to Wellington, and propeller dropped off</p>	Charles Quentin Pope.
"	27	Sarah W. Hunt	"	109	15	..	NIL, sealing voyage	Loss of life only	6	Campbell Island	W.S.W.	Strong gale	<p>One of the ship's boats, with a crew of six men, blown off Campbell Island and lost</p>	Sanford S. Miner.
"	29	Triumph, s.s., 3 years, 100 Al Lloyd's	"	1797	61	1	General	Stranded; total loss	..	East end of Tiri Tiri, Hauraki Gulf	S.S.E.	Light ..	<p>Charge of inebriety against master not supported by evidence. Master fell asleep on bridge. This was caused by overwork on day of vessel's departure from Auckland, and by exhaustion from want of sleep and pain from neuralgia. Being in that state he should not have trusted to his own powers of watchfulness, but should have kept some one with him on the bridge. The order to steer by the light was an improper order to give. A course by compass should have been given, and a man stationed between the forecastle-head and the bridge to repeat warnings or orders, more especially as the wind was blowing S.S.E., nearly from aft, forward. Master's certificate suspended for three years. Chief mate, Thomas Owen, neglected his duty in not keeping a look-out while on deck, as it was an important, if not the most important, part of his general supervision of the work on deck to have assisted the master in this respect. His certificate suspended for six months. The second officer was entirely free from blame. The quartermaster, in steering for the light for so long a period as twenty minutes without calling attention of master, showed a neglect of duty amounting to little short of wilful misconduct, and is deserving of the gravest censure. O'Halloran, the look-out, was guilty of neglect of duty. Master ordered to pay three-fourths of cost of inquiry, and chief officer one-fourth</p>	James Brother-ton.
Dec.	3	Kawatiri, s.s., 1 year	Schooner	286	16	..	Coal	Stranded; slight damage	..	Inner North Spit, Buller River	W.	Strong ..	<p>Casualty caused by vessel taking a sheer when nearing the inner bar, and, it blowing strong from the westward, and there being a fresh in the river, she would not answer her helm, and so was driven on to the Inner North Spit</p>	William Smith.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the Marine Department, &c.—*continued*.

Date of Casualty.	Name of Vessel, also Age and Class.	Rig.	Registered Tonnage	Number of		Nature of		Number of Lives Lost.	Place where Casualty occurred.	Wind.		Decision of Court of Inquiry.	Name of Master.
				Crew	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1883. Dec. 5	Olive (barge), 2 years	Schooner	43	3	..	Timber, round logs	Capsized; partial loss	..	Off Mangawai, N.E. coast of New Zealand	W.N.W.	Moderate	Vessel capsized through one of the logs breaking loose and causing the vessel to strain and leak	William Simons.
"	Restless ..	Brig	239	10	1	Ballast ..	Stranded; partial loss	..	N.E. point, Centre Island, Auckland	W.S.W.	Strong ..	Vessel struck tail of reef when it was considered she was clear of danger	Richard Magrath.
"	Kestrel, 11 years	Ketch ..	20	2	..	Nil ..	Stranded; total loss	..	Diamond Bay, Lyttelton Harbour	N.E.	" ..	Vessel at anchor with no one on board, when strong breeze and sea caused her to break the line and trip her anchor	James Cowan.
"	Agnès Bell, 1 year	Schooner	149	8	..	Island produce	" ..	3	Rarotonga ..	..	Hurricane	Hurricane drove vessel ashore ..	William Munn.
"	Atlantic, 10 years	"	60	6	..	General cargo	" ..	..	" ..	..	"	" ..	Oscar Schulze.
"	Makea Ariki, 1 year	"	72	6	..	Ditto ..	" ..	3	" ..	..	"	" ..	Thomas Ayres.
"	Falcon, 19 years	Ketch ..	37	3	..	Coal ..	Stranded; no damage	..	South bank of Waitara River	S.W.	Gentle ..	Casualty caused by semaphore arm at signal-station becoming unworkable	Peter Greig Leslie.
"	Lillie Denham, s.s., 5 years	"	21	4	..	Ballast ..	Foundered; total loss	..	Near Long Island, Foveaux Strait	N.W.	Light ..	Vessel commenced to leak while out fishing, and before she could be run ashore she foundered	Robert Scollay.
"	Margaret Scollay, 12 years	Cutter ..	16	2	..	Timber ..	Stranded; total loss	..	Reef on W. side of Ohau Bay, Cook Strait	"	"	While in tide-rip the wind fell and the vessel ran on to rocks	John Young Hogarth.
"	Charles Edward, s.s., 19 years	Schooner	154	14	10	General	Stranded; partial loss	..	On reef at Motu Ngaru Island, off Alligator Point	N.N.E.	" ..	Not sufficient evidence as to immediate cause of accident. Further precautions should have been taken to guard against leeway arising from low rate of speed at which vessel was steaming. Master was so far suffering from effects of liquor taken before leaving port as to be unfit for duties of his command. His certificate suspended for three months, and he was ordered to pay costs of inquiry	William Ralph Scott.
"	Tui, s.s., 8 years	"	55	15	6	Wool ..	Ditto ..	..	Passage, rocks between Kapiti and Evans Islands, Cook Strait	S.S.E.	Fresh breeze	Mate, George Balding, guilty of error in judgment in miscalculating his distance from Kapiti Island. When coming through such narrow waters master should satisfy himself vessel on right course. Mate ordered to pay costs of inquiry	Charles Quentin Pope.
1884. Jan. 7	Mataura, 15 years	Ship ..	853	..	..	General	Loss of life only	1	Lat. 48° 53' S., long. 122° 46' E.	W.S.W.	Gale ..	One of the crew, Leon Oliver, fell overboard from the foregigging	Alexander Cruickshank.
"	Tongariro, p.s., 12 years	Schooner	39	4	..	Timber ..	Stranded; no damage	..	Bar of Waimakariri River	N.E.	Light ..	Vessel bumped owing to there being so little water on the bar. Bar varies	Louis Arné Marquet.
"	Kakanui, s.s., 4 years	"	57	8	2	General	Stranded; slight damage	..	Triangle Rocks, Bluff Harbour	S.W.	Fresh breeze	Strong ebb-tide running out caught vessel on starboard bow and caused her to go on rocks	Charles Sundstrom.
"	Days Bay, 2 years	Cutter ..	19	2	..	Gun-powder	Ditto ..	..	Oriental Bay, Welling-ton Harbour	N.W.	Gale ..	Vessel driven ashore by gale while there was no one on board	Andrew McGregor.

Jan. 15	Agnes, 8 years	Ketch ..	24	3	..	Ballast ..	Stranded; total loss	..	Rocky Point, S. of and next to Bridge Point, near to Porirua Harbour, Cook Strait Beach about five miles S. of Turakina	N.W.	Gale ..	Casualty due to stress of weather and defective holding gear	John Oscar Berg.
" 16	Fusilier, 23 years	Barque..	404	13	..	"	Ditto ..	..	..	W. to W.S.W.	"	Stranding resulted from leewardly qualities of vessel, from heavy weather she encountered, and from wind repeatedly heading her. Absence of precaution in heaving lead improper, but such impropriety did not cause casualty	John Nevison Harkness.
" 17	Napier, s.s., 13 years	Schooner	48	11	..	General	Stranded; partial loss	..	South Spit, inside bar of Rangitikei River	W.N.W.	"	Master could not see channel clearly, and heavy sea drove vessel on to South Spit	Henry Fisk.
" 29	Lalla Rookh, s.s., 14 years	Ketch ..	46	6	..	"	Stranded; slight damage	..	South entrance, Waitara River	S.E.	Light ..	Master took bar when signal "Wait for daylight" was flying	Edward Alfred Bailey.
" 29	Result, 2 years	Schooner	56	12	..	Ballast ..	Stranded; partial loss	..	Rock off extreme north point of Tiri Tiri Island, Auckland	S.W.	Moderate	Vessel sailing a race, when she struck on patch not laid down on chart, nor mentioned in "New Zealand Pilot." She subsequently capsized between Rangitoto Reef and North Head while in tow of steamer	Kenneth McDonald
Supposed Jan.	Mary King, 18 years	Brigantine	73	6	4	New Zealand produce	Supposed foundered; total loss	Supposed 10; all hands	Supposed off coast of Queensland	..	..	Vessel left Lyttelton for Townsville, Queensland, on 2nd January. Was last spoken by schooner "Bamockburn," on 20th January, about 360 miles from Townsville, and has not since been heard of. Supposed to have foundered during a cyclone which occurred shortly after the last-mentioned date	W. A. Nichols.
Feb. 1	Douglas, s.s., 2 years	Ketch ..	60	11	13	General	Stranded; no damage	..	South-west bank of Waitara River	S.W.	Light ..	Master took bar before signals made for him to do so	Henry Arthur Day.
" 8	Waitaki, s.s., 8 years	Schooner	228	22	..	Coal ..	Fore-compartment filled with water	..	At the wharf, Whangarei	..	..	Casualty caused through one of the port-holes forward being left open by second cook	James Crawford.
" 15	Waihora, s.s. ..	"	1269	75	105	General	Stranded; no damage	..	Te Waewae Point, Bluff Harbour	S.W.	Fresh breeze	Casualty caused by breaking of wheel-chain ..	James Edie.
" 26	Falcon, 19 years	Ketch ..	37	4	..	Ballast ..	Stranded and foundered; total loss	..	Stranded on end of groin, Patea River, and afterwards foundered about five miles off shore	N.	Strong breeze	Master was to blame for not obeying instructions signalled by pilot, for had he done so vessel would probably not have met with injury. Master censured, and ordered to pay costs of inquiry	Peter Greig Leslie.
Mar. 13	Koranui, s.s. ..	Schooner	..	..	..	Coal ..	Loss of life only	2	Off Farewell Spit, New Zealand	..	..	An apprentice, Frederick Ahlgren, and James Moir Wright, A.B., fell overboard while engaged cleaning outside of boats	William Edward Oliver.
" 15	Cooleen, 8 years	Barque..	629	..	..	..	Ditto ..	1	Lat. 39° 40' S., long. 48° E.	..	Light ..	An A.B., Edward Williamson, whilst engaged at work aloft, fell on to the deck and was killed	Matthew Barkley.
" 17	Colonist, 16 years	Schooner	43	4	1	Flour and oats	Stranded; no damage	..	South Beach, Waitara River	W.S.W.	"	Casualty caused through master not attending to signals	James Joseph Conway.
" 27	Maud Graham, 8 years	"	30	6	..	Coal ..	Ditto ..	..	Fanny Channel, Manukau Harbour	S.	"	Vessel grounded when entering in obedience to signals, shoals having shifted	John Jorgenson.
" 27	Sarah Fife ..	Brigantine	115	7	..	"	Stranded; damage £10	..	Ditto ..	"	"	Ditto ..	Hugh Paterson.

## APPENDIX.

ANNUAL REPORT ON LIGHTHOUSE WORKS, ETC., BY THE  
MARINE ENGINEER.

The MARINE ENGINEER to the SECRETARY, Marine Department.

SIR,—

Marine Department, Marine Office, 31st March, 1884.

I have the honour to forward, for the information of the Hon. the Minister having charge of the Marine Department, the annual report on works executed for new lighthouses, and for other works during the year, viz. :—

*Kaipara*.—The lantern for this lighthouse has arrived in New Zealand, and the work of erecting the lighthouse, which was commenced in November, is now progressing in a satisfactory manner, but was for some time delayed by the illness of the first overseer sent there.

*Castlepoint Jetty*.—Plans and specifications were prepared for this, and tenders were called for; as, however, the lowest tender was so much higher than the amount voted for the work, all the tenders were declined.

*Collingwood: Training-wall in River Aorere*.—As proposed in last year's report, this work has been lengthened, with good effect.

*Havelock Wharf*.—After the preparation of plans and specifications this work was advertised for tender, and has since been satisfactorily completed.

*Waipapapa Point*.—All the works connected with the lighthouse at this place have been completed, and the light, as notified by advertisement, was first exhibited on the 1st January, 1884. The following is the description of the light: A second-order flashing white light, showing a flash every ten seconds.

*French Pass*.—After some trials and experiments made to determine the character of the light to be erected here, it was decided to erect a coloured light of moderate power on the mainland. As the site was not accessible by any road, a road was made to it from Elmslie's Bay, 55 chains long, and a site excavated for the keeper's dwelling on the cliff immediately above the site selected for the lighthouse. A short track has also been cut to a convenient landing on the Nelson side of the Pass. The house has been built, and the foundation for the lighthouse has been commenced. The foundation will be of concrete, and the lighthouse of wrought-iron; this is now being made under contract, and is well in hand. The concrete beacon erected on the reef in the "Pass" was damaged a second time by a vessel, but has been substantially repaired by Captain Fairchild, of the steamer "Hinemoa;" the repairs were effected by enclosing the damaged concrete work in a stout framing of timber, held together by iron bolts and chains.

