

SESS. II.—1891.
NEW ZEALAND.

MARINE DEPARTMENT.

(ANNUAL REPORT FOR 1890-91.)

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

MY LORD,—

Marine Department, Wellington, 31st August, 1891.

I do myself the honour to transmit herewith, for your Excellency's information, the report of the Marine Department of this colony for the financial year ended on the 31st March last.

I have, &c.,

JOHN MCKENZIE,

(for Minister having charge of the Marine Department.)

His Excellency the Right Honourable the Earl of Onslow, &c.,
Governor of New Zealand.

The ASSISTANT SECRETARY to the Hon. the MINISTER having charge of the MARINE DEPARTMENT.

SIR,—

Marine Department, Wellington, 1st June, 1891.

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

Lighthouses.—No accident of any importance occurred during the past year at any of the New Zealand lighthouses. At Taiaroa Head a heavy squall caused the tower door to fly open and extinguished the light, which was, however, relighted immediately. Cuvier Island Lighthouse was struck by lightning, the wires of the electric-bells being fused, but fortunately little damage was done. French Pass Beacon Light was reported by the keeper in charge to have been blown out on seven occasions—viz., on 8th April, from 5.30 a.m. to 7 a.m.; on 4th May, from 10 p.m. to 7 a.m.; on the 5th and on the 27th May, from 7 to 7.30 p.m.; on 27th June, from 7 to 7.30 p.m.; on 6th July, from 3 to 4 p.m.; on 19th July, from 9 to 9.15 p.m.; and on 10th October, from 3 to 4.30 a.m. At Manakau Head several panes of glass that were cracked in the lantern were removed and replaced by sound ones. At Puysegur Point the keepers' dwellings were repaired, new weather boards being fitted on the ends of the houses exposed to the prevailing winds. Repairs will require to be done to several lighthouses during the current year. Nugget Point requires new dormant panes, and repairs of an extensive character will be required at Farewell Spit. Two lightkeepers left the service during the year, one having retired on a pension and the other having resigned.

New Lighthouses.—An examination of the site for a light on Stephen's Island was made by Captain Johnson in December last, but no definite site could be selected until some scrub had been cut down. The Public Works Department was requested to have the island taken for a site for a lighthouse under the provisions of the Public Works Act, and this was done; but owing to no sum having been placed on the estimates for the light, except for the purchase of the land, no further steps have been taken in connection with the erection of this most important light. The Governments of New South Wales, Victoria, and Tasmania having agreed with the Government of New Zealand to contribute towards the cost of the erection and maintenance of a light on the Snares, such cost being divided amongst the contributing colonies on a basis of population, arrangements were made that the "Hinemoa" should visit these islands in January last, with delegates from the contributing colonies, for the purpose of selecting the site for the lighthouse. The delegates in their report, a copy of which is appended hereto, recommended a site on the main island. Subsequently a party of surveyors were despatched to the island, and a survey was made of a road or tram-line.

Harbours.—The main beacons at Kaipara Heads, owing to the Tory Shoal having extended, have had to be shifted. The new position for the beacons is not altogether satisfactory, as only one is against the sky-line. However, that was the best position that could be found. Smaller beacons were also erected to indicate when the course should be changed after crossing the bar. Somewhat extensive repairs were carried out to the dwellings at the pilot-station (including the Custom-house), the roofs being covered with galvanised iron, &c. At Mauakau a still further extension of the beacon tram-

way had to be made, but it is anticipated that no further extension is likely to be required. The boatman's house was put in repair, and minor repairs were executed to the signalman's house. The new road has, with the addition of a few culverts, stood well. At Foxton the boatman's house was enlarged and repaired. This house, however, will not now be required, as owing to the falling off of the trade, caused by the fall in the Phormium market, the services of the boatman have been dispensed with. At Nelson the services of the assistant in the pilot boat have, owing to the necessity for economy, been dispensed with. A new dwelling for the single boatman at this port has been erected, the old one being beyond repair, and small repairs have been made to the married men's house. At Russell and Akaroa it has been considered that owing to the small amount of duties performed by the Harbour-masters that their services could be dispensed with. This has been accordingly done, the services of the boatman at Russell being dispensed with at the same time.

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

April 7, 1890. Vests Pigeon Bay Wharf in Pigeon Bay Road Board.

May 13. Approves of plans of skids at Star Boating Club's shed, Wellington.

August 4. Removes member from seat on Westport Harbour Board.

August 5. Approves of Tainui Street training-wall and dredging at Greymouth.

August 5. Declares that Birkenhead Borough Council shall elect a member of Auckland Harbour Board.

August 19. Approves of plans of North British and Hawke's Bay Freezing Company's protective works, Napier.

August 19. Approves of plans of Mokihinui Coal Company's wharf at Mokihinui.

August 19. Licenses Mokihinui Coal Company to use foreshore at Mokihinui for wharf site.

September 9. Approves of plans of Messrs. Webster and Marshall's wharf, Seaford, Blind Bay.

September 9. Licenses Webster and Marshall to use foreshore at Seaford for wharf site.

September 16. Approves of plans of additions to outer western tee, Queen Street Wharf, Auckland.

September 16. Approves of plans of boat-harbour, entrance, Queen Street Wharf, Auckland.

November 25. Appoint members of Greymouth Harbour Board.

November 25. Appoint members of Westport Harbour Board.

November 25. Approves of plan of county wharf at Tikiui, Kaipara Harbour.

November 25. Licenses Hobson County Council to occupy foreshore for wharf site, Tikiui.

December 16. Approves of plans of extension of Gear Company's wharf at Petone.

January 12, 1891. Amends license for New Brighton Pier Company's wharf.

January 1. Approves of plans of Opunake Wharf Company's wharf at Opunake.

January 19. Licenses Opunake Wharf Company to use foreshore for wharf site at Opunake.

February 3. Approves of plans of extension of coal staiths at Westport.

February 23. Approves of Thames foreshore license to S. Bawden.

March 6. Revokes foreshore license granted to C. Effey.

Notice to Mariners.—Forty-six notices to mariners were issued during the year, of which eighteen related to matters within the colony. The following is a list of them:—

Kaipara Harbour: Beacons and directions for clearing Tory Shoal (four notices).

Greymouth Harbour: Dredging operations.

Wellington Harbour: Extension of wool-jetty and erection of timber staging Jervois Quay.

Wellington Harbour: Wool-jetty light.

Westport Harbour: Green light on eastern breakwater, entrance to Buller River.

Westport Harbour: Dredging operations.

Lyttelton Harbour: Dredging operations.

Nelson Harbour: Discontinuance of white light on Nelson Railway Wharf extension.

Auckland Harbour: Two rocky patches, entrance to Haurangi Bay, and removal of warping buoy, north-west of Queen Street Wharf.

Manukau Harbour: Beacons leading over end of Treachery Shoal.

Bluff Harbour: Rocky patch at entrance.

Oamaru Harbour: Masters of inward-bound vessels of over 15ft. draught, holding pilotage exemption certificate, to remain outside until signalled to stand in.

System of buoyage to be used in New Zealand, from 1st September, 1891.

Cape Maria, Van Diemen: Soundings on Pandora Bank.

Corrections in Chart-sheets 7 and 14, New Zealand, as to part of coast-line of West Coast of South Island.

Light-dues.—The sum of £15,794 14s. 9d. was received for light-dues for the year, as against £15,330 15s. 2d. in the preceeding year. This includes the sum of £2,136 5s. 7d. paid by the Postal and Telegraph Department in respect of dues remitted on the San Francisco, New Zealand Shipping, and Shaw-Savill and Albion Companies steamers. Owing to the fact that the light dues on the mail-steamers are no longer paid by the Post Office, the returns for the year include a quarter's more light-dues on mail-steamers than should be credited to the year's revenue for statistical purposes, when this amount (£550 10s. 6d.) is taken from the amount collected, it will be seen that the amount received (£15,244 4s. 3d.) is slightly under the amount received for the previous year.

Government Steamers.—The "Stella" is still laid up. She was placed on the slip in September last, and for a short time, during the maritime strike, a master and engineer were appointed to her in case she might have been wanted. The "Hinemoa" has been regularly employed on the Government service. She made trips to the Kermadecs in April and November, and to the Auckland Islands, &c., in October, 1890, and January, 1891; she also went to the Macquarie Islands in search of the ill-fated "Kakanui" in January. During the year the "Hinemoa" steamed 31,195 miles, was 3,674 hours under steam, burnt 2,000 tons of New Zealand coal, landed 3,007 tons of cargo, and cleaned and overhauled 125 buoys.

Examination of Masters, Mates, and Engineers.—One hundred and thirty-two candidates passed their examination for certificates of competency, and forty failed. Of those who passed eighty-six were masters, mates, and engineers of sea-going vessels, and forty-six were masters and engineers of river steamers. There were no failures to pass the colour-test examination reported during the year. Four certificates of service were issued during the year, two being for the Home and two for the Foreign trade.

Relief of Distressed Seamen.—The sum of £41 18s. has been expended during the year on account of the relief of distressed seamen belonging to New Zealand vessels. Of this amount £22 8s. has been refunded to the Board of Trade for conveyance of four men of the "Julia Pryce" from Aitutaki to Raratonga, and the maintenance of two of them at Raratonga for thirty-four days, and £19 10s. for the conveyance of ten of the crew of the "Notero" from Apia, Samoa, to Auckland. No amounts have been expended this year in the relief of crews of other than New Zealand vessels, or in replenishing the dépôts for castaways on the outlying islands of New Zealand. In connection with this subject, however, representations were made to the Government in December last that there were persons in a destitute condition on Macquarie Island; the Government then decided to send a vessel to ascertain whether such was the case or not, and accordingly chartered the s.s. "Kakanui" for this purpose. She left Invercargill on the 24th December and reached the Macquaries on the 3rd January, and left a few hours afterwards with eight men who had been working on the island, and has never been heard of since. She is supposed to have foundered in a very heavy gale of wind shortly after she left. The gale was the heaviest that the headsman, who had been on the island for about sixteen years, had ever experienced.

Wages and Effects of Deceased Seamen.—During the year the estates of twenty-seven deceased seamen have been dealt with. One estate, £9 8s. 5d., has been transferred to the Public Trustee; £16 14s. 6d. has been paid to relatives, and £124 0s. 10d. paid into the Public Account in accordance with the provisions of section 87 of "The Shipping and Seamen's Act, 1877." Eight new estates were received during the year.

Survey of Steamers.—Certificates of survey under "The Shipping and Seamen's Act, 1877," have been issued to 201 steamers of 29,924 aggregate tonnage, and 9,887 horse-power; as against 193 steamers of 31,595 aggregate tonnage, and 10,627 horse-power last year. A certificate of exemption from survey, and from the employment of certificated master and engineer was issued under the provisions of section 201 of "The Shipping and Seamen's Act, 1877," and subsection (2), of section 2, of "The Shipping and Seamen's Act 1877 Amendment Act, 1885," for the s.s. "Paiaka," for so long only as she was plying within Queen Charlotte Sound and Tory Channel in the fishing-trade.

Wrecks and Casualties.—The accompanying table shows an analysis of the casualties reported. Those on the coast of the colony number 35, representing 12,936 tons, as against 39 casualties, affecting 15,952 tons, in the previous year. There is again a decrease in the number of total wrecks within the colony, 3 vessels, of 830 aggregate tonnage, being lost, as against 12 vessels, of 2,464 aggregate tonnage, in the previous year. There is an increase in the number of lives lost during the year, being 121, as against 25 in the previous year; those lost in the colony being 13, as against 15 last year. Of the lives lost on or near the coasts of the colony, 3 were lost from the "Rose Blanche," 2 from the "Maud Graham," and 1 each from the "Compadre," "Ida," "Camelia," "Diana," "Fleetwing," "Fearnought," "Christine," and "Tokerau." Of those lost beyond the colony (108), 19 were lost in the s.s. "Kakanui," 31 in the "Marlborough," 34 in the "Dunedin," 10 in the "Kentish Lass," and 10 in the "Rainbow," each of these vessels having, it is supposed, foundered with the loss of all hands, and 1 each from the "Lady Jocelyn," "Laura," "Brahmin," and "Persian Empire."

Of the miscellaneous casualties reported, three were of a serious character—viz., those to the "Nettie," "Ranee," and "Leading Wind," fire having broken out in the holds of each of these vessels. The "Nettie" and "Leading Wind" were loading New Zealand Phormium at the time of their respective casualties. The "Ranee" was laden with shale, and required to be sunk to extinguish the fire.

New Zealand Pilot.—A quantity of information for the preparation of a new edition of the "New Zealand Pilot" was, at the request of the Hydrographer to the Admiralty, forwarded to him. He not only expressed his thanks in a most courteous manner, but a despatch was also forwarded to His Excellency the Governor by the Secretary of State for the Colonies, enclosing a letter from the Admiralty, requesting that the thanks of the Lords Commissioners might be conveyed to the Department of Marine in New Zealand for the assistance rendered by them in connection with the revised edition of the "New Zealand Pilot." It is believed that copies of the new edition will be received in the colony at an early date.

FISHERIES.—Oysters. I must again draw the attention of the Government to the desirability of legislating with the view of preventing the entire destruction of oysters, a state of affairs which will, should not the taking of oysters be restricted, not take a very long time to come about. This is an experience which would appear to belong to every country where oysters have been plentiful. The supply has been considered inexhaustible, and not until the oysters have been almost exterminated has the fact been realised that an oyster-bed can be over-fished.

Imported Fish.—Fish believed to be grilse have been caught in the Aparima River. It will be desirable, I submit, to continue to prohibit fishing in this river until the question of the acclimatisation of salmon has been settled beyond doubt. The trout in our rivers still continue to increase, and the acclimatisation societies are doing good work in stocking the streams. It would, I think, be desirable to stock the streams of the northern part of the North Island with the Rainbow or Californian trout (*Salmo irideus*), which the experience of the Auckland Society would tend to show is very suitable to the rivers where the temperature of water is in the summer too high for the common brown trout.

Inspection of Machinery.—The Act has continued to work without any hitch. It has only been found necessary to take proceedings in a case in which a fatal accident had not been reported as

required by law. In this case the defendant was fined £10. One Inspector resigned during the year, and the vacancy was filled by the appointment of Mr. R. Duncan, who is now stationed in Otago, Mr. Blackwood having been moved to Auckland.

Returns.—The annual returns, reports by Inspectors of Machinery, wreck-chart, &c., will be found appended hereto.

I have, &c.,

LEWIS H. B. WILSON, Assistant-Secretary.

The Hon. the Minister having charge of the Marine Department, &c.

DELEGATES of CONTRIBUTING COLONIES to the Hon. the MINISTER having charge of the
MARINE DEPARTMENT.

HON. MINISTER,—

Marine Department, 26th January, 1891.

I have the honour to forward the report of delegates on the proposed light on the Snares Island.

Owing to the gentlemen representing the other colonies being of opinion that the light should be an all-round light the site chosen had of necessity to be on the highest part of the island at such an elevation that I fear the light at times will be obscured, but not to such an extent as would be the case at the same elevation on the main land, for the spot selected is small, affording little room for fog to rest on. Myself, I would have preferred a much lower site, showing light only in the direction of approaching ships from south-west, north to north-east, shutting off the south-east arc, as useless, for no vessel is ever likely to make the island on that bearing.

I have, &c.,

R. JOHNSON.

New Zealand Government s.s. "Hinemoa," at Sea, 16th January, 1891.

MEETING of the representatives of the Governments of New Zealand, Victoria, and New South Wales, appointed for the purpose of taking steps to carry out the agreement entered into regarding the erection of a lighthouse on the Snares Islands.

Present: Captain Johnson, Nautical Adviser to the Marine Department, New Zealand; F. M. Hynes, Esq., Engineer for Harbour Works, Victoria; Captain Hixson, R.N., President, Marine Board, New South Wales.

It was moved by Captain Hixson, seconded by Mr. Hynes, and *Resolved*, That Captain Johnson be appointed chairman to the Conference.

Resolved, That Mr. H. L. Hixson shall act as secretary.

The delegates, after having landed and thoroughly examined the locality of the islands, conferred in reference to the proper site and character of the proposed light, and decided to recommend to their respective Governments: (1.) That the lighthouse be built on the site indicated by the flagstaff erected on the summit near the southern extremity of the principal island of the group. (2.) That the light should be of the first order, dioptric, of the greatest brilliancy attainable by mineral oil, revolving and showing a white flash every half-minute; and, in view of its exposed position, that the tower, together with keeper's quarters, &c., should be of the most substantial character.

It is understood that the details of the erection and maintenance of the light are to be undertaken by New Zealand; and that the other colonies pledged, and New Zealand should contribute to the cost thereof in proportion to their respective population.

Harley L. Hixson, Secretary.

R. JOHNSON, Chairman.

RETURN showing the Total Ordinary Expenditure of the Marine Department during the
Financial Year ended the 31st March, 1891.

