

REPORT ON MACHINERY.

No. 5267

(Received at London Office) MAR 1883

No. in Survey held at Reg. Book.

Date, first Survey 20th Sep 82 Last Survey 26 Feb 1883

672 on the iron steam ship "Lorne" Tons 1187 763

Master Built at Hull When built 1873

Engines made at Hull By whom made Gilbert & Cooper when made 1873

Boilers made at Hull By whom made Bailey & Leatham when made 1883

Registered Horse Power 98 Owners William Bailey Port belonging to London

ENGINES, &c.—

Description of Engines Single tandem Compound Surface Condensing with fly wheel

Diameter of Cylinders 27" & 53" Length of Stroke 36 No. of Rev. per minute 68 Point of Cut off, High Pressure 5/8 Low Pressure 5/8

Diameter of Screw shaft 10" Diameter of Tunnel shaft 9 7/8" Diameter of Crank shaft journals 10" Diameter of Crank pin 10" size of Crank webs 7 1/2" x 13 1/4"

Diameter of screw 13" 0 Pitch of screw 16" 6" No. of blades 4. Keel state whether moveable yes total surface 38 sq. ft

No. of Feed pumps one diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work it

No. of Bilge pumps one diameter of ditto 6 1/4" Stroke 18" Can one be overhauled while the other is at work it

Where do they pump from Fore main hold & Engine room.

No. of Donkey Engines Two Size of Pumps 7 1/2" & 12" and 3 1/2" & 6" Where do they pump from The ballast engine from tanks

Sea & engine room delivers to main tank & overboard. The feed donkey pumps pump hot well. Sea & bilge delivers to main boiler, overboard & deck.

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. yes aft. No.

No. of bilge injections one and sizes 3" Are they connected to condenser, or to circulating pump circulating pump.

How are the pumps worked By rocking levers from piston rod crosshead

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 main. above bilge. air wash

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 X

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes in Engine room

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 25th January 1883.

Is the screw shaft tunnel watertight yes (reputed), fitted with a sluice door yes worked from main deck (in main cabin) & below.

BOILERS, &c.—

Number of Boilers One (Steel) Description double ended, circular, multitubular ordinary marine type.

Working Pressure 80 lb Tested by hydraulic pressure to 160 lb Date of test 3rd Jan 83

Description of superheating apparatus or steam chest none fitted

Can each boiler be worked separately X Can the superheater be shut off and the boiler worked separately it

No. of square feet of fire grate surface in each boiler 69.5 Description of safety valves Spring loaded, own make,

No. to each boiler Two area of each valve 19.63 sq. in. Are they fitted with easing gear yes

No. of safety valves to superheater X area of each valve X are they fitted with easing gear it

Smallest distance between boilers and bunkers or woodwork 14 1/2 inches

Diameter of boilers 13' 0 Length of boilers 15' 8" description of riveting of shell long. seams abler's butt with circum. seams abler's laps.

Thickness of shell plates 11/16" diameter of rivet holes 17/16" whether punched or drilled drilled pitch of rivets 37/8

Lap of plating 10" butt straps, per centage of strength of longitudinal joint 75 working pressure of shell by rules 82 lb

Size of manholes in shell 16" x 12" size of compensating rings 6" x 3 1/4"

No. of Furnaces in each boiler 2 & 2 four outside diameter 3' 3" length, top 6' 0 bottom abler's 15' 4"

Thickness of plates 3/4 inch description of joint butted with abler's straps if rings are fitted shut annular greatest length between rings 6 0

Working pressure of furnace by the rules 91 lb

Combustion chamber plating, thickness, sides 1/2 back (no back) top 1/2 in

Pitch of stays to ditto sides 9" to 9 1/2" back X top 9" x 9"

If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 85 lb to 95 lb

Diameter of stays at smallest part 1 7/16" working pressure of ditto by rules 95 lb

End plates in steam space, thickness 11/16" pitch of stays to ditto 15" x 15" how stays are secured abler's nuts & washers

Working pressure by rules 80 lb diameter of stays at smallest part 2 1/4" working pressure by rules 106 lb

Front plates at bottom, thickness 5/8" Double ended Back plates, thickness X greatest pitch of stays it working pressure by rules it

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Diameter of tubes 3' pitch of tubes 4 1/4" & 4 1/2" thickness of tube plates, front 5/8" back 5/8"
How stayed stay tubes as per drawing pitch of stays 15" in centre width of water spaces 1 1/4" & 1 1/2"
Diameter of Superheater or Steam chest length
Thickness of plates description of longitudinal joint diameter of rivet holes pitch of rivets
Working pressure of shell by rules 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 How stayed
Superheater or steam chest; how connected to boiler

DONKEY BOILER—

Description Vertical cylindrical with internal furnace
Made at Hull By whom made Rumbler Iron Works when made
Where fixed on deck working pressure 45 lbs Tested by hydraulic pressure to 70 lbs No. of Certificate
Fire grate area 18.5 sq. ft. Description of safety valves dead load No. of safety valves one area of each 11.0 sq. ins
If fitted with easing gear 4 If steam from main boilers can enter the donkey boiler no
Diameter of donkey boiler 6' 0" length 10' 6" description of riveting single riveted lap
thickness of shell plates diameter of rivet holes whether punched or drilled
pitch of rivets lap of plating per centage of strength of joint
thickness of crown plates stayed by 6 vertical stays
Diameter of furnace, top bottom 5' 2" length of furnace
thickness of plates description of joint
thickness of furnace crown plates stayed by 6 vertical stays
Working pressure of shell by rules working pressure of furnace by rules
diameter of uptake thickness of plates thickness of water tubes

The foregoing is a correct description,

for Bailey & Letham Manufacturers.
The Shipyard Manager.

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

Now done. New main boiler made to approved design, fitted in the ship with all necessary valves, cocks & connections as required by the rules. Engines thoroughly overhauled & put in good condition. One piece new main steam pipe & the remainder tested. New safety & stop valves. Cylinders & pistons opened up & new metallic ring fitted to low press. piston. Slide valves etc. Crank shaft stripped & examined. Tail shaft drawn & all found satisfactory. Air & circulating pumps. Bilge & feed pumps overhauled & put in good order. Bilge & feed pumps examined. Top half of tubes in surface condensers drawn, cleaned, replaced & re-ruled. Sea connections overhauled on slipway. Main safety valves set under steam for 80 lb working pressure. Engines tried under steam at morning. Donkey boiler repaired with new piece of plate in shell, & furnace to stop former furnace mouth. New mouth cut. Boiler tested after repair to 70 lb by hyd pressure & found satisfactory. (All workmanship now done satisfactory.)

This vessel is fitted with a cargo tank and the handle for the filling valve has been brought up to the chart house where the handle is placed under lock. The sluice valves are also connected up to main deck.

The machinery & boilers are now, in my opinion, in safe working condition, and the case is respectfully submitted as eligible for the notification L.M.C. 2. 63 and N.B. 83 in the Register Book.

The amount of Entry Fee ... £ 1 : " : " received by me,

Special ... £ 7 : 7 : "

Certificate (if required) yes : 2 : 6.20/1883

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

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

Lloyd's Register Foundation