*Jackson's Head*.—The want of a mark or beacon at this place has long been felt, and an examination was made of the two reefs lying to the north. The reef nearest to the Head was chosen for the site of a beacon, and plans were prepared for a suitable structure, which has since been erected. The beacon consists of a timber screen about 14 feet wide and 12 feet high, bolted to a wrought-iron framing composed of three tubular wrought-iron pillars joined at the top, their lower ends being attached to heavy cast-iron foundation-plates, bolted down to the rock. The screen is placed at an elevation of about 22 feet above high-water line.

I have, &c.,  
JOHN BLACKETT,  
Marine Engineer.

The Secretary, Marine Department.



## ANNUAL REPORTS ON MACHINERY.

The CHIEF INSPECTOR of MACHINERY to the SECRETARY, Marine Department.

SIR,— Office of Chief Inspector of Machinery, Wellington, 24th May, 1884.

I have the honour to submit my tenth annual report on the working of the Inspection of Machinery Acts for the year ended the 31st March, 1884.

The number of boilers inspected during the year has been 1,497, being an increase of 88 over the previous year. Of this number, 20 have been found dangerous, and 88 more or less defective. Each report of the Inspectors will more fully explain the nature and extent of such defects.

As in previous years, several accidents have taken place to men working about machinery, especially in saw-mills, with, I am sorry to say, four fatal results. Seven accidents happened in the Otago District, none of which were fatal; four in the Auckland District, one only proving fatal; one in the Hawke's Bay District, causing one death; one, not serious, in the Taranaki District; and one, fatal, in the Canterbury District. This accident happened in February, to a man named John Campbell, in R. Buchanan's City Foundry. He was employed in dressing castings at an emery-wheel, when, from some unexplained cause, the wheel burst, and part of it struck him so violently on the chest that death was instantaneous. None of these accidents could have been prevented by inspection, as in no case was it shown that they were caused by the machinery not being properly fenced around.

Special attention continues to be given to see that all machinery is properly fenced in where danger exists, and owners readily comply with the Inspectors' suggestions, so that as yet arbitration under the 21st section of the Act has not been found necessary.

As anticipated, the new system of collecting fees has given satisfaction, since it is a great saving of time to the Inspectors, and it also relieves them of the responsibility of being receivers of revenue.

The Inspectors continue to give valuable assistance to boiler-owners, as to the proper setting of boilers, &c. This is greatly appreciated in isolated districts, where such information is not easily obtained, and where owners have not much experience of the working of machinery.

I have much pleasure in stating that, although there are so many different kinds of boilers at work in the colony, only one explosion has taken place during the past year. This occurred in a wood yard in Tory Street, Wellington, and is fully explained in Mr. McGregor's report, attached.

The Inspection of Machinery Extension Act of last session gives additional powers to the Inspectors, especially with regard to *lifts* and *hoists*. In future each lift must be fitted with a catch, so constructed with wheels and springs sufficient to grip the guide-piece as to prevent the cage from falling should the chain or rope give way. The catch is so fitted that it is always in action, and can be constructed so as not to get out of order.

Attached is the annual report of each Inspector, which will give full and further information as to the details of the working of the Act, with tables showing the number of boilers and machinery inspected in each district, and the nature and extent of the various kinds of machinery, with the purpose for which they are used; also particulars of the special kind of defects found in boilers.

The number of boilers in the colony is increasing so considerably that the Inspectors experience great difficulty in getting through their allotted work by the end of the year.

Steam-gauges both for steamers and land boilers continue to be tested with satisfactory results.

I have, &c.,

J. NANCARROW,

Chief Inspector of Machinery.

The Secretary, Marine Department, Wellington.

The INSPECTOR of MACHINERY, Wellington, to the CHIEF INSPECTOR of MACHINERY.

SIR,— Office of Inspector of Machinery, Wellington, 15th May, 1884.

In presenting the annual report on boilers and machinery inspected in my districts during the year ended the 31st March, 1884, I regret having to record one boiler explosion, which happily was unattended with accident to life or limb; also two accidents with machinery, one of which was fatal.

The parts of the exploded boiler show it to have been in very good order at the time of the accident, the edges of the ruptured plates being almost the original thickness ( $\frac{3}{16}$  in.), which, coupled with the fact that the *safety-valve* was found in its seat after the explosion, leaves no doubt in my mind that it had stuck fast, and allowed the pressure to increase until the strength of the boiler was exceeded.

The accidents with machinery were not preventible by fencing. All the defects found in boilers have been rectified, 8 new ones started, and 3 old ones discarded, leaving a total of 420, 395 of which have been inspected, and 35 were still to inspect at the end of the year, showing an increase of 9 during the twelve months.

Appended are returns showing the number and horse-power of boilers inspected, fees payable for inspection of boilers and machinery, machinery inspected, defects in boilers, repairs to boilers, dangerous machinery fenced, accidents to boilers, and accidents to life and limb, in each of my districts.

I have, &c.,

The Chief Inspector of Machinery, Wellington.

H. A. MCGREGOR.

RETURN showing the NUMBER of LAND BOILERS INSPECTED during the Financial Year ended the 31st March, 1884.

Name of District.	Number of Portable Boilers.			Number of Stationary Boilers.			Total.
	Under 5 h.p.	5 to 10 h.p.	Over 10 h.p.	Under 5 h.p.	5 to 10 h.p.	Over 10 h.p.	
Wellington ... ..	6	28	14	28	32	58	166
Marlborough ... ..	2	13	5	5	3	13	41
Nelson North ... ..	2	21	6	12	14	7	62
Taranaki ... ..	...	11	7	2	13	11	44
Hawke's Bay ... ..	4	30	6	12	14	16	82

RETURN of FEES PAYABLE for the INSPECTION of BOILERS and MACHINERY during the Financial Year ended the 31st March, 1884.

Name of District.	Fees Payable in respect of Boilers.	Fees Payable in respect of Machinery.	Total.
	£ s. d.	£ s. d.	£ s. d.
Wellington ... ..	357 0 0	2 0 0	359 0 0
Marlborough ... ..	84 0 0	1 0 0	85 0 0
Nelson North ... ..	123 0 0	...	123 0 0
Taranaki ... ..	101 0 0	1 0 0	102 0 0
Hawke's Bay... ..	155 0 0	1 0 0	156 0 0

RETURN of NOTICES given to FENCE DANGEROUS PARTS of MACHINERY during the Financial Year ended the 31st March, 1884.

District and Date of Notice.	Description of Machinery.	Parts requiring to be fenced.
<b>WELLINGTON—</b>		
April 7, 1883 ... ..	Bush saw-mill ... ..	The driving-belts and counter-shaft.
" 12, " ... ..	Sash and door factory ... ..	The fly-wheel of engine.
" 18, " ... ..	Bush saw-mill ... ..	The driving-belts and counter-shaft.
May 1, " ... ..	Bush saw-mill ... ..	Connecting-rods of vertical saw.
Oct. 30, " ... ..	Flax-mill ... ..	The counter-shaft, pulleys, and driving-belts of three strippers.
Nov. 3, " ... ..	Bush saw-mill ... ..	The fly-wheel of engine, and driving-belt from engine to counter-shaft.
" 8, " ... ..	Flax-mill ... ..	The driving-belt of stripper.
" 15, " ... ..	Bush saw-mill ... ..	The fly-wheel of engine and driving-belt of circular saw.
" 19, " ... ..	Flour-mill... ..	The counter-shaft and gearing on the ground-floor.
" 26, " ... ..	Boiling-down establishment ... ..	The two vats to be re-rivettet.
Mar. 25, 1884 ... ..	Hydraulic lift ... ..	The openings and cage-way of each floor.
<b>MARLBOROUGH—</b>		
June 16, 1883 ... ..	Flax-mill (water) ... ..	The water-race and counter-shaft and pulleys.
" 16, " ... ..	Flax-mill (steam) ... ..	The driving-belt and pulley on counter-shaft.
<b>NELSON NORTH—</b>		
July 24, 1883 ... ..	Bush saw-mill ... ..	The main driving-belt from the stationary engine.
Aug. 6, " ... ..	Brewery ... ..	Driving-belt of malt mill, where it passes through the first and second floors.
" 9, " ... ..	Sash and door factory ... ..	The driving-belts of circular saw and the two planing machines.
<b>TARANAKI—</b>		
Dec. 13, 1883 ... ..	Bush saw-mill ... ..	The fly-wheel of engine, and main driving-belts.
" 17, " ... ..	Flax-mill ... ..	The driving-belts and gearing.
<b>HAWKE'S BAY—</b>		
Feb. 7, 1884 ... ..	Freezing machine ... ..	The fly-wheels and crank-shaft.
" 22, " ... ..	Sash and door factory ... ..	The driving-belts of circular saws, and the fly-wheel of engine.
Mar. 3, " ... ..	Soapworks ... ..	The fly-wheel of engine and counter-shaft.
" 13, " ... ..	Bush saw-mill ... ..	The main driving-belt and the belts from counter-shaft to the circular and vertical saws.

**RETURN of NOTICES given to REPAIR BOILERS during the Financial Year ended the 31st March, 1884.**

District and Date of Notice.	Description of Boiler.	Nature of Repairs ordered.
<b>WELLINGTON—</b>		
April 6, 1883	Cornish ...	A new plate in crown of furnace.
" 7, "	Semitubular ...	Back part of furnace-crown, and top of spectacle-plate, new.
" 17, "	Firebox ...	Eight screw-stays in back-water space.
" 21, "	Multitubular ...	Blistered part of plate cut out, and patch fitted on first plate from front and bottom.
Sept. 15, "	Vertical ...	Five new stays from furnace-crown to top of boiler.
Nov. 9, "	Cornish ...	New blow-off pipe fitted.
" 13, "	Firebox ...	Fusible plug and new brass seat fitted.
" 14, "	Multitubular ...	Back plate in bottom of boiler, new.
Dec. 1, "	Vertical tubular ...	New set of tubes fitted.
" 22, "	Cornish ...	Crown of furnace set up.
<b>MARLBOROUGH—</b>		
June 25, 1883	Cornish ...	Two new plates in the bottom, over the fire.
" 25, "	Lancashire ...	Angle-iron round back ends of flue-tubes renewed on top-sides.
" 26, "	Multitubular ...	New compensating-ring round manhole opening.
<b>NELSON NORTH—</b>		
July 21, 1883	Firebox ...	New mudhole doors fitted on inside of boiler; rivetted patches round corroded openings.
" 24, "	Multitubular ...	Longitudinal stays to have new nuts on back-ends where corroded.
" 24, "	Firebox ...	Lower landings of firebox shell to be pared and caulked where corroded.
Aug. 6, "	Cornish ...	The upper part of front angle-iron on flue-tube to be renewed where cracked, and the gusset-stays lifted one hole from top of flue.
" 14, "	Firebox ...	A compensating-ring to be rivetted round the man-hole opening.
" 14, "	Firebox ...	A compensating-ring to be rivetted round the man-hole opening.
<b>TARANAKI—</b>		
Dec. 7, 1883	Vertical ...	New safety-valve to be fitted.
" 13, "	Cornish ...	Two boilers to be reset on iron bearers.
" 13, "	Firebox ...	Two new spring-balances fitted.
<b>HAWKE'S BAY—</b>		
Feb. 6, 1884	Firebox ...	Screw patch on lower part of tube-plate where cracked.
Mar. 6, "	Vertical tubular ...	To be retubed, and screw-pins fitted in the crack in tube-plate.
" 12, "	Firebox ...	The water space of firebox to be properly cleaned, and re-rivetted round firebox-door opening.
" 14, "	Firebox ...	A new fusible plug and brass seat fitted.

**RETURN of ACCIDENTS to BOILERS and MACHINERY reported as having occurred during the Financial Year ended the 31st March, 1884.**

Date of Accident.	Name and Address of Owner.	Nature and Cause of Accident.
Sept. 11, 1883	Samuel Brown, Contractor, Wellington	Vertical shell-boiler exploded. Excessive pressure, caused by the safety-valve getting fast, was in my opinion the cause of the accident. No one was hurt.
Dec. 19, "	The Wellington Meat Export Company (Limited)	Partial collapse of furnace-flue. Caused in my opinion by the intense heat from the coke fire impinging on the crown of the furnace, where the bridge deflected it upwards, and driving the water off the plate.

RETURN of ACCIDENTS to LIFE and LIMB which have occurred in connection with Land Boilers and Machinery during the Financial Year ended 31st March, 1884.

Name and Address of Owners.	Description of Machinery.	Name of Person injured.	Nature of Accident.	Fatal or not.	Cause of Accident and Remarks.
Wilding and Bull, Saw-mills, Wai-pukurau, Hawke's Bay	Bush saw-mill	John Smith ..	The body cut by a circular saw	Fatal..	Carelessness on part of the deceased in working on the travelling-bench in front of the saws while in motion. No one in the mill saw the accident occur, but the body was almost cut in half, from the left shoulder to the right hip.
Joseph Wagstaff and Son, Flax-dressers, Opunake, Taranaki	Flax-mill ..	A Native youth, called Frank	The arm severely bruised	Not ..	Want of experience in the work. An experienced hand would not have attempted to hold on to the hank until his hand was drawn into the scutcher. The arm was drawn into the machine up to the shoulder, and so badly hurt that amputation was necessary.

RETURN of MACHINERY INSPECTED during the Financial Year ended the 31st March, 1884.