Nature of Expenditure.	Details.	Totals.	Grand Totals.
	£ s. d.	£ s. d.	£ s. d.
HEAD OFFICE:—			
Assistant Secretary	400 0 0		
Senior Clerk	240 0 0		
Clerk	190 0 0		
Nautical Adviser	300 0 0		
Draughtsman	26 5 0		
Marine Engineer	641 13 4		
Marine Engineer's Clerk and Draughtsmen	171 5 0	1,969 3 4	
HARBOURS:—			1,969 3 4
Manukau,—			
Salaries	398 0 0		
Beacon Tramway	370 12 8		
Contingencies	152 18 5	921 11 1	
Russell,—			
Salaries	174 0 0		
Contingencies	27 0 1	201 0 1	
Hokianga,—			
Salaries	264 0 0		
Contingencies	8 8 5	272 8 5	
Kaipara,—			
Salaries	567 10 0		
Beacons	193 10 6		
Repairs to buildings	305 5 5		
Contingencies	150 18 2		
Repairs to steam-launch	46 17 2	1,264 1 3	
Mokau,—			
Contingencies	5 5 0	5 5 0	
Opunake,—			
Salary	25 0 0		
Contingencies	0 2 6	25 2 6	
Foxton,—			
Salaries	310 0 0		
Boatman's house repairs	77 14 8		
Contingencies	15 18 5	403 13 1	
Tauranga,—			
Contingencies	16 11 11	16 11 11	
Rangitikei,—			
Salary	36 0 0		
Contingencies	1 7 9	37 7 9	
Wairau,—			
Salary	145 0 0		
Snagging river	27 16 6		
Contingencies	19 18 2	192 14 8	
Havelock,—			
Contingencies	7 12 9	7 12 9	
Nelson,—			
Salaries	943 18 3		
Boatmen's house	102 12 5		
Contingencies	139 9 6	1,186 0 2	
Riwaka,—			
Salary	6 0 0		
Contingencies	13 1 6	19 1 6	
Waitapu,—			
Salary	25 0 0		
Maintenance of leading-lights	75 0 0		
Contingencies	2 2 0	102 2 0	
Collingwood,—			
Salary	25 0 0		
Contingencies	15 16 0	40 16 0	
Karamea,—			
Signalman	18 0 0		
Contingencies	2 12 6	20 12 6	
Mokihinui,—			
Signalman	37 15 0		
Contingencies	16 10 5	54 5 5	
Nile River,—			
Signalman	12 0 0		
Contingencies	2 0 0	14 0 0	
Okarito,—			
Salary	50 0 0		
Contingencies	9 16 0	59 16 0	
Okura River,—			
Signalman .. .. .	..	4 0 0	
Akaroa,—			
Salary .. .. .	..	25 0 0	
Sir J. Coode's report on New Plymouth Harbour .. .. .	..	105 0 0	
General harbour contingencies .. .. .	..	103 17 4	
LIGHTHOUSES:—			5,081 19 5
Salaries of keepers	8,278 8 2		
Travelling-expenses of keepers	41 10 1		
Oil	1,165 19 7		
Stores and contingencies	1,553 6 9		
Pension of Mrs. Deck	24 0 0		
Lighthouse artificer	97 6 3		
Stephen's Island Lighthouse (building account)	3 5 6		
Snares Lighthouse	206 14 6	11,370 10 10	
Carried forward .. .. .	..	..	11,370 10 10
			18,421 13 7

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

Nature of Expenditure.	Details.	Totals.	Grand Totals.
	£ s. d.	£ s. d.	£ s. d.
Brought forward .. .. .	..	..	18,421 13 7
Survey of unseaworthy ships .. .. .	..	4 4 0	
Departmental travelling-expenses .. .. .	..	136 2 2	
Sundries .. .. .	..	177 8 10	
Charts .. .. .	..	43 9 6	
Inquiries into wrecks and casualties .. .. .	..	42 5 6	
Administration of Fisheries Acts .. .. .	..	126 6 11	
Relief of distressed New Zealand seamen .. .. .	..	41 18 0	
St. Clair Beach protection works .. .. .	..	71 19 2	
Inspection of Machinery and Survey of Steamers,—			643 14 1
Salaries of Inspectors	2,226 12 3		
Travelling-expenses	877 19 2		
Sundries	61 3 0		
		3,165 14 5	
Examination of Masters and Mates—Salaries	429 2 0		3,165 14 5
" Contingencies	36 3 11		
		465 5 11	
"Stella," s.s.,—			465 5 11
Expenses while laid up .. .. .	..	403 8 9	
			403 8 9
"Hinemoa," s.s.,—			
Wages, stores, provisions, &c. .. .. .	..	7,282 11 5	
Less amount earned by steamer .. .. .	..	206 19 8	
			7,075 11 10
Guaranteed interest to Wellington Patent Slip Company .. .. .	..	..	2,157 5 8
Survey of Poverty Bay .. .. .	..	..	101 0 6
			32,433 14 11
Less amount of credits to votes .. .. .	..	..	228 0 3
Total .. .. .	..	..	£32,205 14 8

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, 1891.

Name of Lighthouse.	Salaries.	Oil.		Stores and Contingencies.	Totals.
		Gallons consumed.	Value.		
	£ s. d.		£ s. d.	£ s. d.	£ s. d.
Cape Maria van Diemen	398 15 0	907	75 11 8	104 18 6	579 5 2
Moko Hinou	345 16 8	808	67 6 8	46 1 1	459 4 5
Tiri-Tiri	280 16 8	510	47 10 0	69 10 4	397 17 0
Bean Rock	157 10 0	69	8 9 4	42 7 6	208 6 10
Ponui Passage	164 16 0	75	6 5 0	36 15 7	207 16 7
Cuvier Island	343 3 6	1,264	105 6 8	117 16 0	566 6 2
Portland Island	368 6 8	671	55 18 4	59 19 5	484 4 5
Napier Bluff	36 0 0	Gas	14 19 9	0 2 0	51 1 9
Pencarrow Head	280 0 0	871	72 11 8	34 15 4	387 7 0
Somes Island	115 5 8	198	16 10 0	23 18 3	155 13 11
Cape Egmont	244 5 0	516	43 0 0	68 7 3	355 12 3
Manukau Head	250 0 0	648	54 0 0	48 17 7	352 17 7
Manukau South Head leading-lights .. .. .	..	137	11 8 4		
Manukau North Head leading-lights	125 0 0	170	14 3 4	22 18 6	173 10 2
Kaipara Head	242 10 0	553	46 1 8	82 4 8	370 16 4
Brothers	509 18 10	714	59 10 0	66 2 0*	635 10 10
Tory Channel leading-lights	90 0 0	167	13 18 4	5 4 11	109 3 3
Cape Campbell	246 13 4	486	40 10 0	50 15 11	397 19 3
Godley Head	245 15 7	515	42 18 4	22 10 2	311 4 1
Akaroa Head	280 0 0	643	53 11 8	32 2 7	365 14 3
Moeraki	280 0 0	568	47 6 8	41 0 6	368 7 2
Taiaroa Head	275 0 0	574	47 16 8	20 4 3	343 0 11
Cape Saunders	255 0 0	548	45 13 4	51 10 8	352 4 0
Nugget Point	290 0 0	915	76 5 0	58 4 0	424 9 0
Waipapapa Point	252 10 0	520	43 6 8	25 14 7	321 11 3
Dog Island	340 16 8	725	60 8 4	53 5 3	454 10 3
Centre Island	322 10 0	884	73 13 4	78 11 4	474 14 8
Puysegur Point	374 11 11	857	71 8 4	169 14 8†	615 14 11
Hokitika .. .. .	..	Gas	16 2 6	6 13 8	22 16 2
Cape Foulwind	300 0 0	547	45 11 8	35 12 6	381 4 2
Farewell Spit	363 6 8	517	43 1 8	60 8 5	466 16 9
Nelson	300 0 0	227	18 18 4	4 18 3	323 16 7
French Pass	200 0 0	133	11 1 8	12 1 1	223 2 9
Totals	8,278 8 2	16,937	1,450 4 11	1,553 6 9	11,281 19 10

* Of this amount £34 5s. 4d. is for provisions,

† Of this amount £77 11s. 10d. is for repairs.

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
Tiri-Tiri	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	7,028 14 8
Akaroa Head	7,150 6 5
Cape Saunders	6,066 6 3
Cape Egmont†	3,353 17 11
Moko Hinou	8,186 5 0
Waipapapa Point	5,969 18 11
Ponui Passage‡ .. .. .	.. .. .
Kaipara Head	5,571 8 0
French Pass	1,427 17 5
Cuvier Island	7,406 16 11
Cost of telegraph cable to Tiri-Tiri	1,085 19 6
Miscellaneous and unallocated	1,322 2 2
Total	£158,302 8 7

* 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 Amount of Light-dues
collected during the Year ended the 31st
March, 1891.

Port.	Amount collected.
	£ s. d.
Auckland	3,609 2 6
Coromandel	10 19 4
Onehunga	80 9 0
Whangarei	47 4 5
Whangaroa	44 7 6
Russell	116 10 4
Mongonui	8 11 8
Hokianga	47 3 6
Kaipara	320 2 2
Thames	63 4 5
Tauranga	24 9 8
Poverty Bay	211 1 10
Napier	449 3 9
New Plymouth	78 5 7
Waitara	102 4 8
Wanganui	52 0 5
Patea	4 11 6
Wellington	3,550 4 11
Wairau	19 9 5
Picton	134 17 1
Nelson	260 5 4
Westport	234 0 10
Greymouth	156 0 2
Hokitika	15 11 10
Lyttelton	2,135 16 4
Timaru	425 18 2
Oamaru	293 16 7
Dunedin	1,925 6 2
Invercargill	27 17 0
Bluff	1,525 16 1
Riverton	0 2 7
Total	£15,974 14 9

RETURN showing the Amount of Pilotage, Port
Charges, &c., collected during the Year ended
the 31st March, 1891.

Name of Port.	Pilotage.	Port Charges, &c.	Total.
	£ s. d.	£ s. d.	£ s. d.
Auckland*	168 9 9	1,487 13 4	1,656 3 1
Onehunga	3 3 10	110 19 9	114 3 7
Whangarei .. .. .	.. .. .	70 17 4	70 17 4
Russell	14 13 3	.. .. .	14 13 3
Hokianga	27 5 3	.. .. .	27 5 3
Kaipara	105 5 6	482 18 5	588 3 11
Thames*	76 18 4	.. .. .	76 18 4
Poverty Bay*	31 9 10	594 18 0	626 7 10
Wairoa*	70 19 4	2 17 3	73 16 7
Napier*	2,173 18 11	1,053 6 1	3,227 5 0
New Plymouth*	38 9 0	30 6 0	68 15 0
Waitara	93 0 4	79 2 9	172 3 1
Wanganui*	295 4 8	.. .. .	295 4 8
Patea*	18 5 8	6 10 0	24 15 8
Foxton	102 4 0	.. .. .	102 4 0
Wellington*	975 8 8	4,205 14 6	5,181 3 2
Wairau	186 15 8	.. .. .	186 15 8
Nelson	1,089 14 6	.. .. .	1,089 14 6
Hokitika*	7 13 4	.. .. .	7 13 4
Lyttelton*	4,367 1 8	3,135 3 3	7,502 4 11
Timaru* .. .. .	.. .. .	795 8 8	795 8 8
Oamaru*	917 1 8	843 13 10	1,760 15 6
Dunedin*	3,910 14 3	3,603 9 11	7,514 4 2
Invercargill*	15 15 8	17 2 9	32 18 5
Bluff*	1,583 15 4	924 2 0	2,507 17 4
Totals	16,272 8 5	17,444 3 10	33,717 12 3

* Harbour Board revenue.

RETURN showing the Fees, &c., received under
the Shipping and Seamen's Act, the Merchant
Shipping Act, the Inspection of Machinery
Act, and for Pilotage and Port Charges,
&c., during the Year ended the 31st March,
1891.

Nature of Receipts.	Amount.
	£ s. d.
Shipping and Seamen's Act:—	
Fees for shipping and discharge of sea-	
men, and sale of forms	1,079 13 6
Survey of steamers	1,029 10 0
Measurement of ships	1 0 0
Examination of masters, mates, and	
engineers	172 2 9
Light-dues	15,974 14 9
Merchant Shipping Act	72 19 6
Inspection of Machinery Act	3,332 0 0
Pilotage and port charges	2,193 17 6
Sundry receipts under Harbours Acts	116 0 0
Sundries	36 7 0
Total	24,008 5 0

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
	..	Fixed	..	Red, to show over Columbia Reef	..	..	..
Moko Hinou	1st order dioptric	Flashing	10"	White	Stone	Timber	18 June, 1883
Tiri-Tiri..	2nd "	Fixed	..	White, with red arc over Flat Rock	Iron	"	1 Jan., 1865
Ponui Passage	5th "	"	..	White and red ..	Timber	"	29 July, 1871
Cuvier Island	1st "	Revolving	30"	White	Iron	"	22 Sept., 1889
	2nd "	"	30"	White	Timber	"	10 Feb., 1878
Portland Island	..	Fixed	..	Red, to show over Bull Rock	..	..	..
Pencarrow Head	2nd order dioptric	"	..	White	Iron	Timber	1 Jan., 1859
Cape Egmont	2nd "	"	..	"	"	"	1 Aug., 1881
Manukau Head	3rd "	"	..	"	Timber	"	1 Sept., 1874
Kaipara Head	2nd "	Flashing	10"	"	"	"	1 Dec., 1884
	2nd "	"	10"	"	"	"	24 Sept., 1877
Brothers	..	Fixed	..	Red, to show over Cook Rock	..	..	..
Cape Campbell	2nd order dioptric	Revolving	1'	White	Timber	Timber	1 Aug., 1870
Godley Head	2nd "	Fixed	..	"	Stone	Stone	1 April, 1865
Akaroa Head	2nd "	Flashing	10"	"	Timber	Timber	1 Jan., 1880
Moeraki	3rd "	Fixed	..	"	"	"	22 April, 1878
Taiaroa Head	3rd "	"	..	Red	Stone	Stone	2 Jan., 1865
Cape Saunders	2nd "	Revolving	1'	White	Timber	Timber	1 Jan., 1880
Nugget Point	1st "	Fixed	..	"	Stone	Stone	4 July, 1870
Waipapapa Point	2nd "	Flashing	10"	"	Timber	Timber	1 Jan., 1884
Dog Island	1st order catadioptric	Revolving	30"	"	Stone	Stone	1 Aug., 1865
Centre Island	1st order dioptric	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	6th "	"	..	Red and white, with white light on beacon	"	"	1 Oct., 1884

RETURN of Steamers to which Certificates of Survey were issued in New Zealand during the Year ended the 31st March, 1891.

Name of Vessel.	Tons Register.	Horse-power of Engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Remarks.
Ahuriri ..	31	17	Compound ..	Screw ..	Extended river	
Akaroa ..	43	28	" ..	" ..	" ..	
Alexandra ..	73	30	Non-condensing	Paddle ..	River ..	
Alice ..	3	4	"	Screw ..	" ..	Launch.
Ant ..	5	6	"	" ..	" ..	"
Antrim ..	36	30	"	Paddle ..	" ..	
Aoreore ..	45	16	Compound ..	Screw ..	Sea-going	
Arawata ..	623	600	" ..	" ..	" ..	
Argyle ..	129	45	" ..	" ..	" ..	
Australia ..	260	77	" ..	" ..	" ..	
Awarua ..	100	80	" ..	Paddle ..	" ..	Tug.
Awhina ..	5	50	" ..	Screw ..	" ..	
Banks Peninsula	34	62	" ..	Twin-screw ..	" ..	Left colony.
Barstow ..	32	24	Non-condensing	Paddle ..	River	
Beautiful Star	146	30	Compound ..	Screw ..	Sea-going	
Bella ..	12	12	Non-condensing	" ..	Extended river	
Ben Lomond	33	15	Compound ..	" ..	River	
Birkenhead ..	55	16	Non-condensing	Paddle ..	" ..	
Blanche ..	18	9	"	Screw ..	" ..	
Britannia ..	108	40	"	Paddle ..	" ..	
Brunner ..	333	95	Triple-expansion	Screw ..	Sea-going	
Canterbury ..	..	24	Non-condensing	Twin-screw ..	Extended river	
Charles Edward	123	60	Compound ..	Screw ..	Sea-going	
Chelmsford ..	70	24	" ..	" ..	" ..	
Clansman ..	336	99	" ..	" ..	" ..	
Clematis ..	5	4	Non-condensing	Stern-wheel ..	River	
Colleen ..	33	18	Compound ..	Paddle ..	" ..	
Coromandel ..	68	25	" ..	Screw ..	Extended river	
Cygnat ..	3	3	Non-condensing	" ..	River	Launch.
Daphne ..	1	2	" ..	" ..	" ..	
Despatch ..	..	6	" ..	" ..	" ..	New launch.

