

REPORT ON MACHINERY.

No. 5037

Port of Dundee

MONDAY 27 JUNE 1887

No. in Survey held at Dundee

Date, first Survey 13th December Last Survey 18th June 1887

Reg. Book.

(Number of Visits)

Tons 1049

on the Steel Screw Scur. Sean

Master Charles Taggart Built at Dundee

By whom built Gourlay Bro & Co

When built 1887

Engines made at Dundee

By whom made Gourlay Bro & Co

when made 1887

Boilers made at Dundee

By whom made Gourlay Bro & Co

when made 1887

Registered Horse Power 150

Owners North Sea Steam Shipp. Co Ltd belonging to Dundee

ENGINES, &c.—

Description of Engines Triple Inverted Surface Condensing.
 Diameter of Cylinders 20-31-50. Length of Stroke 36 No. of Rev. per minute 80 Point of Cut off, High Pressure .56 Low Pressure .5
 Diameter of Screw shaft 10 Diam. of Tunnel shaft 9 1/2 Diam. of Crank shaft journals 10 Diam. of Crank pin 10 size of Crank webs 7 x 10 Radius
 Diameter of screw 13 1/2 Pitch of screw 14 1/2 No. of blades 4 state whether moveable No total surface 50.5 sq. ft.
 No. of Feed pumps 2 diameter of ditto 2 3/4 Stroke 22 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 diameter of ditto 3 1/4 Stroke 22 Can one be overhauled while the other is at work Yes
 Where do they pump from Eng. Room, after held forehold, mainhold, and stokehold.
 No. of Donkey Engines 2 Size of Pumps 6 1/2 x 8 1/2 Where do they pump from Eng. Room after held forehold, mainhold, stokehold through condenser to boiler, overboard and to donkey boiler.
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 No. of bilge injections One and sizes 4 1/2 Are they connected to condenser, or to circulating pump Circulating pump.
 How are the pumps worked by lever from low pressure cylinder.
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the discharge pipes above or below the deep water line Above
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes
 What pipes are carried through the bunkers None How are they protected
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock 20 May 1887
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from deck.

BOILERS, &c.—

Number of Boilers Two Description Circular tubular Whether Steel or Iron Steel
 Working Pressure 150 p.s.g. inch Tested by hydraulic pressure to 300 p.s.g. inch Date of test 21/4/87.
 Description of superheating apparatus or steam chest Horizontal. circular.
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately
 No. of square feet of fire grate surface in each boiler 37 1/2 sq. ft. Description of safety valves Spring loaded No. to each boiler Two.
 Area of each valve 7 sq. inch Are they fitted with easing gear Yes No. of safety valves to superheater area of each valve
 Are they fitted with easing gear Yes Smallest distance between boilers and bunkers or woodwork 10 in's Diameter of boilers 11 1/2
 Length of boilers 9 1/2 description of riveting of shell long. seams Double strap circum. seams Double riv. lap Thickness of shell plates 1 1/2
 Diameter of rivet holes 1 1/16 whether punched or drilled Drilled pitch of rivets 6 3/4 Lap of plating 15 1/2 strap.
 Percentage of strength of longitudinal joint 85 x 96 working pressure of shell by rules 100 size of manholes in shell 17 1/2 x 13 1/2
 Size of compensating rings 4 x 4 x 3/4 No. of Furnaces in each boiler 3.
 Outside diameter 2 10 length, top 6 6 bottom 9 0 thickness of plates 7/16 description of joint Corrugated plates if rings are fitted No
 Greatest length between rings working pressure of furnace by the rules 103 combustion chamber plating, thickness, sides 11/32 back 18/32 top 18/32
 Pitch of stays to ditto, sides 7 3/4 back 7 3/4 top 6 If stays are fitted with nuts or riveted heads Nuts + wash. working pressure of plating by rules 102 Diameter of stays at smallest part 1 1/32 working pressure of ditto by rules 189 end plates in steam space, thickness 1
 Pitch of stays to ditto 15 x 14 how stays are secured Double nuts + wash. working pressure by rules 159 diameter of stays at smallest part 2 3/16 working pressure by rules 150 Front plates at bottom, thickness 11/16 Back plates, thickness 13/16
 Greatest pitch of stays 7 3/4 working pressure by rules Diameter of tubes 3 3/4 pitch of tubes 4 1/2 x 4 1/2 thickness of tube plates, front 3/4 back 3/4 how stayed Screw stays pitch of stays 9 x 9 width of water spaces 6 7/16
 Diameter of Superheater Steam chest 2 length 3 6 thickness of plates 3/8 description of longitudinal joint double riv. by diam. of rivet holes 3/4
 Pitch of rivets 2 1/2 working pressure of shell by rules 218 diameter of flue thickness of plates If stiffened with rings
 Distance between rings working pressure by rules end plates of superheater, or steam chest; thickness 13/16 how stayed by one solid stay by neck 7/4 thickness.

DONKEY BOILER—

Description

Made at *Dundee* by whom made *Gourlay Bros & Co.* when made *1887* where fixed *Stonehold*
 Working pressure *60* tested by hydraulic pressure to *120* No. of Certificate *494* fire grate area *8 3/4 sq ft.* description of safety
 valves *Spring valves* No. of safety valves *One* area of each *7.0 sq ft.* if fitted with easing gear *Yes* if steam from main boilers can
 enter the donkey boiler *No* diameter of donkey boiler *6' 0"* length *11' 6"* description of riveting *Double riv. lap.*
 Thickness of shell plates *3/8* diameter of rivet holes *1 1/16* whether punched or drilled *Drilled* pitch of rivets *2 3/8* lap of plating *3 3/8*
 per centage of strength of joint *71 1/2* thickness of crown plates *5/8* stayed by *Six gussets*
 Diameter of furnace, top *4' 5 1/2"* bottom *5' 2 1/4"* length of furnace *6' 9"* thickness of plates *1 5/16* description of joint *Single riv. lap.*
 Thickness of furnace crown plates *1/2"* stayed by *Dished* working pressure of shell by rules *74*
 Working pressure of furnace by rules *60* diameter of uptake *15"* thickness of plates *3/8* thickness of water tubes *5" - 10"*

SPARE GEAR. State the articles supplied:— *1 propeller one air pump rod, one circulating pump
 1 set crank pin braser, 1 set cross head braser, 1 set of valves of air-circulating
 feed and bilge pumps, 12 condenser tubes, 12 boiler tubes, 4 bolts for piston rod
 coupling bolts, 4 eccentric bolts, 12 piston bolts, 2 safety valve springs for main boiler,
 1 " " " " donkey boiler.*

The foregoing is a correct description.

Gourlay Bros & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been built under special survey and in accordance with the approved plans sent herewith. The boilers are of steel, which has been tested at the steelworks by one of the Society Surveyors. The safety valves have been set to the working pressure of 150 lb p. sq. inch, and the engines have been tested under steam.

The material and workmanship are good.

In my opinion the machinery is in good condition and safe working order, and this vessel is eligible to be classed in the Registerbook with the Notification *L. M. C. 6. 87*

It is submitted that this vessel is eligible to have the notification L. M. C. 6. 87 recorded.

27/6/87

The amount of Entry Fee .. £ *22* : 10 : *23/6* received by me, *W. H. H.*
 Special .. £ : :
 Donkey Boiler Fee .. £ : :
 Certificate (if required) .. £ : : 1887
 To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

FRIDAY 1 JULY 1887

+ M. H.

W. H. H. 2019
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register
 Foundation