Description.	Wellington.				Marlborough.			Nelson North.		Taranaki.			Hawke's Bay.	
	Steam.	Steam and Water.	Water.	Gas.	Steam.	Steam and Water.	Water.	Steam.	Water.	Steam.	Water.	Wind.	Steam.	Water.
Phormium-dressing ..	4	..	..	..	2	..	2	2	1	..	..	..	1	..
Printing ..	2	..	..	5	..	..	..	..	..	..	..	..	..	..
Flour-mills ..	10	1	4	..	..	..	3	4	4	1	3	..	2	2
Saw-mills ..	33	..	..	..	9	1	..	25	2	8	1	..	10	1
Sash and door factory	10	..	..	..	..	..	..	2	..	3	..	1	3	..
Foundries ..	6	..	..	..	1	..	..	2	..	1	..	..	1	..
Quartz-crushing ..	..	..	..	..	1	..	..	1	1	..	..	..	..	..
Threshing-machines	24	..	..	..	12	..	..	7	..	5	..	..	18	..
Soap and candle works	1	..	..	..	..	..	..	1	..	..	..	..	1	..
Cordial factories ..	2	..	..	..	..	..	..	1	..	..	..	..	2	..
Boiling-down establishments	12	..	..	..	2	..	..	..	..	5	..	..	6	..
Sheep-dips ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Brick-making machines	6	..	..	..	..	..	..	1	..	..	..	..	..	..
Biscuit factory ..	1	..	..	..	..	..	..	1	..	..	..	..	..	..
Chaff-cutting machines	6	..	..	..	1	..	..	3	..	1	..	..	1	..
Breweries ..	6	..	..	..	1	..	..	4	..	1	..	..	3	..
Drain-pipe works ..	4	..	..	..	..	..	..	..	..	..	..	..	..	..
Hoisting machinery	10	..	..	..	1	..	..	1	..	6	..	..	1	..
Hauling machinery ..	1	..	..	..	..	..	..	1	..	1	..	..	..	..
Dredging machinery	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Pumping machinery	1	..	..	..	2	..	..	..	..	..	..	..	1	..
Winding machinery	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Coffee and spice mills	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Tanneries ..	3	..	..	..	..	..	..	..	..	..	..	..	..	..
Electric-light machines	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Turneries ..	3	..	..	..	..	..	..	2	..	..	..	..	..	..
Wool-dumping ..	2	..	..	..	2	..	..	..	..	..	..	..	4	..
Ice machine ..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Sausage machines	6	..	..	..	..	..	..	1	..	..	..	..	..	..
Tobacco-cutting ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Traction engines ..	1	..	..	..	4	..	..	2	..	1	..	..	..	..
Gasworks ..	1	..	..	..	..	..	..	1	..	..	..	..	..	..
Mortar-mills ..	2	..	..	..	..	..	..	..	..	3	..	..	..	..
Machine shops ..	2	..	..	..	..	..	..	1	..	..	..	..	..	..
Meat-preserving works	4	..	..	..	..	..	..	..	..	..	..	..	1	..
Locomotives ..	2	..	..	..	..	..	..	..	..	2	..	..	..	..
Rice-mill ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Stone-breaking ..	..	..	..	..	..	..	..	..	..	3	..	..	..	..
Freezing machines ..	2	..	..	..	..	..	..	..	..	..	..	..	1	..
Hydraulic lifts ..	14	..	..	..	..	..	..	..	..	..	..	..	..	..
Wool-scouring machines	2	..	..	..	..	..	..	1	..	..	..	..	1	..
Bone-crushing ..	..	..	..	..	..	..	..	..	..	1	..	1	..	..
Totals ..	191	1	4	5	40	1	5	64	8	42	4	2	59	3

RETURN of DEFECTS found on the Inspection of Boilers and Fittings during the Financial Year ended 31st March, 1884.

Description.	Wellington.			Marlborough.			Nelson North.			Taranaki.			Hawke's Bay.		
	Dangerous.	Ordinary.	Total.	Dangerous.	Ordinary.	Total.	Dangerous.	Ordinary.	Total.	Dangerous.	Ordinary.	Total.	Dangerous.	Ordinary.	Total.
Grooving and pitting .. ..	..	..	..	..	..	..	..	..	..	6	6	..	..	..	..
Blistered plates .. ..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..
Cracked plates .. ..	3	2	5	4	..	4	..	1	1	..	..	..	..	4	4
Tube-ends leaking .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
Plates overheated .. ..	2	..	2	1	..	1	..	..	..	..	..	..	1	..	1
External corrosion .. ..	..	..	..	3	1	4	..	3	3	..	4	4	..	..	..
Broken stays .. ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Weak manhole openings .. ..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..
Gauge-glass mountings .. ..	..	7	7	..	..	..	..	..	..	..	..	..	..	4	4
Steam-gauges .. ..	..	14	14	..	3	3	..	5	5	..	4	4	..	9	9
Safety-valves .. ..	..	4	4	..	..	..	..	3	3	..	2	2	..	..	..
Spring balance .. ..	..	..	..	..	..	..	..	1	1	..	2	2	..	..	..
Fusible plugs .. ..	2	1	3	..	..	..	..	..	..	..	..	..	..	2	2
Feed pumps .. ..	..	3	3	..	1	1	..	..	..	..	..	..	..	..	..
Blow-off pipe .. ..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Totals .. ..	10	33	43	8	5	13	1	14	15	..	18	18	1	22	23

The INSPECTOR of MACHINERY, Auckland District, to the CHIEF INSPECTOR of MACHINERY.

SIR,—

Auckland, 7th April, 1884.

I have the honour to submit for your information my annual report of boilers and machinery inspected in the Auckland District from the 1st April, 1883, to the 31st March, 1884.

RETURN showing the NUMBER and DESCRIPTION of BOILERS INSPECTED, and FEES for the same.

Nature of Boiler.	Number.			Fees.	Remarks.
	Under 5 Horse-power.	5 to 10 Horse-power.	Over 10 Horse-power.		
Portable boilers .. ..	...	3	2	£ s. d. 160 0 0	Employed at 32 establishments, at £5 each.
Stationary boilers .. ..	3	1	79		
Locomotive boilers .. ..	...	...	2		
Portable boilers .. ..	13	40	18	433 0 0	Charged for at per horse-power of each boiler.
Stationary boilers .. ..	84	30	43		
Locomotive boilers .. ..	3	2	2		
Totals ... ..	103	76	146	593 0 0	

The above return shows an increase of 23 boiler inspections compared with the previous year. The fees for the same period are increased by £26. The prosperous state of trade in this district has caused a steady increase of steam-power. There are, in addition to the above, 45 boilers that have not been inspected, which makes a total of 370 boilers now working in this district. Only two have been granted exemption from annual inspection under the Act of 1882, brought into force on the 31st January last. Forty-five new boilers have been brought into use—25 imported from Great Britain, 2 from America, and 18 made in this colony.

I have given five written and twenty-three verbal notices to repair boilers, all of which were readily complied with. In fact owners show a desire to keep their boilers in working order. When the repairs were large, or difficult to do, the boiler was afterwards proved by hydraulic pressure. The test varied, in accordance with age, &c., from 30 to 50 per cent. over the working pressure. All the new boilers made in this district have been tested to 100 per cent. over. In the dangerous case referred to—Portable Boiler No. 1228, owned by Mr. C. P. Bury, since sold to Mr. W. King—the top of the fire-box was badly bulged, and the tube-plate in the same very much sprung, about one-third of the tube end being drawn half through the plate. In fact there was every indication of the water having been too low, and the plates overheated. I may state it has been thoroughly repaired, and is now in good working order. I found the sides of shell on seats of 5 Cornish boilers wasting, caused by being fixed on low wet ground, and lime in contact with the iron. The lime has been replaced with fireclay, and the ground drained, which I feel convinced will stop the decay that was going on. One boiler has been converted from cylindrical to the tubular principle; 33 have changed owners; 12 have been let out on hire; 1 has been taken from here to the Wellington District, and 3 brought from there to this district.

The following return gives the defects found in boilers, &c., for the twelve months ending on the 31st March, 1884 :—

Description.	Dangerous.	Ordinary.	Total.
Firebox out of shape ... ..	1	...	1
Fractured plates ... ..	...	5	5
Blistered plates ... ..	...	4	4
Corrosion, internal ... ..	...	3	3
Corrosion, external ... ..	...	6	6
Tubes ... ..	...	7	7
Stays ... ..	...	4	4
Joints sprung ... ..	...	5	5
Total defects in boilers ... ..	1	33	34
Defective fittings—			
Safety valves ... ..	...	5	5
Pressure gauges ... ..	...	11	11
Water-gauges and test-taps ... ..	...	7	7
Blow-off taps ... ..	...	3	3
Spring-balances ... ..	...	1	1
Omissions—			
Boilers without man-holes ... ..	...	2	2
Boiler without water-gauge ... ..	...	1	1
Boiler without sludge-hole ... ..	...	1	1
Gross total ... ..	1	64	65

#### RETURN showing NOTICES given to FENCE Dangerous Parts of MACHINERY.

Date of Notice.	Description of Machinery.	Parts requiring to be fenced.
May 3, verbal	Chair factory ...	Engine fly-wheel.
June 12, written	Saw-mill ...	Belts on three planing- and one moulding-machines.
Aug. 21, verbal	Saw-mill ...	Two fly-wheels on breaking-down saw and one length of shafting.
Aug. 30, written	Soapworks ...	Engine fly-wheel and belts on bone-mill.
Sept. 15, written	Cheese factory... ..	One length of shafting.
Sept. 17, written	Flour-mill ...	Three belts and one length of shafting.
Sept. 18, written	Coal-mining ...	Engine-crank and connecting-rod.
Oct. 13, written	Saw-mill ...	Belts on planing-machine and gang-saw.
Oct. 15, written	Pottery ...	One pair pinion-wheels.
Oct. 18, written	Saw-mill ...	Belt on planing-machine.
Nov. 14, written	Brewery ...	Belt on engine fly-wheel.
Nov. 16, written	Cement works ...	Engine fly-wheel and two pair bevel-wheels.
Nov. 22, written	Saw-mill ...	Belt on planing-machine.
Nov. 26, written	Saw-mill ...	Two lengths of shafting and two belts on planing-machine.
Dec. 5, written	Ironworks ...	Engine fly-wheel.
Dec. 5, written	Soapworks ...	One pair wheels on soap-press.
Dec. 14, written	Coal-mining ...	Spur- and pinion-wheels on winding-engine.
Dec. 24, verbal	Saw-mill ...	Two belts on door-planers and one belt on jig-saw.
Jan. 7, verbal	Ironworks ...	Engine fly-wheel.
Feb. 11, written	Hydraulic lift ...	Safety gear to be fitted.
Feb. 11, written	Steam lift ...	Safety gear to be fitted.
Feb. 12, written	Hydraulic lift ...	Safety gear to be fitted.
Feb. 18, verbal	Saw-mill ...	Two belts on planing-machine.
Feb. 21, written	Gas lift ...	Safety gear to be fitted.
Feb. 21, written	Hydraulic lift ...	Safety gear to be fitted.
Feb. 21, written	Hydraulic lift ...	Safety gear to be fitted.
Feb. 21, written	Hydraulic lift ...	Safety gear to be fitted.
Feb. 22, written	Hydraulic lift ...	Safety gear to be fitted.
Feb. 22, written	Hydraulic lift ...	Safety gear to be fitted.
Feb. 22, written	Hydraulic lift ...	Safety gear to be fitted.
Mar. 11, verbal	Saw-mill ...	Two belts on planing-machine.
Mar. 13, verbal	Saw-mill ...	One pair bevel-wheels.
Mar. 26, written	Gas lift ...	Safety gear to be fitted.
Mar. 26, written	Gas lift ...	Safety gear to be fitted.

I may state that owners readily comply with instructions given to protect machinery.

## RETURN showing MACHINERY INSPECTED.

Worked by Steam: Assaying, 1; horse-power, 2. Boiling-down, 2; horse-power, 28. Brick-works, 6; horse-power, 100. Boring and winding, 1; horse-power, 15. Bakeries, 2; horse-power, 14. Bone-mill, 1; horse-power, 10. Breweries, 12; horse-power, 114. Block and pump works, 2; horse-power, 8. Boatbuilding, 2; horse-power, 16. Cabinetmaking factories, 6; horse-power, 19. Coach factories, 2; horse-power, 12. Chair factory, 1; horse-power, 6. Chaff-cutting, 12; horse-power, 44. Cheese factories, 4; horse-power, 18. Cement works, 3; horse-power, 33. Coffee mills, 2; horse-power, 12. Cordial works, 2; horse-power, 6. Dredging, 4; horse-power, 25. Fellmongeries, 2; horse-power, 7. Flour-mills, 8 (also steam and wind, 1); horse-power, 211. Firewood-cutting, 9; horse-power, 32. Fire-engine, 1; horse-power, 4. Gasworks, 2; horse-power, 32. Hoisting, 11; horse-power, 48. Hauling, 9; horse-power, 105. Hat factory, 1; horse-power, 1. Ironworks, 18; horse-power, 107. Leadworks, 1; horse-power, 6. Lifts or elevators, 1; also worked by water, 9; worked by gas, 3. Mortar mills, 9; horse-power, 70. Meat-canning factories, 3; horse-power, 21. Laundries, 2; horse-power, 18. Pumping and winding, 21; horse-power, 796. Phormium-dressing, 4; horse-power, 31. Printing, 2; horse-power, 11. Potteries, 3; horse-power, 38. Pile-driving, 1; horse-power, 5. Quartz-crushing, 7; horse-power, 172. Ropeworks, 1; horse-power, 96. Saw-mills, 40; horse-power, 1,618. Sugar-refining works, 1; horse-power, 10. Soapworks, 3; horse-power, 90. Shipbuilding, 3; horse-power, 26. Sausage-machines, 3; horse-power, 9. Threshing, 9; horse-power, 63. Tanneries, 3; horse-power, 15. Vinegar factory, 1; horse-power, 3. Waterworks, 2; horse-power, 164.