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

Name of Vessel.	Tons Register.	Horse-power of Engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Remarks.
Despatch	24	20	Compound ..	Screw ..	Extended river	
Dingadee	393	80	" ..	Twin-screw ..	Sea-going	
Douglas	60	20	Condensing ..	Screw ..	" ..	
Durham	54	30	Compound ..	" ..	Extended river	
Eagle	138	70	" ..	Paddle ..	River	
Echo .. ..	..	3	Non-condensing	Screw ..	" ..	Launch.
Edina	9	6	" ..	" ..	" ..	"
Effort	13	12	Compound ..	Paddle ..	Extended river	
Elsie	15	8	Non-condensing	Screw ..	" ..	
Enterprise No. 2 ..	61	30	" ..	Paddle ..	" ..	
Erin	4	4	" ..	Screw ..	River ..	Launch.
Fairy	33	15	" ..	" ..	Extended river	
Fanny	67	30	Compound ..	" ..	Sea-going ..	First N.Z. survey
Fingal	23	11	Condensing ..	" ..	Extended river	
Freetrader	95	30	Non-condensing	Stern-wheel ..	River ..	New steamer.
Gairloch	211	85	Compound ..	Twin-screw ..	Sea-going	
Gleaner	8	8	Non-condensing	Screw ..	River ..	Launch.
Glenelg	156	75	Compound ..	" ..	Sea-going	
Grafton	297	123	" ..	Twin-screw ..	" ..	
Hauroto	1,276	250	" ..	Screw ..	" ..	
Heathcote	94	35	" ..	" ..	River ..	Hopper-barge.
Herald	370	85	" ..	" ..	Sea-going	
Hestia .. ..	..	..	Condensing ..	" ..	River ..	New launch.
Huia	90	25	Compound ..	" ..	Sea-going	
Ida	12	10	Non-condensing	" ..	River ..	
Invercargill	123	50	Compound ..	" ..	Sea-going	
Iona	159	65	" ..	" ..	" ..	
Iona	61	45	Non-condensing	Stern-wheel ..	River ..	
Ivy .. ..	..	8	" ..	Screw ..	" ..	Launch.
Jane Douglas	75	22	Compound ..	" ..	Sea-going	
Kahu	99	40	" ..	" ..	" ..	
Kaituna	4	4	" ..	" ..	River ..	Launch.
Kakanui	57	22	" ..	" ..	Sea-going	Wrecked.
Kanieri	115	20	" ..	" ..	" ..	
Katikati	27	8	Condensing ..	" ..	River ..	
Kawai .. ..	..	24	Non-condensing	" ..	" ..	
Kawatiri	286	70	Compound ..	" ..	Sea-going	
Kawau	8	10	" ..	" ..	Extended river	Steam-yacht.
Kennedy	124	43	" ..	Twin-screw ..	Sea-going	
Kina	52	15	" ..	Screw ..	River ..	
Kiwi	133	30	" ..	" ..	Sea-going	
Kopuru	28	20	Non-condensing	" ..	River ..	
Koputai	5	120	Compound ..	Paddle ..	Sea-going ..	Tug.
Kotuku	41	40	Non-condensing	Three screws ..	River ..	
La Buona Ventura ..	4	4	" ..	Screw ..	" ..	Launch.
Lady Barkly	39	20	Compound ..	" ..	Extended river	
Lawrence	246	88	" ..	Twin-screw ..	Sea-going	
Lilie	10	10	Non-condensing	Paddle ..	River ..	
Lily	20	12	" ..	Twin-screw ..	Extended river	
Little Agnes	83	16	Compound ..	Screw ..	Sea-going	
Little George	4	4	Non-condensing	" ..	River ..	Launch.
Lyttelton	39	80	Compound ..	Paddle ..	Sea-going ..	Tug.
Macandrew .. ..	..	5	Non-condensing	Screw ..	River ..	Launch.
Mahinapua .. ..	..	10	" ..	Stern-wheel ..	" ..	
Mahinapua	205	80	Compound ..	Twin-screw ..	Sea-going	
Mana	51	90	" ..	Paddle ..	" ..	New tug.
Mana	51	25	" ..	Screw ..	Extended river	
Manaia	55	15	" ..	" ..	Sea-going ..	Altered from paddle.
Manapouri	1,020	300	" ..	" ..	" ..	
Manawatu	112	38	" ..	" ..	" ..	
Manukau	45	15	" ..	" ..	River ..	
Maori	17	8	Non-condensing	" ..	Extended river	
Maori	118	60	Condensing ..	" ..	Sea-going	
Matau	50	40	Non-condensing	Stern-wheel ..	River ..	
Matuku	3	3	" ..	Screw ..	" ..	
Mawhera	340	75	Compound ..	" ..	Sea-going	
Minnie Casey	48	25	" ..	" ..	River ..	
Moa	110	33	" ..	" ..	Sea-going	
Mohaka	20	17	" ..	" ..	Extended river	
Moss Rose .. ..	..	8	Non-condensing	" ..	" ..	Launch.
Mountaineer	66	60	Compound ..	Paddle ..	River ..	
Moutoa .. ..	..	5	Non-condensing	Screw ..	" ..	Launch.
Murray	90	25	Compound ..	" ..	Sea-going	
Nautilus (yacht) ..	32	18	" ..	" ..	Extended river	
Neptune	44	18	" ..	" ..	Sea-going	
Nile	21	20	Non-condensing	Paddle ..	" ..	
Noko	15	9	" ..	Screw ..	Extended river	Launch.
No. 222	502	120	Compound ..	Twin-screw ..	Sea-going ..	Dredge.
Ohau	411	92	" ..	Screw ..	" ..	
Olga	4	5	Non-condensing	" ..	River ..	Formerly Mahu.
Omapere	352	80	Compound ..	" ..	Sea-going	
Onslow	20	14	" ..	Twin-screw ..	River ..	
Orawaiti	283	70	" ..	Screw ..	Sea-going	
Osprey	138	70	" ..	Paddle ..	River ..	
Pearl	9	7	Non-condensing	Screw ..	Extended river	Launch.

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

Name of Vessel.	Tons Register.	Horse-power of Engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Remarks.
Pelorus	18	13	Non-condensing	Screw	River	
Penguin	442	180	Compound ..	"	Sea-going	
Phoenix	6	6	Non-condensing	"	Extended river	Launch.
Pioneer	5	5	"	"	River	"
Planet	13	8	"	"	Extended river	"
Plucky	29	40	Compound ..	"	Sea-going	
Pohorua	749	123	Triple-expansion	"	"	New steamer.
Prince of Wales ..	487	21	Condensing ..	"	"	Meat-freezing
Pukaki	850	110	Compound ..	"	"	[vessel.
Queen of the South	121	40	"	"	"	First N.Z.survey.
Result	13	10	Non-condensing	Paddle	Extended river	
Result	18	23	"	Screw	"	
Reynolds .. ..	..	14	"	"	River	Launch.
Richmond	495	105	Compound ..	"	Sea-going	
Riro Riro .. ..	..	4	Non-condensing	"	River	Launch.
Rosamond	462	90	Compound ..	"	Sea-going	
Rose Casey	99	109	"	"	Extended river	
Rotoiti	17	15	Non-condensing	Fore-and-aft screws	"	
Rotomahana	139	45	Condensing ..	Screw	Sea-going	
Rotomahana	864	450	Compound ..	"	"	
Rotorua	576	172	"	"	"	
Rowena	74	30	"	"	"	
Ruby	19	24	"	"	Extended river	
Scotchman	30	10	Non-condensing	"	River	
Snark	12	10	"	"	"	Launch.
Southern Cross ..	158	50	Compound ..	"	Sea-going	
Spray	3	3	Non-condensing	"	River	Launch.
Staffa	40	20	Condensing ..	"	Extended river	
Stormbird	137	40	Compound ..	"	Sea-going	
Sumner	94	35	"	"	River	Hopper-barge.
Sylph	5	4	Non-condensing	"	"	Launch.
Tainui .. ..	..	8	"	"	Extended river	"
Tainui	47	22	"	Paddle	River	
Takapuna	370	165	Compound ..	Screw	Sea-going	
Takapuna	58	20	Non-condensing	Paddle	River	
Tam O'Shanter ..	22	12	"	Screw	"	
Tangihua	20	15	"	"	"	
Taniwha .. ..	..	16	"	"	"	Dredge.
Tarawera	1,269	250	Compound ..	"	Sea-going	
Taiari	1,071	155	Triple-expansion	"	"	Formerly Cairn-toul.
Taupo	408	92	"	"	"	
Tay .. ..	..	5	Non-condensing	"	River	Launch.
Te Anau	1,023	250	Compound ..	"	Sea-going	
Te Aroha	50	14	Non-condensing	Paddle	River	
Tekapo	1,544	270	Compound ..	Screw	Sea-going	
Te Kapu	50	25	"	"	Extended river	
Terrier .. ..	..	3	Non-condensing	"	River	Launch.
Terror .. ..	..	10	"	"	Extended river	"
Terranora	199	94	Condensing ..	Paddle	Sea-going	First N.Z.survey.
Te Wae .. ..	..	16	Non-condensing	Twin-screw	River	Dredge.
Theodore	35	25	"	Paddle	"	
Tongariro	63	25	Condensing ..	"	Sea-going	
Torea	9	18	Compound ..	Screw	Extended river	
Tuhua	46	23	Non-condensing	Stern-wheel	River	
Tuna .. ..	..	14	Compound ..	Twin-screw	Extended river	
Victoria	93	50	Non-condensing	Paddle	River	
Vivid	6	14	"	Screw	Extended river	
Waihi	63	20	Compound ..	"	Sea-going	
Waihora	1,269	250	"	"	"	
Waikato	56	20	Non-condensing	Paddle	River	
Wainui	391	95	Compound ..	Screw	Sea-going	
Waipara	70	30	Non-condensing	Twin-screw	"	
Wairarapa	1,023	292	Compound ..	Screw	"	
Waitangi .. ..	..	5	Non-condensing	"	River	Launch.
Waitapu	40	16	Compound ..	"	Sea-going	
Waitara	26	16	"	"	Extended river	
Waitoa	27	16	"	Twin-screw	"	
Waiwera .. ..	..	8	"	Screw	River	Launch.
Waiwera	6	15	"	"	Extended river	
Wakatipu	1,158	256	"	"	Sea-going	
Wakatu	95	30	"	"	"	
Wanaka	278	120	"	"	"	Wrecked.
Wareatea	288	70	"	"	"	
Waverley	77	25	"	Twin-screw	"	
Weka	53	20	"	Screw	"	
Wellington	262	90	"	"	"	
Westland	35	64	Condensing ..	Paddle	"	
Yankee Doodle ..	6	12	Non-condensing	"	River	Launch.
Zephyr	8	12	"	Screw	"	"

RETURN of Masters, Mates, and Engineers to whom Certificates of Competency were issued during the Year ended the 31st March, 1891.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Frank Wilson Arbon	First Mate ..	Foreign trade ..	11 April, 1890 ..	574
Henry Hayes	" ..	" ..	12 " " ..	540
William Thomas Burvill	Only Mate ..	" ..	18 " " ..	643
Ernest Charles Macey	Second Mate ..	" ..	18 " " ..	644
Henry Nixson Willis Jones	First Mate ..	" ..	1 May, " ..	645
Arthur Coe	Master Ordinary ..	" ..	19 " " ..	465
Donald Hugh McKenzie	" ..	" ..	19 " " ..	550
Lionel Campbell Hugh Worrall	First Mate ..	" ..	20 " " ..	459
Sydney George Morgan	Second Mate ..	" ..	27 " " ..	646
William John Cranch	Master Ordinary ..	" ..	27 " " ..	549
William Smith Hutcheson	First Mate ..	" ..	30 " " ..	485
George Melville Ruxton	" ..	" ..	31 " " ..	580
Daniel William Williamson	Second Mate ..	" ..	31 " " ..	647
John Campbell	" ..	" ..	4 June, " ..	648
Thomas Gilmour	" ..	" ..	6 " " ..	649
Frederic William Cox	Master Extra ..	" ..	6 " " ..	640
Carl Johnson	Only Mate ..	" ..	9 " " ..	650
William Henry Candy	Master Ordinary ..	" ..	23 " " ..	325
Thomas Braidwood	" ..	" ..	4 July, " ..	450
Edward Anderson	First Mate ..	" ..	10 " " ..	651
Claude Ferrier	" ..	" ..	10 " " ..	652
Frank Bell	" ..	(renewal)	15 " " ..	653
John Campbell	Master Ordinary ..	" ..	22 " " ..	295
Bror Albert Wiking	" ..	" ..	22 " " ..	343
Robert Girling	First Mate ..	" ..	25 " " ..	514
Charles McArthur	" ..	" ..	25 " " ..	535
Arthur Frederick Anthony	Master Ordinary ..	" ..	7 Aug., " ..	449
Malcolm Livingstone	" ..	" ..	7 " " ..	458
Thomas Roberts	First Mate ..	" ..	7 " " ..	563
Arthur Dawson Chrisp	Only Mate ..	" ..	18 " " ..	654
Edward Stott	Master Ordinary ..	" ..	19 " " ..	596
George Hyder Bailey Wood	" ..	" ..	17 Sept., " ..	655
Frederick Augustus Bilton	Second Mate ..	" ..	27 " " ..	656
William McGavin Muir	Master Ordinary ..	" ..	21 Oct., " ..	520
Frederick John Beach	Only Mate ..	" ..	27 " " ..	657
Frederick James Dillamore	Master Ordinary ..	" ..	8 Nov., " ..	658
William Clark	" ..	" ..	8 " " ..	659
Robert Dann	" ..	(renewal)	22 " " ..	660
Anton Petersson	" ..	" ..	24 " " ..	586
Alexander Malcolm Gillies	First Mate ..	" ..	24 " " ..	560
Alexander Carson	Second Mate ..	" ..	29 " " ..	661
Henry John Luce	" ..	" ..	4 Dec., " ..	662
George Wilson	Only Mate ..	" ..	12 " " ..	209
William John Bayliss	" ..	" ..	27 " " ..	663
Edwin Powell	" ..	" ..	27 " " ..	664
John Mill	Master Ordinary ..	" ..	5 Jan., 1891 ..	552
Pierre Hillien	First Mate ..	" ..	14 " " ..	604
John Stansfield Webster	" ..	" ..	19 " " ..	665
George Kassens	Master Ordinary ..	" ..	2 Feb., " ..	472
Richard Hart	Second Mate ..	" ..	21 " " ..	666
William Burnip Manley	First Mate ..	" ..	26 " " ..	413
Francis Aubert Maxwell	Second Mate ..	" ..	2 March, " ..	667
Edward Mathieson	" ..	" ..	13 " " ..	668
Henry Hayes	Master ..	Home trade ..	18 April, 1890 ..	5,295
George Page	Mate ..	" ..	19 June, " ..	5,340
Jacob Edwin Stevens	" ..	" ..	16 July, " ..	5,341
Rodger Clements	" ..	" ..	18 Aug., " ..	5,342
George Wilson	" ..	" ..	1 Sept., " ..	5,343
Jorgen Wüg	" ..	" ..	20 Oct., " ..	5,344
Robert Huia Gibbons	" ..	" ..	27 " " ..	5,345
Thomas Taylor	" ..	" ..	27 " " ..	5,346
George Archibald Simpson	Master ..	" ..	9 March, 1891 ..	5,338
Joseph Rogers	" ..	River trade ..	1 May, 1890 ..	3,181
Frank Allen	" ..	" ..	16 June, " ..	3,182
Andrew Monson	" ..	" ..	17 " " ..	3,183
Thomas Daly	" ..	" ..	7 July, " ..	3,184
Charles Frederick Benney	" ..	" ..	31 " " ..	3,185
John Carlson	" ..	" ..	25 Aug., " ..	3,186
Henry Bradney	" ..	" ..	1 Sept., " ..	3,187
Robert Read	" ..	" ..	11 " " ..	3,188
William John Grigg	" ..	" ..	1 Oct., " ..	3,189
Patrick Pearce	" ..	" ..	1 " " ..	3,190
Thomas Francis Nichols	" ..	" ..	10 " " ..	3,191
George William Leaity	" ..	" ..	12 Dec., " ..	3,192
Edward Thomas Forn	" ..	" ..	8 Jan., 1891 ..	3,193
Charles Ernest Scully	" ..	" ..	16 " " ..	3,194
Thomas Carroll	" ..	" ..	19 " " ..	3,195
Alfred William Owles	" ..	" ..	30 " " ..	3,196
Edward Ryffel	" ..	" ..	14 Feb., " ..	3,197
Franz Roering	" ..	" ..	16 " " ..	3,198
John Pearce	" ..	" ..	2 March, " ..	3,199
Andrew Wilson	" ..	(renewal)	19 " " ..	3,200
William Nisbet	2nd Class Engineer ..	Foreign trade ..	11 April, 1890 ..	205
Andrew McBride	1st Class Engineer ..	" ..	11 " " ..	206
William McKellar	2nd Class Engineer ..	" ..	1 May, " ..	207

RETURN of Masters, Mates, and Engineers to whom Certificates of Competency were issued during the Year ended the 31st December, 1891—*continued.*

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
William Marshall Millar	1st Class Engineer	Foreign trade ..	5 May, 1890 ..	161
Robert Duncan	" ..	" ..	21 " " ..	208
James McLean	" ..	" ..	27 " " ..	126
George Hutcheson	2nd Class Engineer	" ..	31 " " ..	209
John Anderson	1st Class Engineer	" ..	9 June, " ..	174
William Harry Williams	2nd Class Engineer	" ..	7 July, " ..	210
Alexander McGregor	" ..	" ..	29 " " ..	211
William John Crawford	" ..	" ..	15 Aug., " ..	212
Donald Stalker	1st Class Engineer	" ..	1 Sept., " ..	162
John McLeod	" ..	" ..	15 " " ..	144
George McGregor	2nd Class Engineer	" ..	27 " " ..	213
Edward Barker Mundle	1st Class Engineer	" (renewal) ..	8 Oct., " ..	214
Carey James Pirie	2nd Class Engineer	" ..	8 " " ..	215
James Crombie Scott	1st Class Engineer	" ..	20 " " ..	216
Samuel Livingstone Chandler	2nd Class Engineer	" ..	25 " " ..	217
Henry William Louis Fuller	" ..	" ..	12 Nov., " ..	218
William Forbes Hansen	1st Class Engineer	" ..	12 " " ..	219
Albert James Pieterston	2nd Class Engineer	" ..	15 " " ..	220
John William Robinson	" ..	" ..	27 Dec., " ..	221
Shirley Gordon Maxwell	1st Class Engineer	" ..	10 Jan., 1891 ..	181
Samuel McDowall	" ..	" ..	29 " " ..	158
John Brown	2nd Class Engineer	" ..	29 " " ..	222
James Cowley	" ..	" ..	16 Feb., " ..	223
Charles McKirdy	" ..	" ..	13 March, " ..	224
Hugh Swan	" ..	" ..	21 " " ..	225
Adolphus James Park	Engineer	River trade ..	1 May, 1890 ..	1,604
Fitzroy George Hamilton	" ..	" ..	19 " " ..	1,605
George Rewcastle	" ..	" ..	9 June, " ..	1,606
Horace George Minett Priestley	" ..	" ..	3 July, " ..	1,607
David Murray	" ..	" ..	19 " " ..	1,608
James Harvey	" ..	" ..	12 Aug., " ..	1,609
Archibald Anderson	" ..	" ..	18 " " ..	1,610
George Henry Burrows	" ..	" ..	25 " " ..	1,611
William Frederick Bingham	" ..	" ..	25 " " ..	1,612
Edward Grange	" ..	" ..	25 " " ..	1,613
Alexander McKenzie	" ..	" ..	27 Sept., " ..	1,614
Jacob Eccoff Simmers	" ..	" ..	9 Oct., " ..	1,615
Horatio Dixon	" ..	" ..	27 " " ..	1,616
William Wallace Parsons	" ..	" (renewal) ..	12 Dec., " ..	1,617
James Wotherspoon	" ..	" ..	12 " " ..	1,618
Patrick Walsh	" ..	" ..	12 " " ..	1,619
Oswald Carter	" ..	" ..	27 " " ..	1,620
Frederick William Tomlinson	" ..	" ..	27 " " ..	1,621
Walter Joseph Wintle	" ..	" ..	5 Jan., 1891 ..	1,622
Malcolm John Connor	" ..	" ..	14 " " ..	1,623
Frederick William Cornwall	" ..	" ..	23 " " ..	1,624
Harry Shaw	" ..	" ..	23 " " ..	1,625
Robert Winter	" ..	" ..	23 " " ..	1,626
Oscar Edward Owles	" ..	" ..	26 Feb., " ..	1,627
George Nicholas Homand	" ..	" ..	13 March, " ..	1,628
James Holmes	" ..	" ..	23 " " ..	1,629
Frederick William Schuler	" ..	" ..	23 " " ..	1,630

RETURN showing the Number of Masters, Mates, and Engineers examined during the Year ended the 31st March, 1891, distinguishing the Number of Successful and Unsuccessful Candidates.

