

REPORT ON MACHINERY.

MON 6 MAY 1889

22746

Port of Newcastle Received at London Office 12 18

22746
Survey held at
Book.

Newcastle Date, first Survey 20 Sept Last Survey 16 April 1889
(Number of Visits 26) Tons 2308.37

on the S.S. St. Clears Built at Newcastle By whom built Robt Hawthorn Leslie & Co When built 1889

Engines made at Newcastle By whom made Hawthorn Leslie & Co when made 1889

Boilers made at do By whom made " when made "

Registered Horse Power 160 Owners St. Clears S.S. Co Ltd Port belonging to London

ENGINES, &c.

Description of Engines Triple expansion on three cranks
Diameter of Cylinders 22 1/2 . 36 1/2 . 60 Length of Stroke 39 No. of Rev. per minute 80 Point of Cut off, High Pressure 3/4 Low Pressure 80%
Diameter of Screw shaft 11 1/2 Diam. of Tunnel shaft 10 3/4 Diam. of Crank shaft journals 11 1/2 Diam. of Crank pin 11 1/4 size of Crank webs 6 1/2 x 14
Diameter of screw 14.0 Pitch of screw 16.0 No. of blades 4 state whether moveable no total surface 52 sq

No. of Feed pumps 2 diameter of ditto 3 3/4 Stroke 18 Can one be overhauled while the other is at work ys
No. of Bilge pumps 2 diameter of ditto 3 3/4 Stroke 18 Can one be overhauled while the other is at work ys

Where do they pump from all from engine bilge (4) holds stunnel. Fire from bilge (3) holds well tank
No. of Donkey Engines two Size of Pumps 8 x 10 . 14 x 8 Where do they pump from Feed from hotwell tank.

Are all the bilge suction pipes fitted with roses ys Are the roses always accessible ys Are the sluices on Engine room bulkheads always accessible ys
No. of bilge injections no and sizes 4 Are they connected to condenser, or to circulating pump ys

Are the pumps worked by covers over end of engine from after casing
Are all connections with the sea direct on the skin of the ship ys Are they Valves or Cocks both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates ys Are the discharge pipes above or below the deep water line at level
Are they each fitted with a discharge valve always accessible on the plating of the vessel ys Are the blow off cocks fitted with a spigot and brass covering plate ys

How are they protected ys
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times ys

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges ys
When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel

Is the screw shaft tunnel watertight ys and fitted with a sluice door ys worked from top platform

BOILERS, &c.

Number of Boilers Two Description Cyl. Simple ended Whether Steel or Iron Steel
Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test January 19th 1889 2707

Description of superheating apparatus or steam chest none
Can each boiler be worked separately ys Can the superheater be shut off and the boiler worked separately ys

No. of square feet of fire grate surface in each boiler 62.5 sq Description of safety valves spring No. to each boiler two
Area of each valve 7.07 sq Are they fitted with easing gear ys No. of safety valves to superheater ys area of each valve ys

Are they fitted with easing gear ys Smallest distance between boilers and bunkers or woodwork 16" Diameter of boilers 14.0
Length of boilers 10.8 description of riveting of shell long. seams Rivets joint circum. seams double lap Thickness of shell plates 1 1/2

Diameter of rivet holes 1 1/2 x 1 1/16 whether punched or drilled drilled pitch of rivets 5 7/16 + 5 3/8 Lap of plating 14 1/8 + 22 1/4
Percentage of strength of longitudinal joint 84.1 working pressure of shell by rules 157.3 size of manholes in shell 16 x 12

Size of compensating rings 6 x 1 1/4 No. of Furnaces in each boiler four

Outside diameter 2.11 length, top 3.9 bottom 3.9 thickness of plates 3/8 description of joint welded if rings are fitted Adams
Greatest length between rings 3.9 working pressure of furnace by the rules 166 combustion chamber plating, thickness, sides 1/2 back 1/2 top 1/2

Pitch of stays to ditto, sides 7 back 7 top 7 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 157 Diameter of stays at smallest part 1 1/8 working pressure of ditto by rules 161 end plates in steam space, thickness 1 1/16

Pitch of stays to ditto 14 1/2 how stays are secured drawn working pressure by rules 160 diameter of stays at smallest part 2 1/4 working pressure by rules 170 Front plates at bottom, thickness 7/8 Back plates, thickness 1 1/16

Greatest pitch of stays 13 working pressure by rules 160 Diameter of tubes 3 1/4 pitch of tubes 4 1/2 thickness of tube plates, front 1 1/16 back 13/16 how stayed tubes pitch of stays 13 1/2 width of water spaces 7 1/2

Diameter of Superheater or Steam chest ys length ys thickness of plates ys description of longitudinal joint ys diam. of rivet holes ys
Pitch of rivets ys working pressure of shell by rules ys diameter of flue ys thickness of plates ys If stiffened with rings ys

Distance between rings ys working pressure by rules ys end plates of superheater, or steam chest; thickness ys how stayed ys
Superheater or steam chest; how connected to boiler ys

Report No. 215/189 Sent to you 4/15/89

Adams plan Description of furnaces plan

DONKEY BOILER— Description *Vertical iron cross tubes*
 Made at *Stoke Newington* by whom made *Riley Bros.* when made *3/10/89* where fixed *Stoke Newington*
 Working pressure *8 lbs* tested by hydraulic pressure to *16 lbs* No. of Certificate *1475* fire grate area *28 sq* description of safety valves *spring*
 No. of safety valves *two* area of each *5.9 sq* if fitted with easing gear *no* if steam from main boilers can enter the donkey boiler *no*
 diameter of donkey boiler *6.10 3/16* length *14.6* description of riveting *all*
 Thickness of shell plates *19/32* diameter of rivet holes *15/16* whether punched or drilled *p* pitch of rivets *3 1/4* lap of plating *4 1/2*
 per centage of strength of joint *71* thickness of crown plates *19/32* stayed by *7 stays 1 1/2 diam*
 Diameter of furnace, top *5.6 3/4* bottom *6.3 3/8* length of furnace *5.2* thickness of plates *3/8* description of joint *all*
 Thickness of furnace crown plates *19/32* stayed by *as crown* working pressure of shell by rules *83*
 Working pressure of furnace by rules *70* diameter of uptake *17* thickness of plates *1/2* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *Three rows of screw stays, Propeller, Crank shaft, screw shaft, 2 top end bolts, 2 bottom end bolts, 2 main bearing bolts, 6 coupling bolts, 2 half & speed valves seat, piston springs, bolts nuts, bar & plate iron and usual engine room outfit.*

The foregoing is a correct description,
R. & W. Hawthorn, Leslie & Co., Limited, Manufacturers of Marine Engines.
 For *R. & W. Hawthorn, Leslie & Co., Limited,*
A. Marshall, Director.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey the materials and workmanship are sound and good and eligible in my opinion to be classed + L.M.C. 4. 89 in the Society's Register Book.*

Boiler

It is submitted that this vessel is eligible to have + L.M.C. 4. 89 recorded

The amount of Entry Fee ... £ *2* : : *received by me*
 Special ... £ *24* : :
 Donkey Boiler Fee ... £ - : :
 Certificate (if required) ... £ - : : *9/5/89*
 To be sent as per margin.

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

Committee's Minute **TUES 7** MAY 1889

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