## RETURN of NOTICES given to REPAIR BOILERS in the Auckland District during the Financial Year ended the 31st March, 1884.

Date of Notice.		Description of Boiler.	Nature of Repairs ordered.
April	12, 1883	Cornish ... ..	Defective place in front end; patch to be fitted.
April	19, "	Portable ... ..	Tubes defective. To be retubed.
April	26, "	Vertical tubular ... ..	Patch to be fitted to furnace and spring-balance adjusted.
May	23, "	Vertical tubular ... ..	Top tube-plate very much reduced by corrosion. The greater part of it to be renewed.
June	5, "	Vertical flue ... ..	Fracture in flange of vertical flue. Defective part to be renewed.
June	29, "	Cornish ... ..	Two strengthening-rings to be fitted to furnace-flue and mouthpiece to man-hole.
July	2, "	Cornish ... ..	Patch to be fitted to bottom, and safety-valve overhauled.
July	14, "	Cornish ... ..	Four joints in bottom sprung. To be re-rivettcd and caulked.
July	14, "	Cornish ... ..	Three joints in bottom sprung. To be re-rivettcd and caulked.
August	4, "	Portable ... ..	Patch to be fitted to shell. Water-gauge and safety-valve overhauled.
August	15, "	Longitudinal tubular	Rivettcd patch to be fitted to one of the plates in bottom.
August	21, "	Longitudinal tubular	Rivettcd patch to be fitted to one of the plates in bottom.
August	30, "	Cylindrical ... ..	Two plates very much reduced by corrosion. To be renewed.
Sept.	10, "	Longitudinal tubular	One plate in shell bulged and fractured. To be renewed.
Sept.	18, "	Vertical tubular ... ..	Ten tubes to be replaced.
October	12, "	Longitudinal tubular	Three joints in bottom to be sheathed, and two gusset stays replaced.
October	15, "	Portable ... ..	Three stays to be replaced, and water-gauge overhauled.
October	19, "	Cornish ... ..	Two defective joints in bottom. Two patches to be fitted.
Nov.	13, "	Vertical tubular ... ..	Safety-valve and blow-off tap to be overhauled, and three tubes replaced.
Dec.	12, "	Vertical tubular ... ..	To be retubed, and patch fitted to shell.
Dec.	14, "	Cornish ... ..	Strengthening-ring to be fitted to man-hole, and pressure-gauge adjusted.
January	12, 1884	Portable ... ..	Top fire-box badly bulged, and tube plate very much sprung. To be retubed, top fire-box made good, and fusible plug fitted.
January	13, "	Longitudinal tubular	New. Imported from America. Man-hole to be made, water-gauge and a larger, or additional, safety-valve fitted.
January	16, "	Vertical tubular ... ..	Patch to be fitted to lower part of furnace.
March	5, "	Longitudinal tubular	New. Imported from England. Man-hole to be made, and two additional stays in steam space, to make it fit for the pressure required.
March	11, "	Cornish ... ..	Two plates in shell, badly bulged, have been renewed. The damage was done by a fire in the mill.
March	13, "	Longitudinal tubular	Six tubes to be replaced.

Small defects rectified during my visits are not included.

I have the following accidents to report :—  
16th May, 1883.—Thomas Box, a workman employed at Mr. M. H. Roe's saw-mill, Onehunga. It appears he was working at the drag-bench, when his right hand was taken off at the wrist through being drawn by the saw.  
22nd May, 1883.—Thomas Booth, aged fifty-eight years, employed at Mr. Firth's flour-mill as stoker and engine-driver. It appears he was on the night shift. While engaged oiling the engine he thoughtlessly raised his right arm, getting it severely crushed between the engine-beam and girder. Amputation was found necessary.  
28th December, 1883.—James Sheriff, aged sixty-two years, employed at Messrs. Cousins and Atkin's coach factory. It appears he was working at a tenoning-machine, when one of the knives got out of position, and, coming into contact with the disc, broke it, one of the pieces striking him a severe blow on the stomach. The unfortunate man expired on the following day. At the inquest a verdict of "Accidental death" was returned, and that no blame was attachable to any one.  
21st January, 1884.—James Gubbins, a workman employed at the Hokianga Saw-mill Company's mill. He was working a circular saw, when a piece of wood broke off the flitch and was projected with great force, striking him on the breast, breaking one rib at the junction with the breast. It appears warning was given, but the bench was not stopped quickly enough.  
12th March, 1884.—John Wilson, a workman employed at the New Zealand Timber Company's mill at Devonport. He was working a circular saw. It appears he attempted to adjust the water-pipe in connection with the saw without stopping it, when his right hand was taken off at the wrist.  
I may state that the machinery in the above mills, &c., is fenced and guarded as far as practicable. There are many dangerous machines employed wood-cutting that can only be protected to a limited extent without rendering them useless for the work intended. Machines of this description require to be carefully and skilfully handled to avoid accident. I make it a rule to remind managers, and others in charge of machinery, of the necessity of selecting only those that can be depended on for working machines of the above class. I have, &c.,  
The Chief Inspector of Machinery. W. J. JOBSON.

The INSPECTOR of MACHINERY, Otago District, to the CHIEF INSPECTOR of MACHINERY.  
SIR,— Office of Inspector of Machinery, Dunedin, 28th April, 1884.  
I have the honour to forward to you (enclosed) the annual report of inspection of machinery, Otago District, for the financial year ended the 31st March, 1884, contained in tables numbered 1 to 8 inclusive.  
I have, &c.,  
ALEXANDER CRAWFORD,  
Inspector of Machinery, Otago District.  
The Chief Inspector of Machinery,  
Wellington.

RETURN showing the NUMBER of LAND BOILERS INSPECTED during the Financial Year ended the 31st March, 1884.

Name of District.	Number of Portable Boilers.			Number of Stationary Boilers.			Total.
	Under 5 h.p.	5 to 10 h.p.	Over 10 h.p.	Under 5 h.p.	5 to 10 h.p.	Over 10 h.p.	
Otago ... ..	16	81	14	132	48	106	397

RETURN of FEES PAYABLE for the INSPECTION of BOILERS and MACHINERY during the Financial Year ended the 31st March, 1884.

Name of District.	Fees payable in respect of Boilers.	Fees payable in respect of Machinery.	Total.
Otago—	£ s. d.	£ s. d.	£ s. d.
Portable ... ..	212 10 0	...	692 0 0
Stationary ... ..	479 10 0	...	



RETURN of MACHINERY INSPECTED in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1884.

Description.	Steam.	Steam and Water.	Description.	Steam.	Steam and Water.
Agricultural implement works ...	7	...	Joineries ...	7	...
Baths ...	1	...	Jeweller ...	1	...
Bakeries ...	3	...	Lapidaries ...	2	...
Boiling-down ...	6	...	Laundries ...	2	...
Bone-mills ...	4	...	Locomotives... ..	11	...
Brick and tile works ...	6	...	Lead-pipe works ...	2	...
Breweries ...	12	...	Machine shops ...	3	...
Brushmaking ...	1	...	Meat-preserving ...	1	...
Cabinetmaking ...	3	...	Oilmill, linseed and colza ...	1	...
Candlemaking ...	2	...	Paper-mills ...	1	1
Chaff-cutting ...	8	...	Potteries ...	2	...
Chemical works ...	2	...	Pipe-making—lead ...	2	...
Cooking ...	3	...	„ clay ...	3	...
Collieries ...	5	...	Printing ...	5	...
Concrete-mixer ...	1	...	Pumping water ...	4	...
Copper and brass works ...	2	...	Quartz-mills... ..	2	...
Coffee and spice works ...	2	...	Refrigerating works ...	2	...
Confectionery... ..	3	...	Rope works ...	2	...
Cranes ...	22	...	Saw-mills ...	41	2
Dairy ...	1	...	Soapworks ...	5	...
Dredgers ...	4	...	Stone-crushers ...	7	...
Dye-works ...	1	...	Stone-cutting ...	3	...
Engine-shops ...	3	...	Stone-dressing ...	1	...
Excavator ...	1	...	Sulphuric-acid works ...	1	...
Fellmongeries ...	5	...	Tanneries ...	4	...
Flour-mills ...	11	7	Tramway cable ...	2	...
Flock-mills ...	3	...	Tallow-factories ...	2	...
Foundries ...	15	...	Threshing machines ...	49	...
Fire-grate and range works ...	3	...	Traction engines ...	7	...
Firewood-cutting ...	2	...	Turnery—wood ...	4	...
Fruit-preserving ...	2	...	Venetian blind ...	1	...
Gasworks ...	2	...	Wool-pressing ...	4	...
Hoists ...	19	...	Woollen factories ...	4	...

RETURN of NOTICES given to FENCE Dangerous Parts of MACHINERY in the Otago District during the Financial Year ended the 31st March, 1884.

Date of Notice.	Class of Machinery.	Parts requiring to be Fenced.
<i>Written.</i>		
July 7, 1883	Stone-dressing machinery	Laying shaft of engine between engine and wall.
October 6, „	Flour-mill ...	Fly-wheel of engine; vertical shaft on first floor; belt driving smutter; vertical shaft on second floor.
October 9, „	Saw-mill ...	Pulleys driving cross-cut saw.
October 19, „	Wool-pressing... ..	Wheel and pinion for driving hydraulic pumps.
October 25, „	Saw-mill ...	Breaking-down saw; main driving-pulley for planes; main belt of fly-wheel.
Nov. 5, „	Flour-mill ...	Vertical shaft on first and second floor.
Nov. 9, „	Saw-mill ...	Main driving-belt and crank of engine.
Nov. 9, „	Brick and tile works ...	Bevel wheels of gear at crank shaft; laying shaft; and spur-gear at fly-wheel.
<i>Verbal.</i>		
August 11, „	Wood-working machinery	Driving-pulley at floor in timber shop.
Sept. 19, „	Woollen factory ...	End of fly-wheel of engine; wheel and pinion of hydro-extractor.
October 10, „	Saw-mill ...	End of fly-wheel of engine.
October 10, „	Saw-mill ...	Passage between breast-saws.
October 29, „	Saw-mill ...	Fly-wheel of engine.
January 8, 1884	Flour-mill ...	Main laying shaft at passages.
January 12, „	Ropeworks ...	Pinion on draw-head.
January 25, „	Brick-works ...	Rope belting for driving machinery, and belt for driving brick-machine.

RETURN of ACCIDENTS to BOILERS and MACHINERY reported as having occurred in the Otago District during the Financial Year ended the 31st March, 1884.

Date of Accident.	Name and Address of Owner.	Nature and Cause of Accident.
May 21, 1883	Graving Dock, Port Chalmers	Cornish boiler; shortness of water, whereby the crown came down, requiring two plates to be taken out and renewed.
July 5, "	Messrs. McLeod Brothers, Dunedin	Cornish tubular boiler; slightly overheated through shortness of water.
July 27, "	Messrs. Cutten and Co., Dunedin	Tubular boiler, known as "Little Giant;" end of cast-iron cracked.
Sept. 4, "	Otago Harbour Board, Dunedin	Vertical tubular boiler; crown tube-plate cracked through contraction.
January 1, 1884	Oamaru Woollen Factory Company	Cornish boiler; two circular seams in tube sprung and tube slightly depressed through shortness of water.

RETURN of NOTICES given to REPAIR BOILERS in the Otago District during the Financial Year ended the 31st March, 1884.