Class of Certificate.	Auckland.			Wellington.			Lyttelton.			Dunedin.			Other Places.			Totals.		
	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.
Foreign - going masters and mates	17	13	30	9	7	16	4	5	9	20	3	23	..	..	..	50	28	78
Home-trade masters and mates	3	2	5	4	1	5	..	..	..	..	..	..	3	..	3	10	3	13
River-steamer masters	7	..	7	3	..	3	1	..	1	1	..	1	8	..	8	20	..	20
Sea-going engineers	6	2	8	12	1	13	1	..	1	7	..	7	..	..	..	26	3	29
River-steamer engineers	10	..	10	5	2	7	2	1	3	..	3	3	9	..	9	26	6	32
Totals	43	17	60	33	11	44	8	6	14	28	6	34	20	..	20	132	40	172

RETURN showing the Certificates of Service issued to Masters, Mates, and Engineers during the Year ended the 31st March, 1891.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Joseph Gilbertson	Master	Home trade ..	21 July, 1890 ..	2,552
Henry Worsley Hill	"	Foreign trade ..	12 September, 1890 ..	2,553
Neil Hendry	Mate	"	12 December, 1890 ..	2,554
John Howe	Master	Home trade ..	16 January, 1891 ..	2,555

RETURN of Estates of Deceased Seamen received and administered in Pursuance of the Provisions of "The Shipping and Seamen's Act, 1877," during the Year ended the 31st March, 1891.

Name of Seaman.						Balance to Credit of Estate on 31st March, 1890.	Amount received.	Amount paid.	Balance to Credit of Estate on 31st March, 1891.
						£ s. d.	£ s. d.	£ s. d.	£ s. d.
John Montgomery	..	..	..	..	..	2 3 0	..	2 3 0	..
Patrick Duncan	..	..	..	..	..	1 4 0	..	1 4 0	..
John Anderson	..	..	..	..	..	17 0 0	..	17 0 0	..
William Boljer	..	..	..	..	..	7 5 5	..	7 5 5	..
Charles Anderson	..	..	..	..	..	2 1 0	..	2 1 0	..
Charles Wilters	..	..	..	..	..	6 0 10	..	6 0 10	..
John McDonald	..	..	..	..	..	4 0 0	..	4 0 0	..
William Aitken	..	..	..	..	..	6 0 0	..	6 0 0	..
Gilbert Johnson	..	..	..	..	..	5 0 0	..	5 0 0	..
Magnus Brown	..	..	..	..	..	5 0 0	..	5 0 0	..
John Kelly	..	..	..	..	..	2 13 5	..	2 13 5	..
Lee Din	..	..	..	..	..	6 18 10	..	6 18 10	..
Victoriano Younger	..	..	..	..	..	6 9 0	..	6 9 0	..
Ton Bee	..	..	..	..	..	4 2 4	..	4 2 4	..
Ah Min	..	..	..	..	..	4 0 9	..	4 0 9	..
James Stuard	..	..	..	..	..	0 12 9	..	0 12 9	..
Olar Larson	..	..	..	..	..	40 17 10	..	40 17 10	..
Francis Harry Fenton	..	..	..	..	..	1 12 11	..	1 12 11	..
Lars John Petersen	..	..	..	..	..	0 18 9	..	0 18 9	..
Henry Hunter	..	..	..	..	..	..	2 13 3	..	2 13 3
Jacob Herrmann	..	..	..	..	..	..	9 8 5	9 8 5	..
John Fitzgerald	..	..	..	..	..	..	1 6 0	1 6 0	..
James Hoult	..	..	..	..	..	..	15 8 6	15 8 6	..
Sivaka	..	..	..	..	..	..	0 17 0	..	0 17 0
William Henry Ford	..	..	..	..	..	..	1 12 0	..	1 12 0
James H. Watt	..	..	..	..	..	..	0 16 0	..	0 16 0
Joseph Emmanuel Leon Bouis	..	..	..	..	..	..	3 0 0	..	3 0 0

RETURN showing the NUMBER of LAND BOILERS INSPECTED during the Financial Year ended the 31st March, 1891.

Name of District.	Number of Portable Boilers.			Number of Stationary Boilers.			Totals.	
	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.	Boilers.	Fees.
Auckland	23	56	24	123	37	178	441	£ s. d. 647 0 0
Taranaki	7	16	2	8	11	13	57	85 10 0
Hawke's Bay	12	45	7	18	22	31	135	202 5 0
Wellington	11	115	31	73	76	135	441	696 0 0
Marlborough	3	30	5	11	9	12	70	105 15 0
Nelson North	3	24	7	28	16	7	85	114 15 0
Nelson South	...	8	13	22	11	28	82	131 0 0
Westland	1	14	10	13	4	4	46	69 0 0
Canterbury	40	163	4	111	30	61	409	521 10 0
Otago	37	142	9	127	51	147	513	733 5 0
Totals	137	613	112	534	267	616	2,279	3,306 0 0

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the Marine Department from the 1st April, 1890, to the 31st March, 1891.

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, &c.	Name of Master.
				Crew	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1890.													
March 16	Lily ..	Schooner	45	..	..	Nil	Stranded; total	1	Apia, Samoa..	..	Hurricane	Vessel went ashore in hurricane	— Douglas.
1890.													
Jan. 13	Marlborough, 14 years	Ship ..	1124	30	1	Frozen mutton, wool, skins, and coal	Supposed foundered; total loss	Supposed 31 (all hands)	On voyage from Lyttelton to London	..	..	Vessel left Lyttelton for London on the 11th January, was spoken two days afterwards, and has not since been heard of	W. Hird.
Feb. 23	Fleetwing, 11 years	Schooner	54	6	2	General	Loss of life only	1	About 20 miles off Cape Karakara, N.Z., on voyage from Auckland to New Caledonia	E.S.E.	Fresh ..	An A.B. named Richard Mills, going to relieve the wheel at 10.10 p.m., passed to leeward, and, slipping as the vessel gave a heavy lurch, fell overboard and was drowned	James Story Brownell.
March 20	Dunedin, 16 yrs.	Ship ..	120	34	..	Wool, frozen meat, wheat, &c.	Supposed foundered	Supposed 34	Unknown ..	..	..	Vessel left Oamaru for London on the 20th March, 1890, in every way fit for the voyage. She was in proper trim, well manned, and her cargo was safe and well stowed	— Roberts.
April 9	Maori, s.s., new vessel, first voyage, A1 Lloyd's	Schooner	1756	43	..	Ballast..	Damage to hull; partial loss	..	Lat. 34° S., long. 29° 30' S., Southern Indian Ocean	N.E.	Whole gale	Spare propeller broke adrift during excessive heavy rolling, caused by heavy southern sea and N.E. gale, and, before it could be secured, it broke the stanchions, pumps, and sounding-pipes, damaged 29 frames and 4 outside plates, and broke some of the 'tween-deck plates	W. Scotland.
" 21	Lady Jocelyn, 38 years	Ship ..	2318	39	..	General	Loss of life only	1	Lat. 46° 24' S., long. 110° E., on voyage from London to Lyttelton	..	Moderate gale	An apprentice named Harry Wingate, while engaged aloft with other hands, fell from the mizzen-top sail-yard into the sea and was lost	William Watt.
May 4	Richmond, s.s., 5 years	Schooner	475	26	7	Island produce	Crank-shaft broke; machinery deranged	..	Between Raratonga and Tonga	..	..	Machinery deranged owing to breaking of crank-shaft. Vessel put into Tonga for temporary repairs, after which she came on to Auckland under easy steam	Robert Guthrie Hutton.
" 8	Wild Wave, 36 years	Brig ..	173	8	..	Timber..	Stranded; partial loss	..	North Spit Shoal, entrance to Kaipara Harbour	..	Calm ..	Wind having fallen light, sufficient consideration was not paid to strong tide, setting vessel towards shoal	Alfred Bull.
" 11	Maud Graham, 14 years	Schooner	80	6	..	Grain ..	Loss of life only	2	Off Portland Island on voyage from Lyttelton to Auckland	S.S.W.	Gale ..	A heavy sea came on board, carrying the master and mate overboard, and both were lost	Richard Fitzgerald.
" 11	Southern Cross, s.s., 17 years	Schooner	158	17	8	General	Collision; partial loss	..	Castlepoint, east coast, North Island	S.S.W.	Hard gale	Stock of anchor of "Southern Cross" broke, and she then drifted on to the "Koranui"	Felix Black.
" 11	Kawatiri, s.s., 7 years	Schooner	285	18	..	Ballast..	Collision; slight damage	..					Berthold Apstein.
" 20	Rose Blanche, new vessel	Cutter ..	13	3	..	Firewood, 18 tons	Supposed capsized; stranded; total loss	3 (all hands)	Found on beach, 3 miles S. of Mangawai	E.	Gale ..	Vessel supposed to have been capsized 5 miles E.S.E. from place stranded while on voyage from Whangarei to Auckland. Casualty caused through incompetence of crew, bad equipment of vessel, and discharging of ballast previous to loading with firewood	William Aubrey.

May 22	Tuna, s.s.	..	20	3	..	Stranded; slight damage	..	Turanganui River, Poverty Bay	..	..	Vessel must have gone on some hard substance	William Harris.
" 29	Camelia, 11 years	Ketch ..	20	2	..	Loss of life only	1	On voyage from Nelson to Waitapu, about 8 miles off Awaroa Heads	N.W.	Heavy ..	A seaman named Edward Higgs, who was at the wheel while the master was slacking off the mizen-sheet, fell overboard and was not seen again. Supposed that accident was caused by the tiller-ropes slipping off the tiller	Henry Young.
June 14 (since)	Kentish Lass, 18 years	Barque..	306	10	..	Supposed foundered; total loss	Supposed 10 (all hands)	On voyage from Hokianga to Sydney	..	..	Vessel cleared from Hokianga to Sydney on the 14th June, 1890, and has not since been heard of. Supposed to have foundered during heavy gale at sea, with loss of all hands	John Johnson.
" 15	Diana, 10 years	Barque..	714	16	..	Loss of life only	1	Off Banks Peninsula ..	N.W.	Strong gale	An A.B. named Christopher Mouat, while engaged aloft, slipped off the fore-yard and fell on the deck, fracturing his skull. He died three hours after the accident	John Stephen.
" 30	Christine, 11 years	Schooner	96	6	3	Loss of life only	1	Off North Cape, on voyage from Norfolk Island to Auckland	N.W.	Squally	When assisting to reduce sail, weather being squally, one of the crew, a native of New Hebrides, fell over board and was drowned	John McLiver.
July 15	Feamought, new vessel	Ketch ..	30	3	several	Loss of life only	1	About 10 miles at the Auckland side of Cape Colville	S.E.	Gale ..	Vessel, when coming up to Auckland from Port Jackson, with cargo and some mill-hands, about 10 p.m., gave a lurch, and a Maori named Whenua fell overboard and was drowned	Abraham Brondlund.
" 24	Minnie, 26 years	Ketch ..	17	2	..	Stranded; total loss	..	Okain's Bay, Banks Peninsula	E.	Light ..	Vessel was at anchor in Okain's Bay, when heavy sea caused her to part cables and go ashore	Thomas Coupur.
" 24	Tokerau, 10 years	Cutter ..	35	3	1	Loss of life only	1	Outside the Shoe and Slipper Islands, on voyage from Tauranga to Auckland	N.E.	..	Vessel left Tauranga in very bad weather, and, when off Shoe and Slipper Islands, the master was knocked overboard, but it is not known how, as no one was on deck besides himself at time	William Norris.
Aug. 2	Neptune, s.s., 7 years	Schooner	44	7	4	Fire on board; partial loss	..	Wairan River, Blenheim	..	..	Cargo was found to be on fire when on the bar, caused, it is supposed, through water getting at some quicktime in the cargo	Thomas Eckford.
" 8	Rose Casey, s.s., 12 years	Schooner	99	8	9	Collision; partial loss	..	Off south end of Motuihi Island, Hauraki Gulf	N.E.	Light	Casualty caused through Captain Scotti, who was in charge of the "Rose Casey" at the time, starboarding his helm before he was clear of the "Tainui." He was ordered to pay half the costs of the inquiry	William Bazley.
" 8	Tainui, p.s., 15 years	..	47	3	4	Collision; partial loss	..					William Henry Burgess.
" 17	Notoero, 9 years	Barque..	430	10	25	Stranded; total loss	..	North-west Point, Howland Island, Pacific Ocean	E.	Moderate	Vessel struck on reef apparently not marked on chart	Alexander Campbell.
Sept. 10	Nettie, 16 years	Brig'n'tine (U.S.A.)	477	9	..	Fire on board; partial loss	..	Wharf, Lyttelton Harbour	..	..	Cargo of New Zealand flax caught fire while at wharf; probably caused through spark from a pipe dropping into the hold	Frederick B. Lowry.
" 23	Gairloch, s.s., 4 years	Schooner	211	17	..	Stranded; partial loss	..	South Spit, mouth of Wanganui River	S.	Moderate breeze	Rudder-chains fell off quadrant, and ship could not answer her helm, consequently she ran aground	Findlay McArthur.
Oct. 7	Mohaka, s.s., 13 years	Cutter ..	20	3	..	Stranded; slightly damaged	..	Waitara River	N.W.	Fresh ..	Vessel ran on beach when attempting to enter river at low water. Her cargo of coal was discharged into drays, and she floated off at high water	Alexander Thos. Fraser.
" 23	Rance, 26 years A1	Barque..	1189	22	..	Fire on board; partial loss	..	Koputai Bay, Port Chalmers, Otago	..	..	Vessel was taking in cargo of shale when fire broke out on board, and she had to be sunk before it could be extinguished	John Edwards

RETURN OF WRECKS AND CASUALTIES TO SHIPPING reported to the Marine Department—*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, &c.	Name of Master.
				Crew	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1890.													
Nov. 1	Ruby, s.s., 14 years	Schooner	19	6	5	Empties and gold	Collision; slight damage	..	Between the Queen Street and Railway Wharves, Auckland	..	..	The "Ruby," in coming in to her berth, struck the "Britannia," which was coming out	William Bettis.
" 1	Britannia, p.s., 5 years	Nil	108	3	25	Nil	Collision; no damage	..		..	..		William George Tye.
" 12	Persian Empire, 25 years, A1 Lloyds	Ship	1532	30	..	General	Loss of life only	1	Lat. 46° 15' N., long. 7° 40' W., on voyage from London to Auckland	W.S.W.	Moderate	An A.B. named Stephen Jelliss fell overboard while engaged furling the fore-royal and was drowned	Charles William Hay.
" 15	Brahmin, 14 yrs., A1 Lloyds, 100	Ship	1264	25	..	General	Loss of life only	1	Lat. 44° 45' S., long. 95° E.; on voyage from London to Dunedin	N.W.	Gale	An apprentice named William Samuel Jeffery, when coming down from assisting to furl main-topgallant sail, missed his footing, fell overboard after striking the rail, and was lost	Peter McKenzie.
" 24	Laira, 20 years, A1	Barque..	492	14	4	Sugar	Loss of life only	1	Lat. 47° 27' S., long. 152° 24' E.; on voyage from Mauritius to Dunedin	N.W.	Heavy gale	A seaman named Joseph Emanuel Leon Bouis, whilst reefing the upper fore-topsail, fell from the yard into the sea and was not seen again	Peter James Hughes.
" 27 (since)	Rainbow, 1 year, A1 Lloyds	Schooner	297	10	..	Ballast..	Supposed foundered; total loss	Supposed 10 (all hands)	On voyage from Melbourne to Clarence River	..	..	Vessel left Melbourne for Clarence River on the 27th November and has not since been heard of. Supposed to have foundered at sea, with all hands, during heavy weather prevailing on the Australian coast about that time	K. McDonald.
" 28	Ohan, s.s., 6 years	Schooner	411	24	..	Coal	Stranded; partial loss	..	Whale Rock, off Red Head, Bay of Islands	S.W.	Moderate	Master misled through buoy not being in position shown on chart	Richard Brewer.
Dec. 5	Rangitikei, 27 years, A1 Lloyds	Ship	1188	26	..	Wool and general	Collision; partial loss	..	Napier Roadstead, about two miles off entrance to Inner Harbour	Westly	Hard gale	The "Rangitikei's," cable parted in a heavy gale, and she drifted stern on to the "Balclutha," which was anchored about 500 yd. astern of her, and she stove in that vessel's starboard bulwarks	H. J. Middleton.
" 5	Balclutha, A1 Lloyds, 100	Ship	1614	28	..	Wool and tallow	Collision; partial loss	..					J. Binnie.
1891.													
Jan. 4 (supp'd)	Kakanui, s.s., 12 years	Schooner	57	10	9	Coal for ships' use	Supposed foundered; total loss	Supposed 19 (all hands)	On voyage from Macquarie Island to Bluff	Supp'd N.E. to westward	Supposed heavy gale	The vessel left Macquarie Island for New Zealand with nine passengers on board, on the 3rd January, 1891, and has not since been heard of. She is supposed to have foundered in a heavy gale next day	William Best.
" 6	Manaita, s.s., 19 years	Schooner	54	6	..	Ballast..	Stranded; partial loss	..	Mokau Bar, North Taranaki Bight	N.N.W.	Light	Vessel took the ground when crossing the bar and was seriously damaged	John Botham.
" 17	Pukaki, s.s., 4 years	Schooner	850	36	2	Coal	Stranded; partial loss	..	Ohan Bay, Cook Strait	S.E. by S.	Heavy gale	Master should have used greater precaution to ascertain his position, and should not have trusted to bearings alone. He was ordered to pay costs of inquiry	William Edward Oliver.
" 22	Leading Wind, 17 years (U.S. vessel)	Ship	1159	10	..	Flax and kauri-gum	Fire on board; partial loss	..	Alongside Wharf, Auckland Harbour	..	..	Fire broke out in cargo of flax when alongside wharf	Francis Manning Hinckley.

