

REPORT ON MACHINERY.

No. 5037 Port of Dundee Received at London Office MONDAY 27 JUNE 1887
 No. in Survey held at Dundee Date, first Survey 13th December Last Survey 18th June 1887
 Reg. Book. Steel Screw Loch Sean (Number of Visits) 1049
 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.— Triple Inverted Surface Condensing.
 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^o 6^o Pitch of screw 14^o 6^o 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 main hold and stow hold.
 No. of Donkey Engines 2 Size of Pumps 6^o 8^o 2 1/4 x 6^o Where do they pump from Eng Room after held forehold main hold stow hold through condenser to boilers, 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^o 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 stow hold 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.— Two Description Circular tubular Whether Steel or Iron Steel
 Working Pressure 150 p. sq. inch Tested by hydraulic pressure to 300 p. sq. 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 valves 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 ✓ Smallest distance between boilers and bunkers or woodwork 10 in's Diameter of boilers 11^o 6^o
 Length of boilers 9^o 6^o description of riveting of shell long. seams Double strap circum. seams Double riv. lay Thickness of shell plates 1^o
 Diameter of rivet holes 1 1/16^o whether punched or drilled Drilled pitch of rivets 6 3/4^o Lap of plating 15^o strap.
 Percentage of strength of longitudinal joint 85 x 96 working pressure of shell by rules 100 size of manholes in shell 17^o x 13^o
 Size of compensating rings 4^o x 4^o x 3/4^o No. of Furnaces in each boiler 3.
 Outside diameter 2^o 10^o length, top 6^o 6^o bottom 9^o 0^o 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 19/32 top 19/32
 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^o
 Pitch of stays to ditto 15^o x 14^o how stays are secured Double nuts + wash. working pressure by rules 159 diameter of stays at smallest part 2 3/16^o working pressure by rules 150 Front plates at bottom, thickness 11/16 Back plates, thickness 13/16^o
 Greatest pitch of stays 7 3/4^o working pressure by rules ✓ Diameter of tubes 3 1/4^o pitch of tubes 4 1/2 x 4 1/2 thickness of tube plates, front 3/4^o back 3/4^o how stayed Screw stays pitch of stays 9 x 9^o width of water spaces 6 7/16^o
 Diameter of Superheater Steam chest 2^o length 3^o 6^o thickness of plates 3/8^o description of longitudinal joint double riv. lay diam. of rivet holes 3/4^o
 Pitch of rivets 2 1/2^o 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^o how stayed by one solid stay.
Superheater or steam chest; how connected to boiler by neck. 7/4^o flue.

[Form No. 8-2000-17/8/86-T. 68.—Transfer Ink.]

DONKEY BOILER—

Description

Vertical

Made at Dundee by whom made Gourlay Bros & Co. when made 1887 where fixed Stonehold
 Working pressure 00 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 in. 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 00 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 brases, 1 set cross head brases, 1 set of valves of air-circulating feed and bilge pumps, 12 condenser tubes, 12 boiler tubes, 4 bolts for piston rod, 4 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**

This submitted that this vessel is eligible to have the notification recorded. 27/6/87

The amount of Entry Fee .. £ 22 : 10 : 23/6 received by me, [Signature]
 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

+ [Signature]

[Signature] 2019
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