Date of Notice.	Description of Boiler.	Nature of Repairs ordered.
<i>Written.</i>		
May 8, 1883	Vertical, with field tubes	New set of tubes.
May 15, "	Circular longitudinal tubular	Two stays of 1½ in. diameter to be put in between crown of steam-dome and crown of boiler.
June 15, "	Vertical ...	New uptake to be put in.
August 28, "	Vertical tubular ...	New steam pressure gauge to be fitted on.
Sept. 12, "	Steam digester ...	New angle-irons to be rivetted on top to replace the present ones, and re-stayed.
October 4, "	Locomotive saw-mill	New crown to be put in firebox, and man-hole door to be cut in shell 9 in. by 7½ in., with compensation-ring 3 in. by ½ in. rivetted on; also stays longitudinal inside to be made through-stays with double nuts.
October 9, "	Portable ...	Compensation-ring 3½ in. by ½ in. to be rivetted round man-hole; also through-stays to be renewed.
October 16, "	Cornish ...	Water-gauge set to be fitted on to boiler.
Nov. 5, "	Lancashire ...	Longitudinal seam, No. 4 ties, No. 2 tube to be partially re-rivetted and caulked.
Nov. 9, "	Locomotive ...	Two safety-stays to be put between stuffing-box of expansion joint on steam-pipe and plain flange.
Feb. 5, 1884	Vertical ...	New man-hole door to be got.
Feb. 12, "	Cornish ...	Two angle-iron rings of 3 in. by 3 in. by ½ in. to be put round tube and securely fastened by ½ in. bolts, screwed and rivetted on inside of tube, bolts spaced 6 in.
Feb. 23, "	Circular longitudinal tubular	Four copper boilers in connection with this boiler used for cooking. One safety-valve of 1 in. or 1½ in. diameter to be fitted on each pair of boilers.
March 19, "	Portable traction ...	Boiler to be retubed.
<i>Verbal.</i>		
May 25, 1883	Portable ...	Compensation-ring round man-hole.
July 5, "	Cornish tubular ...	Tubes expanded; overheated through water getting low.
July 27, "	Tubular ...	New end of wrought iron.
July 28, "	Steam drying cylinders	Safety-valve to be put on steam-pipe connected with drying cylinders.
August 20, "	Cornish tubular ...	Four extra through-stays for extra pressure allowed.
Sept. 4, "	Vertical tubular ...	New crown tube-plate, and new set of tubes.
Sept. 6, "	Portable ...	Ring round door on bottom of barrel of shell.
Sept. 6, "	Cornish ...	Patch on shell at blow-off.
Sept. 19, "	Cornish ...	Compensation-ring round man-hole.
October 19, "	Vertical ...	Patch at mud-hole.
January 9, 1884	Semi-portable	Compensation-ring round man-hole.

RETURN of DEFECTS found on the INSPECTION of BOILERS and FITTINGS in the Otago District during the Financial Year ended the 31st March, 1884.

Description.	Dangerous.	Ordinary.	Total.
1883 : May 8.—One multitubular boiler, loco make ; formerly used at the Green Island colliery for pumping and winding. Condemned	...	...	...
May 8.—Vertical field tubes : Slightly cracked in uptake and several rust holes ; and field-tubes gone	...	1	1
May 15.—Circular longitudinal tubular : Very dirty inside, endangering the shell (two stays to go in between crown of dome and shell) and seam leaking on crown	...	1	1
May 16.—Vertical field-tubes, field boiler : Ends of tubes burned off through sediment settling	...	1	1
May 25.—Portable : Compensation-ring to go round man-hole. Waste through leakage	...	1	1
June 15.—Vertical hoist : Uptake entirely gone. New uptake. Corrosion	...	1	1
June 25.—Cornish : Wasting inside. Corrosion	...	1	1
July 19.—Vertical : Slight laminated scale on uptake	...	1	1
July 30.—Vertical : Slight waste internally. Corrosion	...	1	1
August 4.—Return tubular : Laminated plate in crown of furnace	...	1	1
August 10.—Steam digester : Angle-irons and crown considerably wasted through corrosion	...	1	1
August 27.—Portable : Shell internally corroded. Will soon require to be replaced	...	1	1
August 28.—Vertical : Fittings of pressure-gauge useless	...	1	1
September 6.—Cornish : Plate wasted at blow-off. Corrosion	...	1	1
September 24.—Cornish : Plates corroded a good deal where in contact with brickwork	...	1	1
October 4.—Saw-mill tramway locomotive : Crown of firebox cracked through shortness of water. New crown	1	...	1
October 9.—Portable : Through-stays wasted, and plate round man-hole wasted	...	1	1
October 16.—Egg end : Fittings of water-gauge bad. New one	...	1	1
October 16.—Drying cylinders : Safety-valve to be put on steam-pipe of drying cylinders	...	1	1
November 5.—Lancashire : Several rivets corroded in No. 2 flue. To be renewed	...	1	1
November 9.—Fittings : Two stays to be put on steam-pipe to support stuffing-box	...	1	1
November 23.—Circular longitudinal-tubular : Fittings of pressure-gauge done	...	1	1
1884 : January 7.—Steam digester : Laminated plate on top, and angle-irons, considerably corroded	...	1	1
January 7.—Steam digester : Laminated plate on top, and angle-irons, considerably corroded	...	1	1
January 12.—Vertical : Uptake corroded nearly through. Is now sheathed	...	1	1
February 5.—Vertical : Man-hole door done through corrosion. New door	...	1	1
February 12.—Cornish : Circular seam in tube sprung through overheating, and longitudinal seam partly depressed	1	...	1
March 10.—Longitudinal tubular : Tubes all gone through corrosion	...	1	1
March 10.—Longitudinal tubular : Tubes all gone through corrosion	...	1	1
March 10.—Cornish tubular : Tubes sprung through dirt	...	1	1
March 19.—Portable : Tubes sprung through tear and wear	...	1	1
March 28.—Portable : Considerably worn through tear and wear	...	1	1
Totals	2	29	31

RETURN of ACCIDENTS to LIFE and LIMB which have occurred in Connection with LAND BOILERS and MACHINERY during the Financial Year ended the 31st March, 1884.—Otago District.

Name and Address of Owner.	Description of Machinery.	Name of Person injured.	Nature of Accident.	Fatal or Not.	Cause of Accident, and Remarks.
Messrs. R. Guthrie and Co., Dunedin	Wood-planing machine	Chas. Strachan, aged 15 years	Loss of left hand, May 12, 1883	Not ..	Stumbling in front of planer, whereby, in falling forward, his left hand came in contact with the knives. Purely accidental.
Messrs. Guthrie, Larnach, and Co., Owake Pines	Saw-mill twin saw	Robt. Marshall, engineer, aged 45 years	Four fingers of right hand, May 31, 1883	Not ..	After shifting the belt on slack-pulley, used his hat in hand to take the speed off the saw, pressing against the side, when his hand slipped, coming in contact with the top saw. Wilful carelessness.
Messrs. Donaghy and Co., South Dunedin	Ropeworks drawing-machine	James Murphy, aged 18 years	Left arm severed from body, July 2, 1883	Not ..	Employed at drawing-machine for straightening fibre. Trying to clean the machine while in motion (instead of stopping it, as his instructions were), whereby his hand got entangled in the flax, drawing the arm completely off. Nothing in the way of fencing can be done here.
Messrs. Donaghy and Co., South Dunedin	Ropeworks drawing-machine	John Congleton, aged 13 years	Left-hand thumb and three fingers crushed, Aug. 24, 1883	Not ..	The boy had been through speaking to the lad at the other end of the machine, and possibly, in turning quickly to get back to his own end, got his fingers in the pinions.*
Messrs. R. Bau-chop and Co., Port Chalmers	Saw-mill circular saw	George Thomson, aged 40 years	Left arm cut off below elbow, Oct. 5, 1883	Not ..	It appears that the man, George Thomson, was shovelling saw-dust from the pit under the saw, when, by some means, the shovel slipped; the saw-bench being low, he fell forward on the bench, his left arm coming in contact with the saw, which cut it clean off just below the elbow. This is one of those unavoidable accidents for which nothing can be done.
Dunedin Iron and Woodware Company	Woodworking machinery, planing machine	William Weir, aged 30 years	Three fingers cut off right hand, Jan. 10, 1884	Not ..	It appears that the man, William Weir, had been making some alterations, under the foreman's instructions, to the screen for throwing the shavings off. While describing the working of this to the foreman (who was alongside) and pointing out some further improvement, he incautiously approached his hand too near to the revolving knife, coming in contact with it, thereby losing the first three fingers of the right hand. This was purely accidental.
Messrs. Findlay and Co., Dunedin	Saw-mill circular saw	John Shaw, aged 36 years	Thumb and fore-finger of right hand cut off, March 19, 1884	Not ..	The man, John Shaw, sawyer, while employed cutting timber 8in. by 8in., and while pushing it on to the saw with his right hand, as is the custom, inadvertently kept his hand rather too long on, when the saw, coming through the cut, caught his finger and thumb, taking them partly off. This also was purely accidental.

\* The above case was tried in the District Court, at Dunedin, on the 23rd October, 1883, in which the boy's parents tried to recover damages for injury sustained at the defendant's works. Congleton v. Donaghy and Co.—His Honour, in summing up, said he was of opinion that the plaintiff was not entitled to recover: He was employed at a drawer machine, and was directed when he left to stop it until his return. At the time of the accident he had not done so, and, on returning, he suddenly turned round, and must have got his hand caught. As there was ample room in the passage for a boy of that size to pass, and as he must have raised his hand considerably to get it caught, his Honour held that the accident, though regrettable, was to be attributed entirely to the plaintiff's negligence; under these circumstances he was not entitled to recover.

The INSPECTOR of MACHINERY, Christchurch, to the CHIEF INSPECTOR of MACHINERY.

SIR,—

Christchurch, 17th May, 1884.

I have the honour to forward annual returns in connection with the inspection of machinery in my districts, and according to specimen form received from your office.

The forms contain all the information you have asked for, and the only thing I wish to explain is this: The form, "Returns of Machinery inspected in Canterbury District," shows five flour-mills and one flax-mill driven by water, while no fees are shown for same. These mills have previously paid the fee or have protections to erect before passing and issuing certificate, when fees will be paid.

The printing machinery worked by gas engines I have seen protected, but, as this class of

machinery is not included in First Schedule of the Act, I have not charged fees or issued certificates. Should any further information be required, I shall be glad to supply it.

The Chief Inspector of Machinery, Wellington.

I have, &c.,

GEORGE CROLL.

RETURN of ACCIDENTS to LIFE and LIMB which have occurred in connection with LAND BOILERS and MACHINERY during the Financial Year ending the 31st March, 1884.

Name and Address of Owner.	Description of Machinery.	Name of Person Injured.	Nature of Accident.	Fatal or not.	Cause of Accident, and Remarks.
Edward Prebble, Prebleton	Steam threshing machine	— Bowen ..	Left arm torn off, and otherwise severely injured	Fatal..	Threshing all night and oiling engine while in motion, with oil can in one hand and lantern in the other.
Hollis and Williams, Lyttelton	Saw-mill ..	A son of Mr. Hollis	Arm broken ..	Not ..	Wearing a loose coat and standing too close to a small feed-belt.
R. Buchanan, Christchurch	Emery wheel used in foundry	John Campbell	Wheel burst and struck him on the chest	Fatal..	This occurred so suddenly that no person can say how it happened. Supposed he allowed casting to fall on wheel while revolving.

RETURN of ACCIDENTS to BOILERS and MACHINERY reported as having occurred in the Canterbury District during the Financial Year ending the 31st March, 1884.

Date of Accident.	Name and Address of Owners.	Nature and Cause of Accidents.
1883. May 9	William Hunsley, Christchurch	Leakage from seams of boiler, caused by shortness of water in boiler.
1884. January 16	Lyttelton Times Company, Christchurch	Leakage from top seam of flue tube over fire, caused by shortness of water.
" 17	Boyd and Keir, Rangiora ...	Crack in firebox of portable engine, caused by heaping up damp shavings against part injured, thus chilling the plate, which was previously very hot.
March 30	James Dalzell, Sefton ...	Leakage at mouth of firebox of portable engine, caused by too frequently opening fire-door, thus allowing cold air to rush in upon hot plates; a common occurrence.

I have not received any notices of the above nature from Westland or Nelson South Districts.

RETURN of NOTICES given to FENCE Dangerous Parts of MACHINERY in the Canterbury District during the Financial Year ending the 31st March, 1884.

Date of Notice.	Description of Machinery.	Parts required to be Fenced.
1883. May 21	Flour-mill (W. J. Simpson, Kirwee)	First driving-belt.
August 30	Grain cleaner and elevator (Wood and Sinclair)	Fly-wheel of gas engine, main driving-belt from engine to counter-shaft, and driving-belt from engine to cleaning machinery.
September 18	Brick machinery (William Neighbours)	First driving-belt from engine and gearing for driving-press.
" 26	Flax- and flour-mill (C. Chinnery, of Rangiora and Woodend)	Driving shaft and belts of flax machinery, and driving pulley and belt of corn crusher.
October 10	Flax-mill (C. Chinnery, of Rangiora and Woodend)	First driving-belt, driving pulley and belts of scutcher, counter-shaft and pulleys of strippers.
" 10	Flax-mill (W. Mardon, Rangiora)	Flax-strippers and driving-belts of same, also closing a doorway leading from water wheel into stripper shed.
" 15	Flour-mill (G. Gardner, Cust)	A fence around upright shaft in second floor of mill.

I had no occasion to give notices to fence in the Westland or Nelson South Districts.

RETURN of DEFECTS found on the INSPECTION of BOILERS and FITTINGS during the Financial Year ended 31st March, 1884.