Feb.	7	Trusty, 27 years	Schooner	59	3	..	Ballast..	Collision; partial loss	..	Two miles in a direct line from entrance to Inner Harbour, Napier	S.E.	Light ..	Vessel was proceeding alongside s.s. "Manapouri," then lying in roadstead, to lighter her, when the wind shifted, and the steamer swinging caused the "Trusty" to come into collision with her	Edward Quinlan.
"	10	Mana, s.s., 5 years	Cutter ..	51	..	..	..	Fire on board; partial loss	..	Alongside Jervois Quay, Wellington Harbour	..	..	Fire was probably drawn on stokehole-floor and not properly extinguished	James Jones.
"	24	Mamari, s.s., 2 years	Schooner	2349	52	..	Frozen meat, wool	Collision with wharf-piling; partial loss	..	Sumpter Wharf, Oamaru Harbour	S.E.	Light ..	Heavy range coming into harbour, result of a gale in the far offing, caused vessel to surge heavily about, and coming into contact with wharf-piles dented several plates	Joseph Maxwell.
Mar.	11	Charles Edward, s.s., 27 years	Schooner	140	..	..	General	Collision; no damage	1	Inner Harbour, Nelson	..	..	Casualty caused by whistle of steamer not being blown when going down harbour as required by regulations, and in steamer not giving way to sailing-vessel. Master and mate of steamer ordered to pay cost of inquiry	Thomas White-well.
"		Ida ..	Cutter ..	10	3	..	Coal	Collision; partial loss			..	..		Cockram West-rupp.
"	18	Mawhera, s.s., 7 years	Schooner	340	26	20	General	Stranded; loss of propeller-blades; partial loss	..	Entrance Ledge, Nelson Harbour	..	Calm ..	Vessel struck on N.E. edge of entrance ledge when leaving port in charge of pilot, and stripped blades off propeller	Walter Manning.
"	19	Compadre, 23 years, A1 Lloyd's	Barque..	800	16	..	Jute-bags	Fire on board and stranded; total loss	1	North Cape, Auckland Islands	N.W.	Storm ..	Fire broke out amongst cargo, and master then shaped his course for New Zealand, but, having met with very bad weather, which carried away some sails and made the vessel waterlogged, she was unable to clear the Auckland Islands, and had to be run ashore to save life. As soon as she struck, the crew jumped ashore off the jibboom, and the vessel then fell back and went to pieces. No blame attached to master or officers	David Jones.

SUMMARY of CASUALTIES to SHIPPING and SEAMEN reported to the Marine Department during the Financial Year ended the 31st March, 1891.

Nature of Casualties.	Casualties on or near the Coasts of the Colony.										Casualties outside the Colony.										Total Number of Casualties reported.							
	Steamers.			Sailing-vessels.			Total within Colony.				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.	No. of Vessels.	Tonnage.	No. of Lives lost.										
Strandings,—																												
Total wrecks
Partial loss
Slight damage
Total strandings
Collisions,—																												
Partial loss
Slight damage
No damage
Total collisions
Missing vessels supposed foundered
Miscellaneous, including damage by heavy seas or fire to hull and cargo, loss of anchors, chains, &c., and breakdown of machinery
Total casualties to shipping
Loss of life only
Total number of casualties reported

ANNUAL REPORTS ON WORK DONE.

The INSPECTOR of MACHINERY, AUCKLAND, to the ASSISTANT SECRETARY, Marine Department.

SIR,—

Auckland, 13th April, 1891.

I have the honour to forward for your information the annual report on land boilers and machinery inspected in the Auckland District during the financial year ended the 31st March, 1891.

During the above period 467 land boilers and machinery attached, 13 digestors, and 31 machinery (motive-power other than steam) have been inspected, making a total of 511 inspections for the year; 18 of which were inspected by Mr. Duncan and 166 by Mr. Blackwood.

During the year 22 new boilers have been brought into use, 9 of which were imported and 13 made in the colony; 45 changed owners and 32 have been repaired. Those found in a dangerous state, Nos. 1507, 1151, and 1723, have been thoroughly repaired, and No. 1331 condemned.

It is satisfactory to be able to state that there have been no accidents to life or limb in connection with boilers to report.

The steady increase of work in connection with the inspection of land boilers, machinery, and steamer surveys, with the work in Hawke's Bay included, makes ample work for two Inspectors. Since the appointment of Mr. Blackwood to this district in November last, we have been able to keep pace with the work, and have given more attention to the repairs to land boilers, machinery, and steamers, which are important parts of the duties which have to be attended to. I regret having accidents with machinery to report.

The appended returns give the number and description of the boilers and machinery inspected, fees payable, defects found in boilers and machinery, notices to repair boilers and protect dangerous parts of machinery, and accidents to life and limb in this district.

The Assistant Secretary, Marine Department.

I have, &c.,

W. J. JOBSON.

RETURN showing the NUMBER and DESCRIPTION of BOILERS, &c., INSPECTED, and FEES payable, in the AUCKLAND DISTRICT during the Year ended the 31st March, 1891.

Nature of Boiler.	Number.			Fees.	Remarks.
	Under 5 h.p.	5 to 10 h.p.	Over 10 h.p.		
Portable boilers ...	...	1	1	£ s. d. 105 0 0	{ Employed at 21 establishments; fees at £5 each.
Stationary boilers ...	...	...	70		
Portable boilers ...	23	54	21	542 0 0	{ Charged for at per horse-power of each boiler.
Stationary boilers ...	123	37	108		
Locomotive boilers ...	...	1	2		
Total ...	146	93	202		
Machinery inspections (10, 15s. each)	...	...	...	7 10 0	
" " (21, nil)	...	...	...	...
Digestor " (13, nil)	...	...	...	...
Total for year...	...	...	...	654 10 0	

The above return does not include 6 boilers in public buildings owned by Government; or 18 boilers which are not working; these last were inspected at owners' request, so that certificates may be issued when required.

The reduction of inspection-fees brought into force on the 1st January, 1890, offers great inducement to owners to take up the certificates within the specified time, and I may state has given general satisfaction.

RETURN of MACHINERY INSPECTED in the AUCKLAND DISTRICT during the Financial Year ended the 31st March, 1891.

Description of Machinery.	Steam.	Water.	Gas.	Description of Machinery.	Steam.	Water.	Gas.
Ammunition factory ...	1	...	...	Joineries ...	3	...	...
Air-compressor ...	1	...	...	Laundries ...	2	...	...
Assaying ...	1	...	...	Lifts or elevators ...	3	13	2
Breweries ...	11	...	...	Lead-works ...	1	...	...
Bakery ...	1	...	...	Lime-works ...	1	...	...
Bone-mill ...	1	...	...	Malt-mills ...	2	...	...
Brick-works ...	1	...	...	Maize-mill ...	1	...	...
Block- and pump-works ...	1	...	...	Meat-canning factories ...	2	...	...
Butter-box factory ...	1	...	...	Oil-, soap-, and candle-works ...	2	...	...
Boot factory ...	1	...	...	Pumping and winding ...	7	...	...
Chemical-works ...	1	...	...	Pumping ...	4	...	...
Cement-works ...	3	...	...	Printing ...	2	...	...
Confectionery-works ...	2	...	...	Potteries ...	2	...	...
Cordial-works ...	3	...	...	Pile-driving ...	1	...	...
Coffee-mill ...	1	...	...	Phormium-dressing ...	33	7	...
Chaff-cutting ...	29	...	...	Quartz-crushing batteries ...	8	...	...
Dairy factories and creameries...	18	...	...	Road-roller ...	1	...	...
Docks ...	2	...	...	Rope-works ...	1	...	...
Dredging ...	2	...	...	Saw-mills ...	55	...	...
Diamond-drill ...	1	...	...	Sash and door factory ...	1	...	...
Flour-mills ...	6	...	...	Sugar-works ...	1	...	...
Flock-mill ...	1	...	...	Stone-breaking ...	2	...	...
Feilmongeries ...	5	...	...	Ship-building yards ...	3	...	...
Freezing-works ...	2	...	...	Sausage-machines ...	5	...	...
Fruit-preserving works ...	3	...	...	Tanneries ...	6	...	...
Fish-preserving works ...	4	...	...	Tinplate-works ...	1	...	...
Furniture factory ...	1	...	...	Threshing- and chaff-cutting-machines ...	11	...	...
Firewood-cutting ...	24	...	...	Threshing-machines ...	3	...	...
Fire-engine ...	1	...	...	Varnish-works ...	2	...	...
Gasworks ...	3	...	...	Waterworks ...	2	...	...
Glycerine-works ...	1	...	...	Woollen-mill ...	1	...	...
Hoisting ...	20	...	...	Wool-dumping ...	1	...	...
Hauling ...	4	...	...	Winding ...	14	...	...
Ironworks and foundries ...	13	...	...		

RETURN of DEFECTS found in BOILERS and FITTINGS in the AUCKLAND DISTRICT during the Financial Year ended the 31st March, 1891.

Description.	Dangerous.	Ordinary.	Total.
Collapsed furnace-flues ...	2	...	2
Fire-boxes bulged ...	1	1	2
Corrosion, internal ...	...	12	12
Corrosion, external ...	1	5	6
Fractured plates ...	...	3	3
Blistered plates...	...	2	2
Bulged plates in bottom of externally-fired boilers ...	...	3	3
Joints sprung ...	...	3	3
Tubes defective ...	...	7	7
Total defects found in boilers ...	4	36	40
Defective fittings—			
Safety-valves ...	...	1	1
Pressure-gauges ...	...	9	9
Water-gauges ...	...	11	11
Spring-balances ...	...	1	1
Feed pipes ...	...	5	5
Blow-off cocks and pipes ...	...	4	4
Fusible plugs ...	...	3	3
Omissions—			
Boiler without manhole ...	...	1	1
Gross total ...	4	67	71

RETURN of NOTICES given to REPAIR BOILERS in the AUCKLAND DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Notice.	Description of Boiler.	Nature of Repairs ordered.
1890.		
May 11 ...	Portable	Patch to be fitted at sludge-hole.
July 4 ...	Longitudinal tubular	The plate below dome to be sheathed, and three vertical stays fitted.
July 17 ...	Cornish	Defective place in bottom to be cut out and a rivetted patch to be fitted.
July 28 ...	Cornish	The whole of the bottom to be renewed.
July 28 ...	Cornish	Patch to be fitted to shell.
Aug. 11 ...	Longitudinal tubular	Defective plate in bottom to be taken out and new one fitted.
Oct. 15 ...	Cornish	Strengthening-piece to be fitted below the dome.
Oct. 29 ...	Longitudinal tubular	Manhole to be made in shell and door, &c., fitted.
Nov. 8 ...	Portable	Six stays in sides of fire-box to be renewed.
Nov. 11 ...	Cornish	Rivetted patch to be fitted at blow-off.
Dec. 3 ...	Portable	To be retubed, and a patch fitted at sludge-hole.
Dec. 20 ...	Vertical flue	Top part of vertical flue to be repaired.
Dec. 20 ...	Vertical flue	Three stays in crown of furnace to be renewed.
Dec. 24 ...	Vertical tubular ...	Blow-off cock to be fixed on brake-plate to make it more effective.
1891.		
Jan. 12 ...	Longitudinal tubular	New plate put in back course of plates with blow-off cock attached.
Jan. 13 ...	Longitudinal tubular	Strengthening-ring to be fitted to manhole at front end of boiler.
Jan. 17 ...	Portable	Four additional stays to be fitted to top of fire-box.
Jan. 19 ...	Vertical flue	New vertical flue to be fitted.
Jan. 23 ...	Longitudinal tubular	About one-third of blistered plate in bottom to be renewed.
Feb. 10 ...	Cornish	Rivetted patch to be fitted near the blow-off.
Feb. 20 ...	Semi-portable	Two defective places in lower part of fire-box to be cut out and patches fitted.
Feb. 26 ...	Vertical	Defective tubes taken out and retubed.
Mar. 13 ...	Cornish	About one-half of the plate of blow-off to be taken out and renewed.
Mar. 28 ...	Vertical tubular ...	Defective tubes to be taken out and retubed.

RETURN of ACCIDENTS to LIFE and LIMB which have occurred in connection with LAND BOILERS and MACHINERY in the AUCKLAND DISTRICT during the Financial Year ended the 31st March, 1891.

Name and Address of Owner.	Description of Machinery.	Name of Person injured.	Nature and Date of Accident.	Fatal or not.	Cause of Accident, and Remarks.
Robert P. Gibbons, Thames River	Saw-mill ..	Charles Clark, aged 28 years	Left arm torn off, 10th April, 1890	Not	He and another of the mill-hands were employed at a breaking-down saw. It appears they were adjusting the driving-belt, the machinery being in motion, when his left arm got entangled and torn off by the belt.
Colonial Sugar Refining Company, Auckland	Sugar-works ..	George Caldicot, aged 20 years	Head severely injured, 19th November, 1890	Fatal	It appears the deceased was running a bogey along the overhead or suspended line of rails, about 7ft. from the ground, when the bogey fell off the rails on to a centrifugal machine below, and was shot off again by the velocity of the machine. The deceased was found lying close by severely injured about the head; he died a few hours afterwards from the effects of the injuries received. At the inquest a verdict of accidental death was returned. It is not known how the accident occurred, the line of rails and bogey are good substantial pieces of work, and were found in good working-order.
Richard A. Yeoman, Auckland	Boiler-works ..	Albert Hassell, aged 16 years	Right arm broken, 9th January, 1891	Not	He was holding the driving-belt of a lathe while the man in charge was lacing it (the machinery in motion); it appears he slipped, his right arm became entangled and broken below the elbow by the belt. The first and third accidents are of such a description as can only be avoided by attending to belts in a careful and skilful manner, or by stopping the machinery.

RETURN of NOTICES given to FENCE DANGEROUS PARTS of MACHINERY in the AUCKLAND DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Notice.	Description of Machinery.	Parts of Machinery to be fenced, &c.
1890.		
April 3 ...	Hydraulic lift ...	The chain to be annealed.
May 17 ...	Saw-mill ...	Goose-saw and emery wheel.
May 21 ...	Brick-works ...	Two pairs of wheels of brick-making machine.
May 24 ...	Flax-mill ...	Opening in scutcher reduced to 1½ in. in width, and two pairs of wheels of two strippers.
May 9 ...	Hydraulic lift ...	Hood to be fitted to top of lift.
May 14 ...	Hydraulic lift ...	Hood to be fitted to top of lift.
June 6 ...	Drag-bench ...	Engine-driving belt.
June 20 ...	Flax-mill ...	Two belts and feed-rollers of two strippers, and engine-belt.
June 20 ...	Saw-mill ...	Belt and connecting-rod of breaking-down saw, and belt drag-bench.
June 7 ...	Saw-mill ...	Belt of circular saw and connecting-rod of breaking-down.
June 21 ...	Saw-mill ...	Two belts of planing-machines, feed-gear of gang-saw, and fly-wheel of breaking-down.
July 29 ...	Flax-mill ...	Scutcher-belt and pulleys.
Aug. 11 ...	Gas-lift ...	New steel wire-ropes to be fitted.
Aug. 25 ...	Saw-mill ...	Two belts of deal frames, one belt of circular-saw No. 1, and one belt of jigger No. 2.
Aug. 26 ...	Saw-mill ...	Belt of log-winch, belt of emery-wheel, and one pair of bevel-wheels.
Aug. 28 ...	Saw-mill ...	Engine fly-wheel, couplings on main and intermediate shafts, and belts of circular-saw and emery-wheel.
Oct. 9 ...	Hydraulic lift ...	The chain to be annealed.
Oct. 13 ...	Coach-factory ...	Belt of circular-saw, belt of fan-blast, and grinding-stone.
Oct. 15 ...	Flax-mill ...	Guard fixed over beaters of stripper, and opening in scutcher reduced to 1½ in. in width.
Nov. 17 ...	Saw-mill ...	Spur and pinion-wheel of break-gear, and belt of drag-bench.
Nov. 25 ...	Brick-works ...	Guards to be fixed over three pairs of wheels of brick-making machine.
Nov. 28 ...	Flax-mill ...	Water-wheel to be fenced in, and opening in scutcher reduced to 1½ in. in width.
Nov. 28 ...	Flax-mill ...	Water-wheel and driving-pulley and belt of scutcher fenced in.
1891.		
Jan. 12 ...	Tannery ...	Pair of wheels of hide-splitting machine and belt of bark-squeezer.
Jan. 26 ...	Flax-mill ...	Two belts of stripper and main driving-belt.
Feb. 16 ...	Saw-mill ...	Belt of gulleting-machine, and belt of log-winch.
Mar. 26 ...	Flour-mill ...	Main driving-belt, twelve-roller belt, and counter-shaft.

The INSPECTOR of MACHINERY, WELLINGTON DISTRICT, to the ASSISTANT SECRETARY, Marine Department.

SIR,—

Office of Inspector of Machinery, Wellington, 18th July, 1891.

I have the honour to forward for your information the annual report on the boilers and machinery in the Wellington, Marlborough, Nelson North, Taranaki, Hawke's Bay, Nelson South, and Westland Districts for the financial year ended the 31st March, 1891.

During the above period 916 boiler-inspections and 838 machinery-inspections have been made. Included in the above numbers are 354 boiler- and 318 machinery-inspections made by Mr. Mowatt, and 122 boiler- and 108 machinery-inspections by Mr. Duncan. Seventy-one fresh boilers have been added during the year—23 of which have been made in the colony, 36 new ones have been imported, and 12 are from other districts. A large number of flax-mill boilers that were at work last year are now idle, owing to the low prices ruling for that fibre.

Repairs have been effected and new mountings fitted in connection with 48 boilers. There have been 29 notices given to fence dangerous parts of machiney. In most cases this work has been done while the Inspector was on the ground.

Four accidents have been reported to me during the year to persons engaged about machinery, one of which was, unfortunately, of a fatal nature, and purely accidental. Another accident by which a man lost his arm above the elbow took place at a flax-mill where he was employed scutching: he acknowledges that carelessness on his part was the cause of the accident. A lad working at a steam-bakery also met with an accident by which he lost three fingers and a thumb. The machine at which this accident occurred is well fenced except where the unfortunate lad got his fingers between the rollers, a part that cannot be fenced if the machine is to do its work. The fourth accident, by which a man had his arm broken, the manager reports, was caused by the man leaning on one of the crushing-machines at the works.

Appended are returns showing the number and class of boilers inspected, the horse-power, fees payable, number and description of machines inspected, number of notices given to fence dangerous parts of machinery, number of notices given to repair defects in boilers, and return of accidents to persons employed about machinery.

I have, &c.,

H. A. MCGREGOR,

Inspector of Machinery.

The Assistant Secretary, Marine Department, Wellington.

RETURN of MACHINERY INSPECTED during the Financial Year ended the 31st March, 1890.

Description of Machinery.	Wellington.				Marlborough.			Nelson North.		Taranaki.			Hawke's Bay.		Nelson South.		Westland.		Total.
	Steam.	Steam and Water.	Water.	Gas.	Steam.	Steam and Water.	Water.	Steam.	Water.	Steam.	Water.	Wind.	Steam.	Water.	Steam.	Water.	Steam.	Water.	
Air-compressing ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	3
Bark-mill ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Boiling-down establishments ..	16	..	..	..	3	..	..	..	..	4	..	..	7	..	..	..	..	..	30
Bone-mills ..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	4
Biscuit factory ..	5	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	7
Brick-making machines ..	9	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	..	12
Breweries ..	9	..	..	..	1	..	..	4	..	3	..	..	4	..	4	..	4	..	29
Brush factory ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Bacon-curing ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Cement-mixing ..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	2
Cordial factories ..	8	..	..	..	3	..	..	1	..	1	..	..	1	..	..	..	1	..	15
Cabinet-making ..	2	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	5
Chaff-cutting machines ..	20	..	..	..	4	..	..	10	..	1	..	..	7	..	..	..	..	..	42
Coffee- and spice-mills ..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	3
Coach factories ..	3	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	4
Cooperages ..	5	..	..	..	..	..	..	..	..	1	..	..	2	..	..	..	..	..	8
Dye-works ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Dairies ..	9	..	..	..	..	..	..	4	..	6	..	..	..	..	..	..	..	..	19
Dredging-machines ..	2	..	..	..	..	..	..	..	..	1	..	..	1	..	4	..	1	..	9
Electric-light machines ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3
Flour-mills ..	13	1	..	..	..	..	..	5	1	1	..	..	2	..	..	..	..	..	23
Foundries ..	7	..	..	..	2	..	..	2	..	1	..	..	2	..	..	..	..	..	16
Fire-engines ..	1	..	..	..	2	..	..	..	..	..	..	..	1	..	..	..	1	..	5
Fire-wood cutting ..	10	..	..	..	1	..	..	4	..	1	..	..	4	..	..	..	..	..	20
Gasworks ..	1	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	..	4
Hauling-machinery ..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	8	..	1	..	11
Hoisting-machinery ..	20	..	..	..	1	..	..	..	..	2	..	..	6	..	17	..	2	..	48
Hydraulic machinery ..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Hydraulic lifts ..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Jam factories ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Locomotives ..	15	..	..	..	1	..	..	1	..	2	..	..	2	..	9	..	5	..	35
Laundries ..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Machine-shops ..	3	..	..	..	1	..	..	..	..	1	..	..	..	..	1	..	1	..	7
Meat-preserving works ..	3	..	..	..	2	..	..	..	..	1	..	..	1	..	..	..	..	..	7
Phormium-dressing ..	88	..	..	..	11	..	..	5	1	8	..	..	6	..	2	..	..	..	121
Printing ..	3	..	..	..	..	..	..	2	..	1	..	..	1	..	..	..	1	..	8
Pumping-machinery ..	2	..	..	..	2	..	..	..	..	..	..	..	3	..	4	..	1	..	12
Quartz-crushing ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	6	..	..	..	7
Refrigerating-machines ..	3	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	5
Road-roller ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Saw-mills ..	53	..	..	..	6	..	..	23	..	9	..	..	18	..	6	..	16	..	131
Sash and door factories ..	18	..	..	..	..	..	..	4	..	2	..	..	3	..	2	..	1	..	30
Soap and candle-works ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Soap-works ..	1	..	..	..	..	..	..	2	..	..	..	..	1	..	..	..	..	..	4
Stone-crushing ..	1	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	4
Steaming ..	2	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Sausage-machines ..	5	..	..	..	2	..	..	2	..	..	..	..	..	..	..	..	..	..	9
Tanneries ..	2	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	4
Threshing-machines ..	17	..	..	..	16	..	..	1	..	1	..	..	31	..	..	..	..	..	66
Tobacco-cutting ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Traction-engines ..	6	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	9
Tomato-sauce factory ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Vinegar factory ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Venetian-blind factory ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Wool-dumping ..	1	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	5
Wool-scouring machines ..	5	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	8
Woollen mill ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Well-sinking ..	1	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	4
Winding-machinery ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	..	..	..	9
Sheep-shearing ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Totals*	391	1	4	..	67	..	..	83	2	53	..	..	118	..	73	1	44	..	837

* Included in the above totals are six water-power machines, for which fees have been charged at the rate of 15s. each; total, £4 10s.

RETURN showing the NUMBER of LAND BOILERS INSPECTED during the Financial Year ended the 31st March, 1891.

Name of District.	Portable.			Stationary.			Totals.	
	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.	Boilers.	Fees.
Wellington*	11	115	31	73	76	135	441	£ s. d. 696 0 0
Marlborough†	3	30	5	11	9	12	70	105 15 0
Nelson North	3	24	7	28	16	7	85	114 15 0
Taranaki	7	16	2	8	11	13	57	85 10 0
Hawke's Bay‡	12	45	7	18	22	31	135	202 5 0
Nelson South§	...	8	13	22	11	28	82	131 0 0
Westland	1	14	10	13	4	4	46	69 0 0
Totals	37	252	75	173	149	230	916	1,404 5 0

The following boilers are included in the above totals :—

* Ten over 10 h.p. in three maximum fees	..	..	..	..	..	10
† Three over 10 h.p. in one maximum fee	..	..	..	..	..	3
‡ Five over 10 h.p. in one maximum fee	..	..	..	..	..	5
§ Five over 10 h.p. in one maximum fee	..	..	..	..	..	5
Also four boilers over 5 h.p., and five over 10 h.p. free of charge for the Government	..	..	..	..	..	9
						32

RETURN of NOTICES given to FENCE DANGEROUS PARTS of MACHINERY in the WELLINGTON DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Notice.	Description of Machinery.	Written or Verbal.	Parts of Machinery to be fenced, &c.
1890.			
April 29 ...	Flax-mill ...	Written ...	Counter-shaft and driving-pulleys.
May 1 ...	Flax-mill ...	Verbal ...	Counter-shaft, driving-pulleys, and main driving-belt.
May 1 ...	Flax-mill ...	Written ...	Fly-wheel of engine, main driving-belt, and belt of scutcher.
May 1 ...	Flax-mill ...	Written ...	Fly-wheel of engine and upper part of main driving-belt.
May 2 ...	Flax-mill ...	Verbal ...	Fly-wheel of engine and scutcher-belt.
May 9 ...	Flax-mill ...	Verbal ...	Main driving-belt, engine to counter-shaft.
May 9 ...	Flax-mill ...	Written ...	Main driving-belt, and belts of scutcher and stripper ; also counter-shaft and pulleys.
May 9 ...	Flax-mill ...	Written ...	Main driving-belt boxed in where it passes the stripper-platform.
May 12 ...	Flax-mill ...	Written ...	All driving-belts, and edge of stripper-platform.
May 12 ...	Flax-mill ...	Verbal ...	All driving-belts, counter-shaft, and pulleys.
May 13 ...	Flax-mill ...	Verbal ...	Fly-wheel of engine, all driving-belts, counter-shaft, and pulleys.
May 14 ...	Chaff-cutting	Written ...	Main driving-belts, counter-shaft, and pulleys.
May 16 ...	Flax-mill ...	Verbal ...	Main driving-belt, scutcher-belt, counter-shaft, and pulleys.
May 17 ...	Flax-mill ...	Written ...	Driving-belt of scutcher box-fenced where passing through engine-room.
July 30 ...	Saw-mill ...	Verbal ...	Counter-shaft and pulleys of planing-machine.
July 31 ...	Saw-mill ...	Verbal ...	Main driving-belt, engine to counter-shaft.
Aug. 2 ...	Firewood saw	Verbal ...	Fly-wheel of engine, and driving-belt.
Aug. 4 ...	Flour-mill ...	Written ...	Driving-belt box-fenced where passing through second floor.
Aug. 7 ...	Flax-mill ...	Written ...	Main driving-belts, counter-shaft, and pulleys.
Aug. 12 ...	Saw-mill ...	Verbal ...	Connecting-rods, and discs of vertical saw.
Oct. 10 ...	Sheep-shearing	Verbal ...	Fly-wheel of engine, and main driving-belt.
Oct. 11 ...	Flax-mill ...	Written ...	Main driving-belt, counter-shaft, and pulleys.
Oct. 14 ...	Saw-mill ...	Verbal ...	Main driving-belt to be close-fenced.
Oct. 22 ...	Flax-mill ...	Written ...	Main driving- and scutcher-belts.
Oct. 24 ...	Water-wheel	Written ...	Each side of wheel-race, and gangway by three-rail fence.
Oct. 25 ...	Biscuit factory	Verbal ...	Cog-wheels of rollers boxed in.
1891.			
Jan. 9 ...	Dairy factory	Verbal ...	Fly-wheel of engine, counter-shaft, and pulleys.
Jan. 17 ...	Saw-mill ...	Verbal ...	Main driving-belt from engine to circular-saw.
Jan. 29 ...	Flax-mill ...	Verbal ...	Platform from stripper to sluice-valve by hand-rail.

RETURN of NOTICES given to REPAIR BOILERS during the Financial Year ended the 31st March, 1891.

District and Date of Notice.		Description of Boiler.		Written or Verbal Notice.	Nature of Repairs ordered.
WELLINGTON.					
1890.					
May	1	...	Multi-tubular	...	Blister on bottom plate of back ring to be pared down.
May	7	...	Portable	...	Blister on side of fire-box to be pared down.
May	14	...	Portable	...	New fusible plug seating, and two new stays side of fire-box.
May	15	...	Portable	...	New fusible plug, and pin in longitudinal stay.
May	16	...	Portable	...	Two extra stays on crown of fire-box.
May	22	...	Portable	...	New spring-balance.
May	23	...	Multi-tubular	...	New plate in bottom, front ring of plating.
June	21	...	Lancashire	...	New furnaces fitted.
July	29	...	Multi-tubular	Verbal	Two new studs in man-hole door.
July	29	...	Portable	Written	Repairs to shell of fire-box at man-hole openings.
July	30	...	Portable	Written	Two new stays in tube plate below the tubes.
August	10	...	Locomotive type	Verbal	Six extra stays in each side of fire-box near the bottom.
August	10	...	Portable	Verbal	New steam-gauge.
August	18	...	Stationary	Written	Two longitudinal stays, and compensating-ring round man-hole opening.
August	20	...	Portable	Verbal	An extra dog-stay on crown of fire-box.
September	11	...	Stationary	Verbal	New furnace fitted.
NELSON SOUTH.					
June	22	...	Stationary	Verbal	New steam gauge.
June	26	...	Stationary	Written	Sighting-door fitted in shell, and one stay in tube-plate.
June	26	...	Portable	Verbal	New spring-balance.
June	27	...	Portable	Written	New safety-valve, and sighting-door fitted in shell.
June	27	...	Portable	Verbal	Tubes to be expanded.
July	2	...	Portable	Verbal	New steam-gauge.
July	4	...	Portable	Written	New girder and stay in crown-sheet.
July	5	...	Portable	Written	Three additional stays in crown-sheet.
July	9	...	Portable	Written	New crown-sheet in fire-box.
July	9	...	Portable	Written	New fire-box.
July	11	...	Portable	Verbal	Cylinder rejoined on boiler.
July	11	...	Portable	Verbal	New water-gauge cocks.
July	15	...	Portable	Written	Repairs and crown-sheet.
July	17	...	Stationary	Verbal	New steam-gauge.
July	17	...	Stationary	Written	Longitudinal stays fitted.
July	18	...	Stationary	Verbal	New safety-plug seating in furnace-crown.
July	19	...	Locomotive	Verbal	Tubes expanded, and new mud door.
August	11	...	Portable	Verbal	Repairs to skirt of fire-box, new crown-sheet, and two longitudinal stays.
WESTLAND.					
August	20	...	Stationary	Verbal	New safety-valve, chests, and seats.
September	1	...	Locomotive	Verbal	New seatings for wash-out plugs.
September	1	...	Stationary	Verbal	Strengthening ring round furnace, and three additional end stays.
NELSON NORTH.					
October	23	...	Stationary	Verbal	Gusset-stays rivetted, and expansion-ring repaired.
November	13	...	Stationary	Verbal	Retubed.
November	13	...	Portable	Verbal	Supports on shell rivetted.
November	20	...	Locomotive	Written	Retubed, and shell repaired.
November	21	...	Portable	Verbal	New gauge-mountings for water-gauge.
November	26	...	Portable	Verbal	New steam-gauge.
December	1	...	Stationary	Verbal	Landing in furnace cut out and renewed.
December	2	...	Stationary	Verbal	New water-gauge mountings.
December	3	...	Portable	Verbal	Repairs to tube-plates.
1891.					
January	5	...	Locomotive	Verbal	New plug-seatings round skirt of fire-box.
January	27	...	Locomotive	Verbal	New plug-seatings round skirt of fire-box.

RETURN of ACCIDENTS to LIFE and LIMB which have occurred in connection with MACHINERY in the WELLINGTON DISTRICT during the Financial Year ended the 31st March, 1891.

Name and Address of Owners.	Description of Machinery.	Name of Person injured.	Nature of Accident.	Fatal or not.	Cause of Accident and Remarks.
James Rattenburg	Flax-mill ..	Thomas Thompson	Arm crushed ..	Not ..	This accident was caused by the arm being drawn into the scutcher along with the fibre that was being scutched. Some loose ends of the hank had got entangled about his feet, and in disengaging it he tried to hold the hank with one hand; the strain, however, had been too much for him, and his arm was drawn in and severely crushed, having to be amputated above the elbow.
The Wellington Biscuit and Confectionery Company, Wellington	Biscuit-rollers	Robert Steed ..	Hand crushed ..	Not ..	This accident was caused by the lad's hand in some unexplained manner being drawn into the space between the rollers of the machine; three fingers and the thumb have since been amputated. The machine is protected as far as possible.
The New Zealand Antimony Company (Limited), Endeavour Inlet	Crushing-machine	Frederick Luxford	Broken arm ..	Not ..	It is not clear how this accident was caused, the manager of the works describing it as caused by leaning on the machine.
W. Cable and Co., engineers, Wellington	Travelling-crane	James McKenzie	Injury to the head	Fatal	It is supposed (no one having actually seen the accident take place) that the ladder by which the deceased was descending from the travelling-crane had slipped, causing him to clutch at the driving-rope, which seems to have thrown him with great force against a parting wall of the building, death resulting in about half an hour.