Description.	* Westland.			* Nelson South.			Canterbury.		
	Dangerous.	Ordinary.	Total.	Dangerous.	Ordinary.	Total.	Dangerous.	Ordinary.	Total.
Corrosion from leakage .. ..	1	..	1	..	..	..	..	4	4
Wasted internally .. ..	..	2	2	..	2	2	..	..	..
Internal grooving at seams .. ..	2	..	2	..	..	..	..	..	..
Firebox pitted .. ..	..	..	..	1	..	1	..	..	..
"    thin on sides .. ..	..	..	..	..	..	..	3	1	4
External corrosion .. ..	1	..	1	..	..	..	..	..	..
Cracks in furnaces .. ..	..	1	1	..	..	..	2	4	6
Stays giving way .. ..	1	..	1	1	..	1	..	..	..
Bottoms burnt through dirt .. ..	1	..	1	..	..	..	..	..	..
Water gauges bad .. ..	..	..	..	..	..	..	2	..	2
Pressure gauges bad .. ..	..	4	4	..	1	1	..	4	4
Crown of firebox down .. ..	..	..	..	..	..	..	..	9	9
Screwed patches in firebox .. ..	..	..	..	..	..	..	..	10	10
Tubes leaking .. ..	..	..	..	..	..	..	..	2	2
Uptakes wasted at waterline .. ..	..	..	..	..	..	..	1	3	4
Blow-off cocks broken .. ..	..	..	..	..	..	..	1	..	1
Overheating through shortness of water .. ..	..	..	..	..	..	..	2	..	2
Joints leaking .. ..	..	..	..	..	..	..	..	1	1
Brick seating insecure .. ..	..	..	..	..	..	..	1	2	3
	6	7	13	2	3	5	12	40	52

\* These districts were not completed on 31st March.

N.B.—This return includes those cases mentioned in return of notices given to repair.

RETURN showing the NUMBER of LAND BOILERS INSPECTED during the Financial Year ending the 31st March, 1884.

Name of District.	Number of Portable Boilers			No. of Stationary Boilers.			Total.
	Under 5 h.p.	5 to 10 h.p.	Over 10 h.p.	Under 5 h.p.	5 to 10 h.p.	Over 10 h.p.	
Canterbury .. ..	15	154	8	82	30	51	340
Westland .. ..	0	1	3	14	4	6	28
Nelson South .. ..	0	2	0	1	0	9	12
	15	157	11	97	34	66	380

As I was engaged on Westland and Nelson South Districts at the close of the financial year the above number of inspections does not show the full number of boilers in those districts.

RETURN of FEES payable for the INSPECTION of BOILERS and MACHINERY during the Financial Year ending the 31st March, 1884.

Name of District.	Fees payable in respect of Boilers.		Fees payable in respect of Machinery.		Total.
	£	s. d.	£	s. d.	£ s. d.
Canterbury .. ..	604	0 0	..	..	604 0 0
Westland .. ..	44	0 0	1 0 0	..	45 0 0
Nelson South .. ..	26	0 0	..	..	26 0 0
					£670 0 0

RETURN of NOTICES given to REPAIR BOILERS in the Nelson South District during the Financial Year ending the 31st March, 1884.

Date of Notice.	Description of Boiler.	Nature of Repairs ordered.
1884.		
March 18	Portable engine ..	All screwed stays in firebox to be renewed. Saw old stays removed.
" 20	Portable engine ..	New firebox within ten weeks from date; reduced pressure meantime.

RETURN of NOTICES given to REPAIR BOILERS in the Westland District during the Financial Year ending the 31st March, 1884.

Date of Notice.	Description of Boiler.	Nature of Repairs ordered.
1884.		
March 12	Tubular ...	New bottom plates in boiler. Saw all bad plates cut out and repairs in hand.
" 17	Cornish boiler ...	Angle iron on front end of flue tube to be renewed. Saw this repair completed.
" 22	Portable engine ...	All screwed stays in firebox to be renewed. Saw this repair completed.
" 24	Shell boiler ...	Bottom plates to be renewed. When turned out for repairs, found the whole of the boiler in a very bad state from external corrosion, caused by leakage from roof; considered it past repairing. Condemned.

RETURN of NOTICES given to REPAIR BOILERS in the Canterbury District during the Financial Year ending the 31st March, 1884.

Date of Notice.	Description of Boiler.	Nature of Repairs ordered.
1883.		
April 10	Locomotive type—tramway engine	Copper firebox thin from fireside of plates. Ordered the thin parts to be cut out and new plates screwed on, and all stays renewed. Reduced pressure.
June 6	Vertical boiler ...	Ordered new uptake, and all the bottom of firebox to be renewed.
" 26	Tramway engine ...	Cut out thin parts of copper firebox, screw on new plates, and renew all stays.
July 2	Tramway engine ...	Cut out thin parts of copper firebox, screw on new plates, and renew all stays.
" 31	Tramway engine ...	Cut out thin parts of copper firebox, screw on new plates, and renew all stays.
September 26	Portable ...	New firebox.
" 26	Portable ...	Expand tubes in furnace ends.
November 23	Portable ...	Firebox past repairing, also shell bad. Refused certificate; considered past repairs.
1884.		
February 12	Portable ...	New water and steam gauges.
" 13	Portable ...	New firebox, and water and steam gauges.
" 21	Portable ...	Cut out cracked plates in firebox, and, as a temporary repair, screwed patches put on, and properly secured with stays.

RETURN of MACHINERY INSPECTED in the Westland District during the Financial Year ending the 31st March, 1884.

Description.	Steam.	Steam and Water.	Water.	Steam and Wind.	Other Kinds.
Winches ...	5	...	...	...	...
Breweries ...	5	...	...	...	...
Wood-working ...	2	...	...	...	...
Coffee works ...	1	...	...	...	...
Saw-mills ...	7	...	...	...	...
Fire engine ...	1	...	...	...	...
Foundry ...	1	...	...	...	...
Coal-mining ...	1	...	...	...	...
Winding and sawing ...	1	...	...	...	...
Printing ...	1	...	...	...	...

RETURN of MACHINERY INSPECTED in the Nelson South District during the Financial Year ending the 31st March, 1884.

Description.	Steam.	Steam and Water.	Water.	Steam and Wind.	Other Kinds.
Saw-mills ...	2	...	...	...	...
Quartz-crushing ...	3	...	...	...	...
Coal-mining ...	2	...	...	...	...
Winding ...	1	...	...	...	...

As I was engaged inspecting in these districts on the 31st March, neither are complete in these returns.

RETURN of MACHINERY INSPECTED in the Canterbury District during the Financial Year ending the 31st March, 1884.

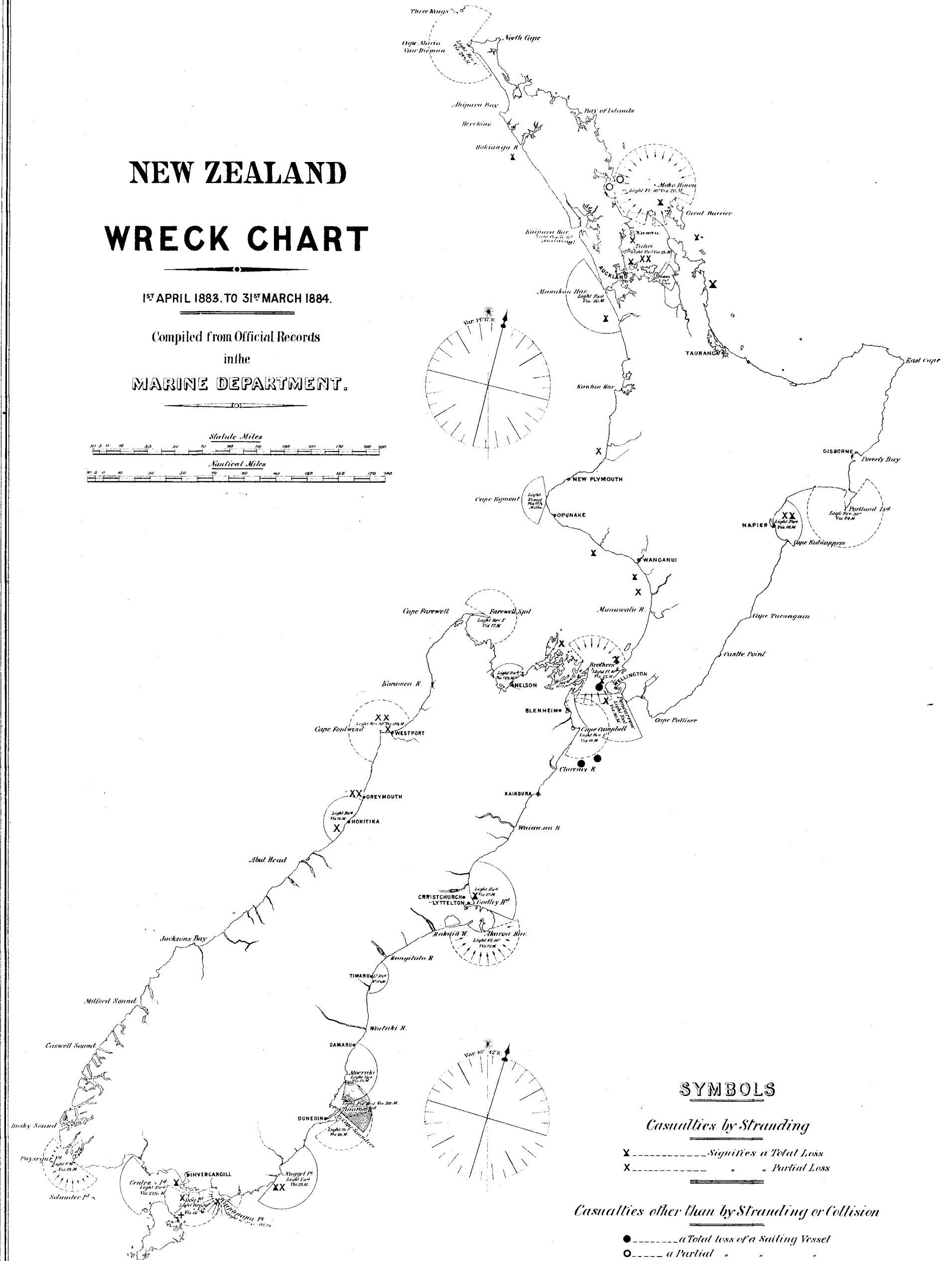
Description.	Steam.	Steam and Water.	Water.	Steam and Wind.	Gas, &c.
Saw-mills ...	35	...	...	...	...
Threshing machines ...	102	...	...	...	...
Foundries and ironworks ...	26	...	...	...	...
Flour-mills ...	8	...	5	1	...
Brick and pottery works ...	5	...	...	...	...
Coal-mining ...	2	...	...	...	...
Flax-dressing ...	4	...	1	...	...
Soap-works ...	2	...	...	...	...
Coffee works ...	2	...	...	...	...
Stone-sawing ...	1	...	...	...	...
Chaff-cutting ...	15	...	...	...	...
Wood-working ...	10	...	...	...	...
Brewery ...	6	...	...	...	...
Coach factories ...	2	...	...	...	...
Sawing firewood ...	8	...	...	...	...
Tramway engines ...	8	...	...	...	...
Butchers ...	17	...	...	...	...
Cranes and winches ...	12	...	...	...	...
Cordials and confectioners ...	6	...	...	...	...
Traction engines ...	12	...	...	...	...
Baths ...	1	...	...	...	...
Printing ...	1	...	...	...	Gas 4
Boiling-down ...	4	...	...	...	...
Laundry ...	1	...	...	...	...
Wool-dumping ...	2	...	...	...	...
Wool-washing ...	2	...	...	...	...
Woollen-mills ...	1	...	...	...	...
Tanneries ...	3	...	...	...	...
Glue works ...	1	...	...	...	...
Meat-preserving ...	1	...	...	...	...
Refrigerating works ...	1	...	...	...	...
Chemical works ...	1	...	...	...	...
Road roller ...	1	...	...	...	...
Fire engines ...	3	...	...	...	...
Gasworks ...	1	...	...	...	...
Pumping ...	3	...	...	...	...
Dredge ...	1	...	...	...	...
Dock ...	1	...	...	...	...
Stone-breaking ...	2	...	...	...	...
Sand-cleaning ...	1	...	...	...	...
Concrete-mixing ...	1	...	...	...	...
Landing service ...	1	...	...	...	...
Cheese and butter works ...	1	...	...	...	...



# NEW ZEALAND WRECK CHART

1<sup>ST</sup> APRIL 1883. TO 31<sup>ST</sup> MARCH 1884.

Compiled from Official Records  
in the  
MARINE DEPARTMENT.



## SYMBOLS

### Casualties by Stranding

- X ----- Signifies a Total Loss
- X ----- " " Partial Loss

### Casualties other than by Stranding or Collision

- ----- a Total loss of a Sailing Vessel
- ----- a Partial " " " "
- + ----- total " " Steam " "

Note: Casualties resulting in slight damage  
are not shown on this Chart.