RETURN of BOILERS in the WELLINGTON DISTRICT Inspected during the Financial Year ended the 31st March, 1891, the Certificates for which have been issued without charge.

Telegraph Department: One boiler over 10 h.p. Prisons Department: One boiler over 10 h.p. Lunatic Asylum: Two boilers over 5 h.p. Defence Department: One boiler over 10 h.p. and two over 5 h.p. Government Printer: Two boilers over 10 h.p.

The INSPECTOR of MACHINERY, Canterbury District, to the ASSISTANT SECRETARY, Marine Department.

SIR,—

Christchurch, 25th April, 1891.

I have the honour to forward herewith annual reports of boilers and machinery inspected by me in the Canterbury District during the financial year ended the 31st March, 1891, in the same form as previously.

I regret having to report three accidents of a serious nature, all having occurred in flax-mills, but am thankful none were fatal; neither can they be attributed to defective inspection. There has not been any accident with scutching-machines in my district during the year; the safety-mouth-piece introduced here has proved a complete success, and I am compelling owners to use them.

I regret to say there is little or no improvement in the working of traction-engines. Many of the owners are good and careful drivers themselves, but many of the hired drivers are far from being careful. These engines and boilers are strongly made, but are very difficult to inspect as at present constructed. Some I have had altered here; and some of the makers have made better provision for inspection in those lately imported.

In the manufacturing of new boilers, not having any means of testing-plates and bars has been felt to be a great want. I have now the pleasure to say that before long that want will be supplied, as a machine of the most modern construction is being imported for use in connection with the School of Engineering, Canterbury College, and I am informed testing will be conducted there at any time.

The tables in connection with annual reports will supply the usual amount of information, should more be required I shall be happy to supply the same.

I have, &c.,

The Secretary, Marine Department, Wellington.

GEORGE CROLL.

RETURN showing the NUMBER of LAND BOILERS INSPECTED in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Name of District.	Portable.			Stationary.			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	40	163	4	111	30	61	409

RETURN of MACHINERY INSPECTED in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Description of Machinery.	Steam.	Steam and Water.	Water.	Gas and Steam.	Description of Machinery.	Steam.	Steam and Water.	Water.	Gas and Steam.
Biscuit factories ...	2	...	...	...	Foundries and ironworks	30	...	...	...
Breweries ...	11	...	...	...	Gasworks ...	3	...	...	...
Brick- and tile-works ...	2	...	...	...	Goods-lifts ...	...	...	...	2
Brush factory ...	1	...	...	...	Laundry ...	1	...	...	...
Baths ...	3	...	...	...	Meat-preserving ...	1	...	...	...
Bone-mills ...	5	...	...	...	Nail-making ...	1	...	...	...
Boiling-down ...	8	...	...	...	Printing ...	1	...	...	2
Blind-making ...	1	...	...	...	Preserving fruit ...	1	...	...	...
Butchers choppers ...	22	...	...	...	Pumping ...	4	...	...	...
Cabinet-making ...	5	...	...	...	Potteries ...	4	...	...	...
Carriage factories ...	2	...	...	...	Road-roller ...	1	...	...	...
Chaff-cutting ...	31	...	...	...	Road-haulage ...	1	...	...	...
Chemical-works ...	2	...	...	...	Refrigerating-works ...	4	...	...	...
Coffee- and chicory-mills...	2	...	...	...	Saw-mills ...	22	...	...	...
Collieries ...	2	...	...	...	Seed-cleaning ...	3	...	...	...
Cooperage ...	2	...	...	...	Soap-works ...	4	...	...	...
Cordial factories ...	3	...	...	...	Stone-breaking ...	2	...	...	...
Dairy factories...	2	...	...	...	Stone-sawing ...	1	...	...	...
Dock and slip ...	2	...	...	...	Tanneries ...	4	...	...	...
Dredging-machine ...	1	...	...	...	Threshing, portable engines	52	...	...	...
Dentists ...	8*	...	...	...	" traction-engines	59	...	...	...
Electric lighting ...	2	...	...	...	Tram-engines ...	7	...	...	...
Fire-engines ...	2	...	...	...	Wool-washing ...	3	...	...	...
Firewood-sawing ...	7	...	...	...	Wool-dumping ...	3	...	...	...
Flax-mills ...	10	1	3	...	Woollen-mills ...	2	...	...	...
Flock-mill ...	1	...	...	...	Winches and cranes ...	15	...	...	...
Flour-mills ...	9	2	1	...					

* Not included in "Number of Boilers."

† Gas.

RETURN of DEFECTS found on INSPECTION of BOILERS and FITTINGS in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Description of Defects.	Dangerous.	Ordinary.	Total.
Collapse of furnace ...	2	1	3
Cracks and grooving in furnace ...	3	...	3
Crown of fire-box down ...	...	2	2
Corrosion, external ...	1	3	4
Dirty inside ...	1	...	1
Fire-box wasted ...	2	2	4
Grooving in neck of angle-iron ...	1	...	1
Longitudinal stay broken ...	1	...	1
Pressure-gauge incorrect ...	...	3	3
Patched in fire-box ...	...	2	2
Tubes thin or leaking ...	...	4	4
Wasted from leakage at doors and joints ...	1	6	7
Wasted in uptake and crown ...	...	2	2
Wasted in shell from age and exposure ...	2	10	12
Totals ...	14	35	49

NOTE.—Of the above boilers four are now out of use; the remainder have been repaired, or are working at a reduced pressure.

RETURN showing FEES payable for the INSPECTION of BOILERS and MACHINERY in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Name of District.	Fees payable in respect of Boilers.	Fees payable in respect of Machinery.	Total.
	£ s. d.	£ s. d.	£ s. d.
Canterbury	521 10 0	Nil.	521 10 0

NOTE.—There are eight maximum fees, including thirty boilers, each over 10 h.p.

RETURN of NOTICES given to FENCE DANGEROUS PARTS of MACHINERY in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Notice.	Description of Machinery.	Notice.	Particulars.
1890.			
April 16 ...	Flour-mill ...	Verbal ...	To protect belts and gearing of rollers and counter-shaft.
July 17 ...	Oatmeal-mill ...	Verbal ...	To protect driving-belt and pulley, also fly-wheel of engine.
Aug. 3 ...	Goods-lift ...	Verbal ...	To have safety-catches fitted, and to stand testing.
Nov. 13 ...	Flax - mill (water-power)	Written ...	To fit safety-mouthpiece to scutching-machines same as one already in use.
Nov. 14 ...	Flax-mill ...	Written ...	A better secured cap on end of counter-shaft, and safety-mouthpiece on scutching-machine.
Nov. 14 ...	Flax - mill (water-power)	Written ...	A properly secured cap on end of scutching-machine, spindle, and safety-mouthpiece.
Nov. 14 ...	Flax-mill ...	Written ...	A safety-mouthpiece on scutching-machine.
Dec. 10 ...	Flax-mill ...	Verbal ...	A safety-mouthpiece on scutching-machine.
1891.			
Jan. 19 ...	Grain-elevator ...	Written ...	A strong-box fitted over top driving-gear, and fence round belt through second floor.
Feb. 5 ...	Flax - mill (water-power)	Verbal ...	To protect counter-shaft and belts, also fit safety-mouthpiece on scutching-machine.
Feb. 5 ...	Flax-mill ...	Verbal ...	To protect end of scutcher-spindle and belt.
Feb. 20 ...	Flax-mill ...	Verbal ...	To protect counter-shaft and belts, also safety-mouthpiece on scutching-machine.
Feb. 27 ...	Flax-mill ...	Verbal ...	To cut off projecting end of scutcher-spindle, better protect driving-belt and pulley, also safety-mouthpiece on scutching-machine.

RETURN of ACCIDENTS to BOILERS and MACHINERY reported as having occurred in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Accident.	Owner's Name and Address.	Nature and Cause of Accident.
1890.		
April 9 ...	Christchurch Meat Company, Islington	Reported collapse of one furnace of Lancashire boiler. Found both furnaces out of shape, one very much so. Caused by a deposit of oil on the parts injured.
Aug. 27 ...	Scarlett and Co., Sydenham	Reported leak in furnace. Found several rivet cracks in ring seam over furnace. Caused by too much lap of plates at this seam. Cornish boiler.
Oct. 2 ...	Mosgiel Woollen Factory Company, Ashburton	Reported leak in bottom of cylindrical tubular boiler. Found rivet cracks at every rivet. Caused by bad material.
Dec. 29 ...	South Canterbury Refrigerating Company, Timaru	Reported both furnaces of Lancashire boiler collapsed. Found both very much out of shape. Caused by oil on injured parts introduced with feed-water.

RETURN of BOILERS belonging to the GOVERNMENT INSPECTED by me during the Financial Year ended the 31st March, 1891.

Sunnyside Lunatic Asylum, Christchurch, used for cooking and pumping.

RETURN of NOTICES given to REPAIR BOILERS in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Date.	Description of Boiler.	Notice.	Particulars of Repairs.
1890.			
April 8 ...	Lancashire ...	Verbal ...	To force up collapsed furnaces.
April 26 ...	Cornish ...	Written ...	To renew plates over fire, also front angle-iron.
May 14 ...	Portable ...	Verbal ...	New spring-balance on safety-valve.
May 26 ...	Portable ...	Verbal ...	Bottom plates of shell to be renewed.
June 19 ...	Tram-engine ...	Verbal ...	Renew side of fire-box, also ten stays in back of fire-box.
July 3 ...	Cornish ...	Written ...	To renew front angle-iron on flue.
July 16 ...	Vertical ...	Verbal ...	To renew plates on bottom of shell.
July 17 ...	Vertical ...	Verbal ...	To renew pressure-gauge.
July 22 ...	Portable ...	Written ...	To clean inside of boiler and expand tubes.
July 22 ...	Tram-engine ...	Verbal ...	To renew side of fire-box, also screwed-stays in front and back of fire-box.
July 28 ...	Portable ...	Verbal ...	To renew part of furnace-crown, also pressure-gauge.
Aug. 5 ...	Tram-engine ...	Verbal ...	To renew patch in fire-box and several screwed-stays.
Aug. 27 ...	Cornish ...	Verbal ...	To renew plates in furnace over fire.
Sept. 1 ...	Semi-tubular ...	Verbal ...	To chip and recaulk ring-seam on bottom.
Sept. 1 ...	Semi-tubular ...	Verbal ...	To renew four tubes.
Oct. 2 ...	Tubular ...	Verbal ...	To renew two plates on bottom in furnace.
Oct. 10 ...	Traction ...	Verbal ...	To withdraw tubes in order to clean boiler.
Oct. 15 ...	Locomotive ...	Written ...	To renew fire-box and skirt of shell.
Oct. 26 ...	Portable ...	Verbal ...	To renew pressure-gauge.
1891.			
Jan. 14 ...	Lancashire ...	Verbal ...	To fit girders with bolts to collapsed furnaces, temporary repair furnaces to be renewed, pressure reduced meantime.
Feb. 6 ...	Portable ...	Verbal ...	To repair longitudinal stay broken.
Feb. 20 ...	Portable ...	Verbal ...	To fit four screwed stays through bulge in fire-box.
Feb. 23 ...	Vertical ...	Written ...	To renew bottom-plates of shell.
Feb. 27 ...	Portable ...	Verbal ...	To lift cylinder and renew joints on top of boiler.
Mar. 2 ...	Vertical ...	Verbal ...	To renew crown-plates and tubes.

RETURN of ACCIDENTS to LIFE and LIMB which have occurred in connection with BOILERS and MACHINERY in the CANTERBURY DISTRICT during the Financial Year ended the 31st March, 1891.

Name and Address of Owner.	Description of Machinery.	Name and Age of Person injured.	Nature of Accident.	Fatal or not.	Cause of Accident and Remarks.
G. J. F. Lublow, Ashburton	Flax-mill, water power	— Patterson, an adult, age not given	Wrist bones broken	Not	A belt having come off one of the machines the water was turned off the water-wheel for the purpose of adjusting, but before the machinery was at rest Patterson took hold of belt, when his arm became entangled, and bones broken.
Charles Chinnery, Rangiora	Flax-mill, steam and water	John Stevens, elderly man	Arm severely torn; arm since amputated	Not	Part of this machinery was running by water-power. Stevens, the engine-driver, was passing the end of counter-shaft with a bundle of tow to light the engine fire, when the tow got entangled. The end of shaft had been well protected by my instructions, but had been removed by Stevens and never replaced.
Charles Chinnery, Rangiora	Flax-mill, steam power	R. Watson, aged 16 years	Left arm broken; hand since amputated	Not	Driving-belt of stripper having come off Watson tried to put it on again himself when his left hand got caught in pinions of feed-rollers. Machinery is all well protected, and no one excepting the fireman is allowed to interfere with the belts. Watson was not a regular hand, and appeared not to be aware of this rule.

The INSPECTOR of MACHINERY, Otago District, to the ASSISTANT-SECRETARY, Marine Department.

SIR,—

Office of Inspector of Machinery, Dunedin, 18th May, 1891.

I have the honour to forward to you the annual report of inspection of boilers and machinery in the Otago District for the financial year ended the 31st March, 1891, contained in the accompanying tables numbered 1 to 17 inclusive.

In forwarding this report unto you I am very sorry to state that the flax, mining (dredging), and saw-mill industries have not turned out so well as was expected. A number of flax-mills have been temporarily discontinued; a number of saw-mills have been shut down, and dredging operations, unless in certain cases, have been a failure, although I am of opinion that, with the experience gained, it will come to the front yet.

The increase of boilers during the year has been sixty-three, and, at the end of March, there still remained a considerable number to be inspected. There has also been a great deal more of marine work. There was also a certain amount of time lost last year through various causes; possibly this year will show better. The past year has been very bad for accidents, there being two fatal, the jury in each case returning a verdict of "accidental death." There have been no accidents by reason of the explosion of any steam-boilers throughout the district during the past year.

Remarks on Tables.

Return of Defects found on Inspection of Boilers.—There are four dangerous cases.

The Cornish tubular boiler has been very carelessly looked after to cause such a collapse as took place. Had it not been a steel boiler the consequences might have been serious; as it was no fracture of the plate took place.

Three Cornish Boilers at a Refrigerating-works.—Crowns all more or less collapsed from top of crown round to furnace-bars. This I consider to have been a very bad case, and might have been the means of loss of life and serious destruction to property. On my examination of these boilers after the accident on the 26th and 28th July, while the repairs were going on, I found the plates internally thickly covered over with oil (Englebert's), which had been allowed to enter the boilers from the condenser. I therefore advised the boilers to be thoroughly cleaned out by means of caustic soda; and, in order that such an actual danger from total collapse might not occur again, I ordered two angle-iron rings to be put round each furnace, 3in. x 3in. x $\frac{3}{8}$ in.

The other defects are merely the ordinary casualties which may be looked for where so many unskilled men are in charge of steam-boilers.

Nature of Repairs ordered.—This table does not need much comment, as there is nothing serious requiring to be noticed.

Notice given to Fence Dangerous Parts of Machinery.—The only things here are the openings into scutchers used in the preparation of flax. In many cases, before any supervision took place, the openings might be found as wide as 2 $\frac{1}{2}$ in. This is not only dangerous, but entirely unnecessary, 1 $\frac{1}{2}$ in., with moderately wide side-openings, are found to answer much better, the scutcher—that is, the person using the machine, having more confidence with an opening where his hand cannot get in. They are all being reduced to this size where required.

I am sorry to have to report so many accidents to life and limb as occurred last year. Accident at Ellis and Watt's flax-mill: It would appear that this accident was entirely the person's own fault.

Southland Implement and Machine Works Accident.—This is one of those accidents which seem to be non-preventible, the gate being left open, and the little child passing was naturally attracted by the machinery, and, not knowing the danger, was suddenly caught and killed instantly.

Phoenix Company Accident.—Although not serious, the hand might have been lost altogether. Nothing can be done with this but the exercise of a little caution.

Brown and Richardson's Mill Fatal Accident.—This accident occurred very simply. In turning round from the scutcher the flax was caught, taking his arm in, the opening at that time being 2 $\frac{1}{2}$ in., which is now reduced to 1 $\frac{1}{2}$ in. Had this mill been inspected prior to the accident happening, no doubt this might have been avoided; but no notice of starting the mill had been received, and therefore nothing was known about it.

Reid and Gray's Circular-saw Works Accident.—This accident was not of a serious character, and such accidents are very common at a breast-saw bench, and entirely non-preventible.

Frankston Beach Gold-dredging Fatal Accident.—This accident was entirely accidental, and caused, perhaps, by too great an amount of self-confidence. Had he stopped the engine and secured the pin properly, the accident could not have occurred; but we may reasonably suppose that he considered he could manage to drive it home before going down below. I have examined the machinery; but it cannot be boxed up altogether, so I have suggested a hand-rail round about, so as to keep them as far off as possible.

I have, &c.,

ALEXANDER CRAWFORD,

Inspector of Machinery, Otago District.

Lewis H. B. Wilson, Assistant Secretary, Marine Department, Wellington.

RETURN showing the NUMBER of LAND BOILERS INSPECTED in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Inspected by	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.	
Alexander Crawford ...	10	57	6	62	26	83	244
Ludovic Blackwood...	8	32	1	42	17	30	130
Robert Duncan ...	19	53	2	23	8	34	139

RETURN of MACHINERY INSPECTED in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Description of Machinery.	Steam.	Steam and Water.	Water.	Gas.	Description of Machinery.	Steam.	Steam and Water.	Water.	Gas.
Agricultural-implement works	7	...	...	...	Lathmaker ...	1	...	...	...
Air-compressor ...	2	...	...	...	Laundries ...	4	...	...	...
Bacon factory ...	1	...	...	...	Lead-pipe works ...	2	...	...	...
Bakeries ...	3	...	...	...	Locomotives ...	6	...	...	...
Biscuit bakeries ...	4	...	...	...	Machine-shops ...	2	...	...	...
Baths ...	1	...	...	...	Merry-go-round ...	1	...	...	...
Barbed-wire factory ...	1	...	...	...	Meat-preserving ...	4	...	...	...
Beehive factory ...	1	...	...	...	Oil-mills ...	1	...	...	...
Boiling-down ...	3	...	...	...	Parchment-works ...	1	...	...	...
Bone-mills ...	4	...	...	...	Paper-mills ...	2	...	...	...
Brass-, copper-, and lead-works	2	...	...	...	Poudralis-works ...	1	...	...	...
Breweries ...	11	...	...	...	Potteries ...	3	...	...	...
Brick- and tile-works ...	4	...	...	...	Pneumatic churn ...	1	...	...	...
Cable tramways ...	2	...	...	...	Packing-box-makers ...	1	...	...	...
Cabinetmakers ...	2	...	...	...	Pipeclay-works ...	2	...	...	...
Cement-works ...	1	...	...	...	Printing-papers ...	6	...	...	...
Chaff-cutters ...	26	...	...	...	Plumbing ...	1	...	...	...
Chemical-works ...	1	...	...	...	Pumping water... ..	5	...	...	...
Cooperage ...	1	...	...	...	Quartz-batteries ...	1	...	...	...
Cocoa factory ...	1	...	...	...	Refrigerating-works ...	3	...	...	...
Cooking ...	4	...	...	...	Rope-works ...	1	...	...	...
Collieries ...	13	...	...	...	Rolling-mill ...	1	...	...	...
Coffee- and spice-works ...	6	...	...	...	Sausage-machines ...	9	...	...	...
Condensed milk ...	1	...	...	...	Saw-mills ...	35	...	...	...
Confectionery ...	4	...	...	...	Seed-dressing ...	2	...	...	...
Cranes ...	13	...	...	...	Sheep-dip ...	1	...	...	...
Cutlery ...	1	...	...	...	Soap-works ...	3	...	...	...
Dairy factories ...	17	...	...	...	Soap, toilet ...	1	...	...	...
Dredges, harbour ...	3	...	...	...	Soap- and candle-works ...	2	...	...	...
Dredges, gold ...	20	...	...	...	Soda-crystal works ...	2	...	...	...
Dye-works ...	1	...	...	...	Starch-works ...	1	...	...	...
Engine-shops ...	13	...	...	...	Standard-works ...	2	...	...	...
Engine-shops and foundries	9	...	...	...	Stone-crushers ...	5	...	...	...
Foundries ...	1	...	...	...	Stone-cutting ...	3	...	...	...
Fellmongeries ...	4	...	...	...	Stone-dressing ...	2	...	...	...
Flour-mills ...	12	2	...	...	Sulphuric acid ...	1	...	...	...
Flax-mills ...	19	...	...	...	Tanneries ...	4	...	...	...
Flock-mills ...	3	...	...	...	Traction-engines ...	4	...	...	...
Fruit-preserving ...	3	...	...	...	Threshing-machines ...	82	...	...	...
Fish-preserving ...	1	...	...	...	Turning, wood ...	6	...	...	...
Fire-grate-and-range-works	3	...	...	...	Venetian-blinds ...	1	...	...	...
Firewood-cutting ...	6	...	...	...	Vinegar-works ...	1	...	...	...
Gasworks ...	3	...	...	...	Wool-washing ...	9	...	...	...
Gold-mining ...	1	...	...	...	Wool-dumping ...	7	...	...	...
Gold-washing ...	1	...	...	...	Woollen factories ...	4	...	...	...
Graving-dock ...	2	...	...	...	Wool-mat factories ...	3	...	...	...
Hoists ...	15	...	...	...	Wood-working ...	5	...	...	...
Hydraulic lifts ...	...	...	51	...	Winding ...	7	...	...	...
Joineries ...	3	...	...	...	Wire-making machine ...	1	...	...	...
					Wheelwright ...	2	...	...	...

RETURN of FEES payable for the INSPECTION of BOILERS and MACHINERY in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Name of District, &c.	Fees payable in respect of Boilers.	Fees payable in respect of Machinery.	Total.
OTAGO.	£ s. d.	£ s. d.	£ s. d.
Portable	233 15 0	...	733 5 0
Stationary	498 0 0	...	
Machinery ... ..	...	1 10 0	

RETURN showing the NUMBER of STEAM-DIGESTERS and HYDRAULIC LIFTS INSPECTED in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Inspected by	Steam-digesters.	Hydraulic Lifts.
Alexander Crawford	16	12
Ludovic Blackwood	9	39
Robert Duncan	12	...
Totals	37	51

RETURN of DEFECTS found on the INSPECTION of BOILERS and FITTINGS in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Description.	Dangerous.	Ordinary.	Total.	Remarks.
Fire-box in portable cracked ... ..	...	4	4	Shortness of water.
Crown of traction cracked ... ..	...	1	1	Shortness of water.
Cornish tubular, crown down	1	...	1	Shortness of water.
Three Cornish boilers, crowns all done	3	...	3	Oil.
Portable fire-box, crown down	1	...	1	Shortness of water
Fire-box bulged in fire	1	...	1	Dirt.
Fire-box, patch to be renewed ... ..	...	1	1	Burnt.
Plate cracked at back end of tubular boiler	1	...	1	Dirt.
Dome weak ... ..	...	1	1	Tear and wear.
Internal corrosion ... ..	...	1	1	Bad water.
Plate wasted at blow-off ... ..	...	1	1	Leakage.
Plate at mudholes gone ... ..	...	3	3	Leakage.
Front tube-plate eaten away at flange...	...	1	1	Leakage.

RETURN of NOTICES given to REPAIR BOILERS in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Notice.	Description of Boiler.	Nature of Repairs ordered.
1890.		
June 16 ...	Vertical tubular ...	Mudhole doors to be repaired by $\frac{1}{4}$ in. plates to be bolted on at doors.
June 30 ...	Longitudinal tubular	Easing-gear to be fitted on safety-valve.
July 26 ...	Cornish (three) ...	Two angle-iron rings to be fitted on each boiler, 3 in. x $3\frac{1}{2}$ in., as directed.
Nov. 15 ...	Cornish	Two through stays to be fitted, and ring round manhole.
Nov. 20 ...	Portable	Safety-valve gear to be altered to correspond with spring-balance.
Nov. 21 ...	Portable	Corner of outer shell to be made tight, and cylinder-joint made tight.
Nov. 22 ...	Portable	Inside of boiler very dirty; to be cleaned out.
1891.		
Feb. 18 ...	Portable	Piece to be cut out of fire-box, and patch put on.

RETURN of NOTICES given to FENCE DANGEROUS PARTS of MACHINERY in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Notice.	Class of Machinery.	Parts requiring to be fenced.
1890. Nov. 20 ...	Flax-mill ...	Main driving-belt of pulley of engine and of shafting intermediate to be fenced; also (scutcher) opening of drums to be reduced to 1½in.
Nov. 25 ...	Flax-mill ...	Opening in scutcher-casing to be reduced to 1½in.
1891. Jan. 22 ...	Wool-washing machine	To be protected by a guard of sheet-iron over the roller-wheels in each machine.

RETURN of ACCIDENTS to LIFE and LIMB which have occurred in connection with LAND BOILERS and MACHINERY in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Name and Address of Owner.	Description of Machinery.	Name of Person injured.	Nature of Accident.	Fatal or not.	Cause of Accident and Remarks.
Ellis and Watt, Waicoula, Otago	Flax-dressing machinery	David James, aged 35 years	Left hand injured; 6th May, 1890	Not	It appears that this man was employed scutching; and at the particular time had a hank of flax in each hand, and, while flourishing the hank in the right hand at one of those employed in scutching the hank in the left hand, got caught by the tails drawing in his left hand, and getting it injured so much as to necessitate his removal to the Rinitoi Hospital. Size of opening in outer covering of scutch, 1½in. It seems he had no right to be where he was, as he was only employed in twisting the hanks of dressed flax, preparatory to baling them up.
Southland Implement and Machine Works, Tyne and North Streets, Invercargill	Twine-spinning machinery	Penfold, aged 8 years (girl)	...	Fatal	It seems in this case the gate leading on to the main street had been left open, and the child coming past had strayed into the back yard, in which was a revolving shaft, situated about 18in. from the ground. This shaft was uncovered, and at the projecting end the child's clothes seem to have been caught, and, twisting round the shaft, threw the child round, and, dashing it on the ground, she was killed instantaneously. The coroner's jury returned a verdict of accidental death. The place had not been reported previously as making twine out of <i>Phormium tenax</i> .
Phoenix Company (Ltd.), MacLaggan Street, Dunedin	Bread-rollers	John Turner, aged 17 years	Right hand severely crushed; 15th Sept., 1890	Not	It appears this lad was working at the bread-roller machine, and, in taking away the crumbs from the machine, he put his hand too near the cylinders, with the result that his hand got caught, and was carried in through the rollers, severely crushing it, but not breaking any bones. No fencing can be put up to prevent this.

RETURN of ACCIDENTS to LIFE and LIMB—*Continued.*

Name and Address of Owner.	Description of Machinery.	Name of Person injured.	Nature of Accident.	Fatal or not.	Cause of Accident and Remarks.
Brown and Richardson, Fortification Town, Mataura	Flax-mill	John Brown, aged 26	Right arm torn; 14th Nov., 1890	Fatal	It appears that Mr. John Brown, one of the owners, was showing a strange hand how to throw the flax into the scutcher, when by some means his arm was caught and drawn in, and torn in pieces: Death ensued through loss of blood during the time when he was being conveyed between Mohouta and Invercargill Hospital. At the inquest, on the 15th, before Coroner Rawson, Mr. Richardson and Dr. Stockwell gave evidence, the jury giving a verdict in accordance with the evidence; but added a rider to the effect that no newly-erected machinery should be worked before being inspected by the Inspector of Machinery. The mill was not reported. This opening in the scutcher was formerly 2½in.; it has now been reduced to 1½in.
Messrs. Reid and Gray, Dunedin.	Circular-saw	David Swan, aged 45	Finger taken off	Not	While sawing a piece of timber his hand slipped, coming against the front of the saw, cutting off one finger, and partially injuring another.
Frankton Beach Gold-dredging Company	Steam-dredge bucket	David McNidder, aged 46	Body crushed; 19th Feb., 1891	Fatal	This accident happened in the following manner: The friction-gear, which is placed on deck on the port side, is enclosed in an open cast-iron framework, and consists of two bevel-wheels, with a pulley and band, with two levers connected with the strap. It would seem that one of the pins got loose, and the engineer, David McNidder, attempted to drive it in while the machinery was in motion, making about sixty revolutions per minute. In doing this his hammer missed the pin and got caught in between the links, and in trying to clear it he overreached himself, getting caught by the wheels, and was immediately crushed up against the tumbler-framing, death being instantaneous. The friction-gear stands 3ft. 6in. above the deck, and works close up to the tumbler-framing.

RETURN of ACCIDENTS to BOILERS and MACHINERY reported as having occurred in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Accident.	Name and Address of Owners.	Nature and Cause of Accident.
1890. July 26 ...	Southland Frozen-meat and Export Company, Bluff Harbour	Three crowns down, as well as sides, came in above level of firebars. Boiler length, 20ft.; length of furnace, 8ft. 9in., up to the first galloway tubes; diameter of flue, 2ft. 8in.; plate, 3in. pressure 60lb. I examined the boilers on the 26th July, in their places, at Bluff Harbour, and also when the plates were cut out, at Invercargill, on the 28th July, and found them all covered with a strong coating of oil (Englebert's) right round the flues, and causing partial collapse right round to the firebars.
1891. March 26 ...	Messrs. M. Begg and Co., Hindon	Crown of furnace came down through shortness of water. Extent of damage to first plate in furnace: length of indent, 3ft. 8in.; width of indent, 1ft. 6in.; depth of indent, 6in. Without any fracture. Cornish tubular (steel) boiler.

RETURN of NOTICES given to remove DANGEROUS parts of MACHINERY in the OTAGO DISTRICT during the Financial Year ended the 31st March, 1891.

Date of Notice.	Name and Address of Owner.	Nature of Machinery and Cause of Removal.
Nil	Nil	Nil.

Approximate Cost of Paper.—Preparation (not given); printing 1,503 copies), £35 16s

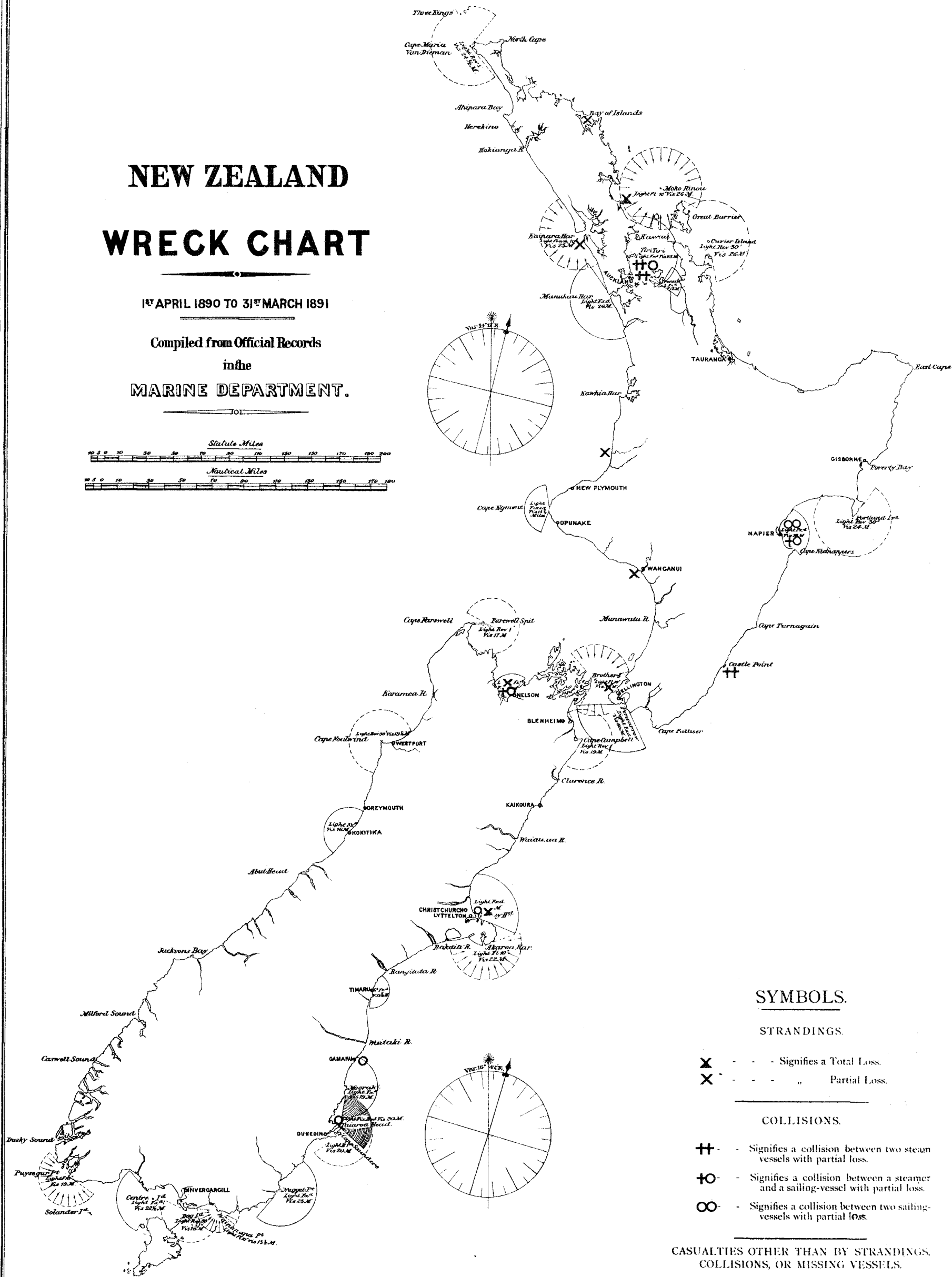
By Authority: GEORGE DIDSBURY, Government Printer, Wellington.—1891

Price, 1s.]

NEW ZEALAND WRECK CHART

1st APRIL 1890 TO 31st MARCH 1891

Compiled from Official Records
in the
MARINE DEPARTMENT.



SYMBOLS.

STRANDINGS.

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

COLLISIONS.

- H - - - Signifies a collision between two steam vessels with partial loss.
- T - - - Signifies a collision between a steamer and a sailing-vessel with partial loss.
- O - - - Signifies a collision between two sailing-vessels with partial loss.

CASUALTIES OTHER THAN BY STRANDINGS, COLLISIONS, OR MISSING VESSELS.

- O - - - A partial loss of a steamer.

Note.—Casualties resulting in slight damage are not shown on this chart.