# PLAN OF

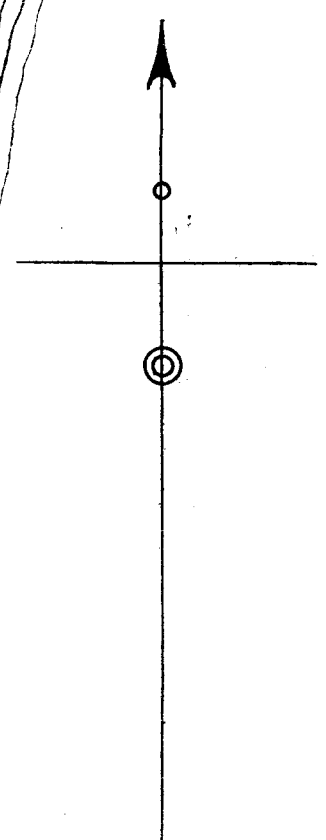
# MOERAKI PORT

X North Reef Breaks

Scale



HAMPDEN



Ship Channel  
Keep the jetty well open clears everything

Breakers  
3 1/2 feet

X Reef  
11 ft Low Water  
Breaks with bad weather

X Heavy Breakers  
4 ft

6 feet Channel

Breakers  
Kelp

Rocky Reef with Kelp  
Frank Guy went ashore

Sandy Beach  
High Bluff Land  
FLAGSTAFF

55 30 faths 1 3/4 in Chain

Buoy 60 fths 1 inch Chain

Stones

Depth at end of  
jetty 9 ft L.W.  
Rise & Fall  
Springs 6 ft  
Neap 4 1/2 ft  
Crane at the  
end of jetty

Buoy 80 fths 1 1/4 inch chain

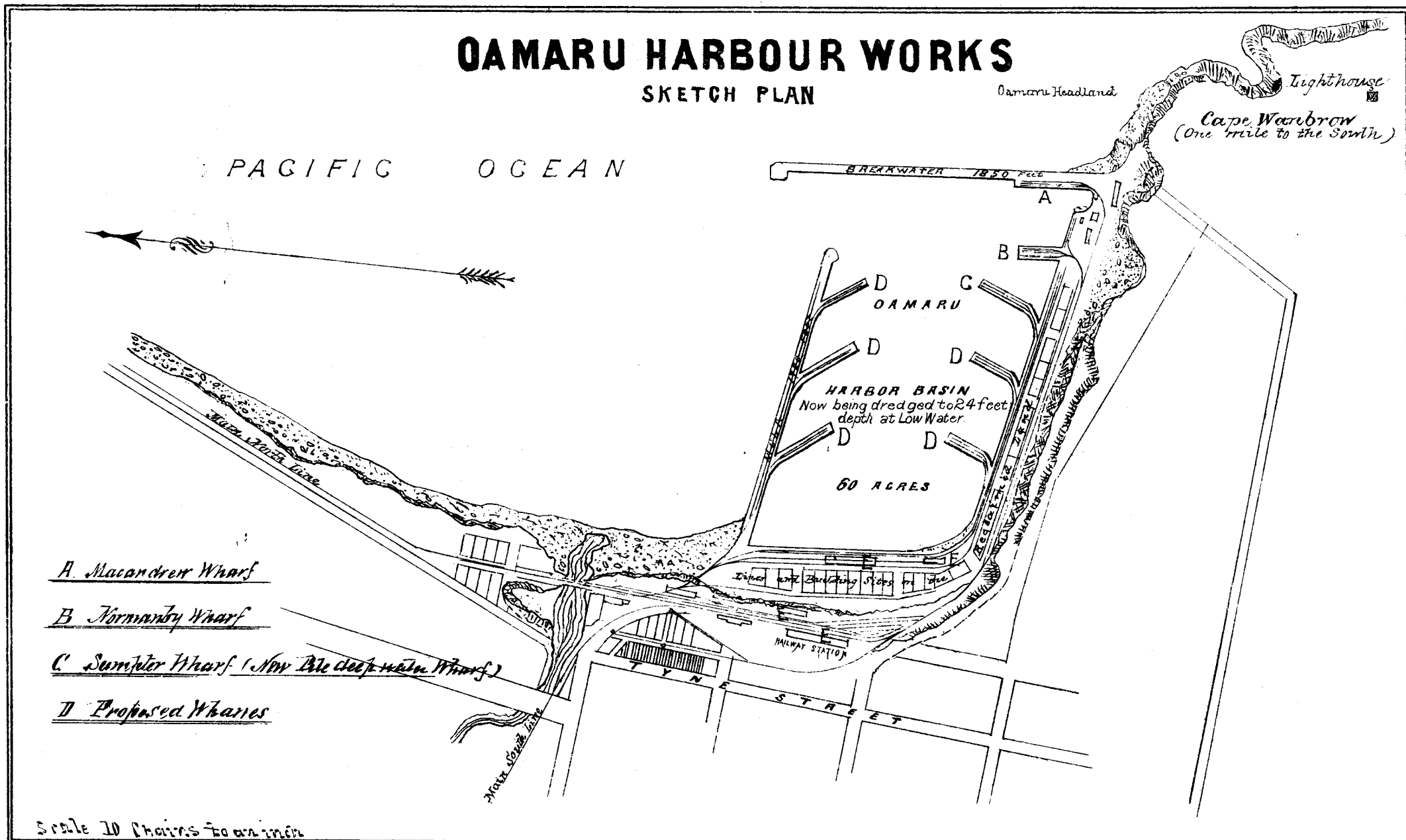
Buoy 60 fths 3/4 inch chain

Rocky Point



# OAMARU HARBOUR WORKS

## SKETCH PLAN



Photolithographed at the General Survey Office, Wellington, N.Z. September, 1884.

### DESCRIPTION OF OAMARU HARBOUR.

The Port of Oamaru, situated in the bay to the north of Cape Wanbrow, originally an open roadstead, has been improved and rendered a safe harbour by the construction of a breakwater carried northward from the east head of Oamaru Bay, and a rubble mole carried eastward from the west shore of the bay towards the breakwater, enclosing a basin of nearly sixty acres, leaving an entrance at the north-east angle of 500ft. in width.

The breakwater, built with concrete blocks, was completed in January of this year, being 1,850ft. in length and 36ft. in width.

The mole, which when completed will be 1,720ft. in length, is now extended 1,450ft. from the shore.

The basin enclosed is now perfectly safe, and vessels lie in comparatively still water.

The wharf accommodation consists of the Macandrew Wharf, the Normanby Wharf, and the Cross Wharf, together having a berth frontage of 1,250ft., suitable for vessels up to 800 tons register and drawing up to 16ft.

In addition to these wharves, which are built of concrete, the first of a series of pile-wharves is now being erected to the west of the Normanby Wharf, to have 600ft. of berth-frontage, and on each side of the wharf the water is being deepened to 24ft. at low water, and every arrangement as to moorings and other appliances is being made to suit vessels of the largest class.

The Board's new dredger has been at work for some months deepening at this point and at the Macandrew Wharf, and the progress made at the new wharf is such as to warrant the hope that the s.s. "Elderslie," a new meat-freezing vessel of 3,800 tons, being built for the Oamaru trade, will be berthed alongside the wharf in August next.

During the construction of the mole a large quantity of spoil from the quarry has been utilized in reclaiming shallow parts of the shore round the harbour; sixteen acres of ground for building-sites, and road and railway approaches, having thus been formed.

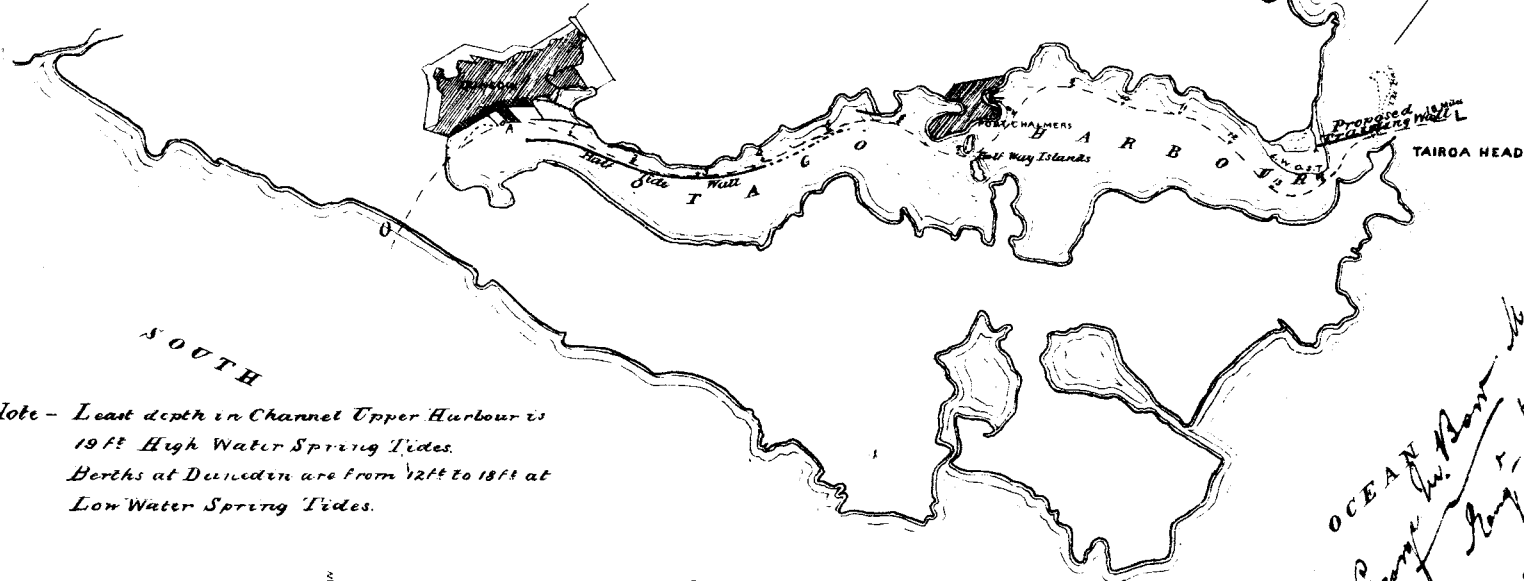


PLAN AND HORIZONTAL SECTION

VERTICAL

0 10 20 30 40 50 60 70 80 Feet

*Plan and section of Channel between the Heads  
and Dunedin - March 1884.*



*Note - Least depth in Channel Upper Harbour is 19 ft High Water Spring Tides.  
Berths at Dunedin are from 12 ft to 18 ft at Low Water Spring Tides.*

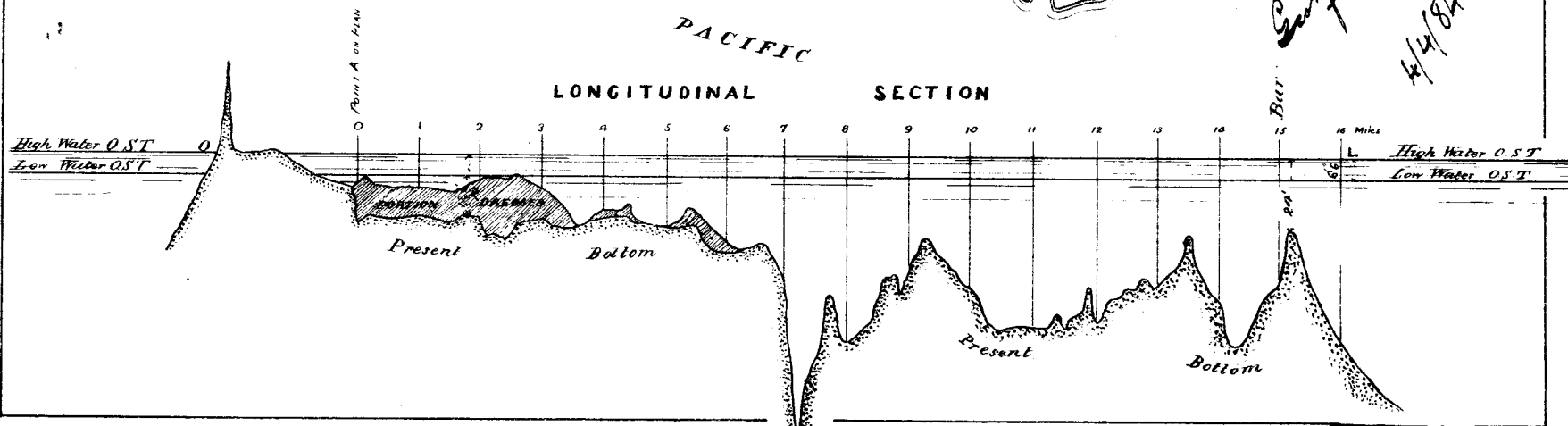
TAIROA HEAD

OCEAN

George W. Brown M. Inst. W.C.

King - to Board

4/4/84







# PORT OF TIMARU.

The plan enclosed shows the progress made with the Timaru Harbour works to the 25th March, 1884, the length of breakwater constructed to that date being 1,500ft.

There are at present 1,000ft. of wharfage, connected with the main line of railway, for the accommodation of vessels drawing up to 15ft., with a sufficient number of steam cranes always available.

Screw moorings are laid down in the harbour for the security of vessels; and lighters have been provided sufficient to carry 150 tons afloat at one time. Vessels are loaded at the moorings to a draught of 18ft.

On the plan are marked the best anchorages for all classes of vessels, also the bearings from the lighthouse.

The services of the p.s. "Titan," a powerful disconnecting tug, the property of the Harbour Board, can be secured at any time at moderate charges.

The following returns for the year 1883 will illustrate the importance of the trade at this port:—

Number of vessels despatched to the United Kingdom and Cape Colony during 1883 ... .. 20

Vessels despatched to intercolonial ports ... .. 14

Vessels despatched coastwise ... .. 235

Number of vessels worked at the wharf ... .. 218

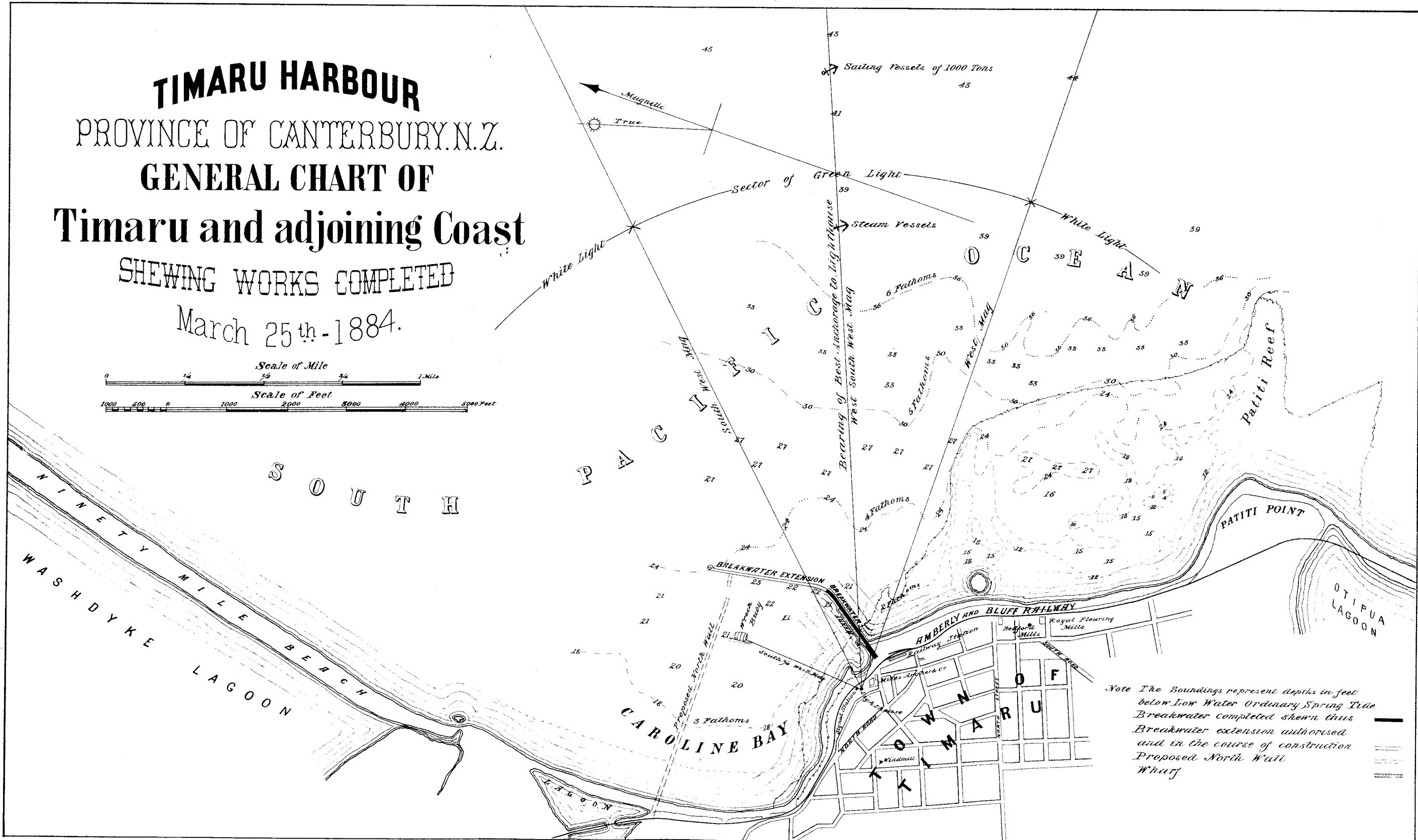
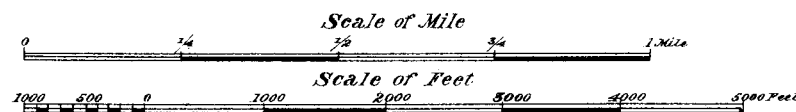
Vessels may rely on being boarded when nearing the port, and every effort is used to further the interests of shipping.

Reports on the progress of the harbour works, with sailing directions, can be had on application at any Customhouse in the Australian Colonies, and will be mailed free to any person interested in the shipping trade, on application to the Secretary of the Timaru Harbour Board.

W. J. TENNENT,  
Secretary.

Timaru, 2nd April, 1884.

## TIMARU HARBOUR PROVINCE OF CANTERBURY.N.Z. GENERAL CHART OF Timaru and adjoining Coast SHEWING WORKS COMPLETED March 25<sup>th</sup> - 1884.

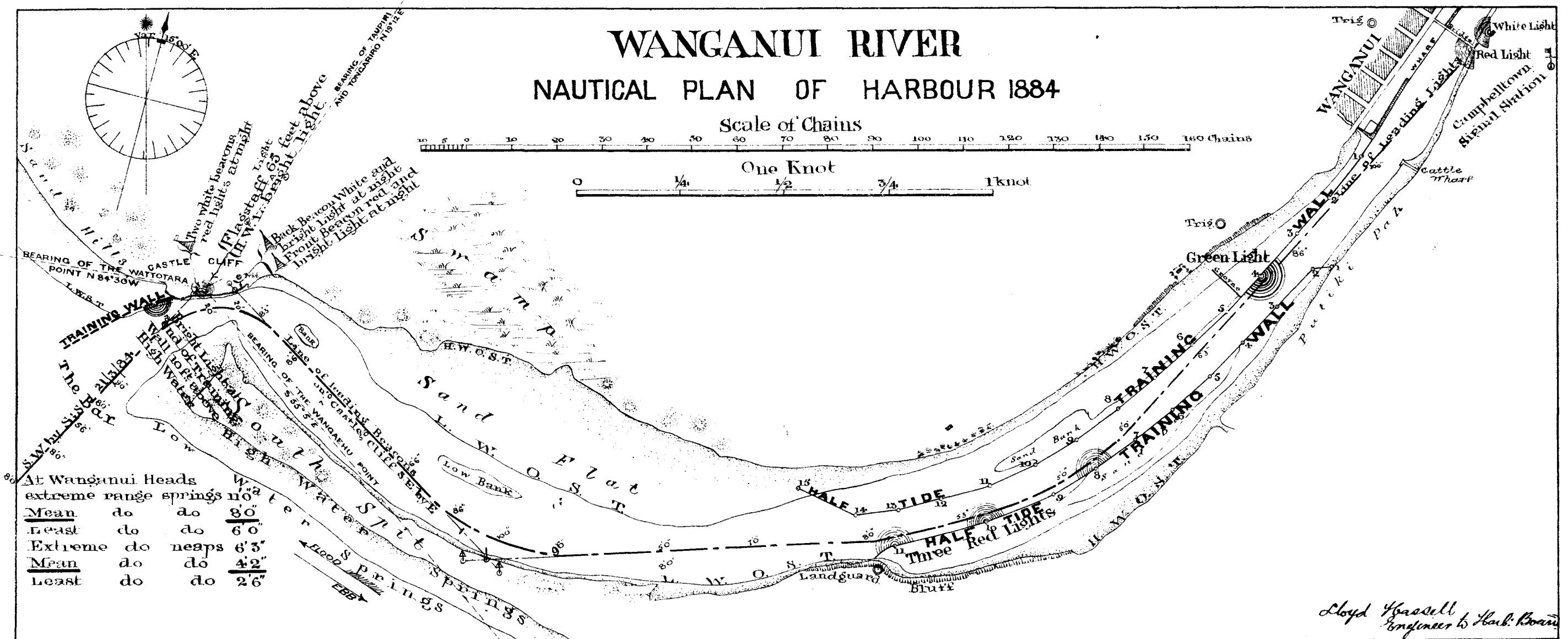


Note The Soundings represent depths in feet below Low Water Ordinary Spring Tide  
Breakwater completed shown thus ———  
Breakwater extension authorised and in the course of construction .....  
Proposed North Wall .....  
Wharf ———



# WANGANUI RIVER

## NAUTICAL PLAN OF HARBOUR 1884



Photolithographed at the General Survey Office, Wellington, N.Z. September, 1884.

### SAILING DIRECTIONS FOR ENTERING WANGANUI HARBOUR.—MARCH, 1884.

THE mouth of the Wanganui River lies in Lat. 39° 57' S., Long. 175° 1' E., and bears from the north end of Kapiti Island N. by W. 52 miles. The best guide for the entrance is Taupiri (or the Devil's Thumb), a remarkable sharp double-peaked hill, 1,860ft. high, about eighteen miles inland, bearing N. by E.  $\frac{1}{4}$  E. in a line with Ruapehu Mountain. This leads directly for the entrance. When these mountains cannot be seen, the Seven Hummocks are a good guide to the river. These are a range of hillocks to the northward of Wanganui, eight miles from the coast, extending in an east-and-west direction for three miles. The easternmost one bears from the entrance of the river N.W. by N. 12 miles. The Landguard Bluff, a conspicuous cliff facing north, about 125ft. high, two miles up river from the entrance and on the south bank, is a prominent object. The North Head, or Castle Cliff, is a vertical cliff 40ft. high facing south, on the top of which are the pilot-station, flagstaff, and leading beacons. All the beach in the neighbourhood is sandy. Two miles to the north of the entrance the land facing the sea changes from low sandy hillocks to a high cliff about 150ft. above the sea. The submarine cable from Whakapuaka is landed about a mile to the north of the entrance. The flood-tide in the river, when there is no fresh, runs in five hours, and the ebb out for seven. On the adjacent coast the flood runs to the northward and the ebb to the southward from one to one and a half knots. There are eight fathoms in the offing one mile from the entrance. The bar is from a half to three-quarters of a mile from the flagstaff, but shifts according to weather, &c. There is 11ft. to 14ft. on the bar at high-water springs, and at neaps about 2ft. less. High-water, full, and change, 10h. 15m.; rise and fall springs, 8ft.; neaps, 4ft. 2in.; range at bridge, about 2ft. 3in. less. A rubble training breakwater is being run out towards the bar on the north side of the entrance as shown, and in March, 1884, had reached a distance of 80 yards from the North Head. The wall is 6ft. above high water, and at night a bright light is shown at the end 10ft. above high water.

**Lights and Beacons.**—To show the position of the entrance, there is a white fixed light exhibited from the flagstaff on Castle Cliff (North Head) 70ft. above mean sea-level, which should be visible about thirteen miles from the deck of a vessel. Two shifting pyramid-beacons, painted white, the inner one highest, for guiding across the bar, are erected on the North Head, and bear red flags by day and red lights by night when the tide serves and the bar is safe. When the bar is unsafe these red flags or lights are not shown; but at night a green light is exhibited when vessels approach. When the bar is to be crossed by day the two beacons should be kept in one line, particular attention, however, being paid to the semaphore arms on the flagstaff on account of the curves in the

channel inside the bar. Crossing the bar at night, keep the red lights on the beacons in one line, and pay particular attention to the green light, which is used like the semaphore arm for guiding vessels in steering over and inside the bar. It travels on a yard on the outer beacon, and vessels must be steered in the direction in which it is moved. Masters of vessels arriving off the bar at night should show a flash light at short intervals, or burn blue lights, which will be answered by a torch or flare-up light from the pilot-station. In moderate weather vessels can approach safely within signalling distance. In fine weather the pilot will board inward-bound vessels when requested by signal to do so. In fine weather vessels having to wait for the tides can anchor in from four to eight fathoms one to two miles off the bar. When inside the entrance, and off the outer point of the Castle Cliff, haul to the eastward and S.E. by E. round the end of the South Spit, keeping the two beacons behind on the cliff in line as well as the two guide-poles up river on the South Spit. At night two bright lights are burned on these beacons on the cliff, which must be kept in line. After about three-quarters of a mile on this course the beacons on the south training-wall, near Landguard Bluff, will be seen. These beacons on both walls are numbered as shown on plan. Those on the north wall are white piles with a black barrel on top, and those on the south wall are of similar construction but painted red all over. Keep the red beacons on the starboard and the white beacons on the port side. There are also buoys in the river, the black to be kept on the port and the red on the starboard hand going in. Three red lights are burned on the lower beacons of the south training-wall as shown on plan. On passing the upper red light, steer for the east end of the bridge. At night there are two leading lights, as shown, near the east end of the bridge, which should be kept in line till near the wharf. A green light is burned on Beacon No. 4 on the north wall, which should be kept on the port side going in. Sailing vessels should not attempt to cross the bar at night, as the wind generally dies away or draws off the land towards sundown.

#### Night Signals for Vessels in the River, bound out.

Green light on bluff: Bar dangerous.  
 Red light on bluff: Bar safe.

There is a telephone for the use of masters from the town to the pilot-station.  
 All bearings given are magnetic.

