

# REPORT ON MACHINERY.

73/64

No. 23164

Port of Newcastle

2 AUG 81

No. in Survey held at  
Reg. Book.

Newcastle

Date, first Survey September 20 1889  
Last Survey August 28 1889

(Number of Visits 36 Tons 3720  
2428

on the s.s. "Haverhill"

Master Wallace Built at Newcastle By whom built R.W. Hawthorn Leslie & Co. When built 1889

Engines made at Newcastle By whom made Hawthorn Leslie & Co. 1C when made 1889

Boilers made at do By whom made do do when made 1889

Registered Horse Power 306 Owners Elderslie & Co. Limited Port belonging to Glasgow

## ENGINES, &c.—

Description of Engines Triple expansion on three cranks  
Diameter of Cylinders 27.44.71 Length of Stroke 48 No. of Rev. per minute 65 Point of Cut off, High Pressure 33 1/2 Low Pressure 33  
Diameter of Screw shaft 13 1/2 Diam. of Tunnel shaft 12 3/4 Diam. of Crank shaft journals 13 1/2 Diam. of Crank pin 13 1/2 size of Crank webs 20 1/2 x 8  
Diameter of screw 16.6 Pitch of screw 18.6 No. of blades 4 state whether moveable 75 total surface 80 sq  
No. of Feed pumps 2 diameter of ditto 3 3/4 Stroke 24 Can one be overhauled while the other is at work 75  
No. of Bilge pumps 2 diameter of ditto 3 3/4 Stroke 24 Can one be overhauled while the other is at work 75  
Where do they pump from No. 1 pump from sea, engine belp (3) hold well - aft - same except sea  
No. of Donkey Engines Two Size of Pumps 14 x 8 & 4 x 8 Where do they pump from Ballast from tanks & sea  
after pumps: feed from hotwell sea  
Are all the bilge suction pipes fitted with roses 75 Are the roses always accessible 75 Are the sluices on Engine room bulkheads always accessible aft-  
No. of bilge injections one and sizes 4 Are they connected to condenser, or to circulating pump 75  
How are the pumps worked by levers over condenser from mid-engine  
Are all connections with the sea direct on the skin of the ship 75 Are they Valves or Cocks both  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates 75 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 75 Are the blow off cocks fitted with a spigot and brass covering plate 75  
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 75  
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges 75  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock new vessel  
Is the screw shaft watertight ✓ and fitted with a sluice door 75 worked from top platform

## BOILERS, &c.—

Number of Boilers Three Description Cyl. double-ended Whether Steel or Iron Steel  
Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test July 2. 1889 to 2725  
Description of superheating apparatus or steam chest none  
Can each boiler be worked separately 75 Can the superheater be shut off and the boiler worked separately ✓  
No. of square feet of fire grate surface in each boiler 70 sq Description of safety valves spring No. to each boiler two  
Area of each valve 8.3 sq Are they fitted with easing gear 75 No. of safety valves to superheater ✓ area of each valve ✓  
Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 36 Diameter of boilers 12.0  
Length of boilers 15.3 description of riveting of shell long. seams Ropes joint circum. seams d c Thickness of shell plates 1 1/2  
Diameter of rivet holes 1 1/2 whether punched or drilled drilled pitch of rivets 8 7/16 Lap of plating 14 1/4 & 21 1/2  
Per centage of strength of longitudinal joint 84.3 working pressure of shell by rules 170 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 39 length, top flue bottom flue thickness of plates 9/16 description of joint ✓ if rings are fitted ✓  
Greatest length between rings ✓ working pressure of furnace by the rules 179 combustion chamber plating, thickness, sides 9/16 back ✓ top 11/16  
Pitch of stays to ditto, sides 7 3/4 back ✓ top 9 1/2 If stays are fitted with nuts or riveted heads nuts working pressure of plating by  
rules 162 Diameter of stays at smallest part 1 1/4 working pressure of ditto by rules 164 end plates in steam space, thickness 1 1/4  
Pitch of stays to ditto 18 x 19 how stays are secured d u r w working pressure by rules 187 diameter of stays at  
smallest part 2 3/4 working pressure by rules 162 Front plates at bottom, thickness 19/16 Back plates, thickness ✓  
Greatest pitch of stays ✓ working pressure by rules ✓ Diameter of tubes 3 1/2 pitch of tubes 4 1/2 thickness of tube  
plates, front 1 1/2 back 13/16 how stayed tubes pitch of stays 13 1/2 width of water spaces 7  
Diameter of Superheater or Steam chest ✓ length ✓ thickness of plates ✓ description of longitudinal joint ✓ diam. 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 ✓

NWC809-0149

Report received 23/8/89 sent back 23/8/89

NOT TO WRITE ACROSS THIS MARGIN.

Form No. 8-2700-17/8 6-1-88. Transfer (Int.)

Lloyd's Register Foundation



# REPORT ON MACHINERY

## DONKEY BOILER— Description

Made at Stockton by whom made Riley Bros. when made 21/7/89 where fixed on deck  
 Working pressure 100 lb tested by hydraulic pressure to 200 lb No. of Certificate 1889 fire grate area 114 description of safety valves sprung No. of safety valves two area of each 5.41 if fitted with easing gear yes if steam from main boilers can enter the donkey boiler no diameter of donkey boiler 80 length 8.0 description of riveting double butt straps  
 Thickness of shell plates 9/16 diameter of rivet holes 13/16 whether punched or drilled d pitch of rivets 3 1/2 lap of plating 4 5/16  
 per centage of strength of joint 76 thickness of main plates 7/16 stayed by stays 13x13 pitch  
 Diameter of furnace, top 2.3 5/16 bottom ✓ length of furnace 5.3 1/4 thickness of plates 7/16 + 1/2 description of joint single butt  
 Thickness of comb. ch. furnace crown plates 9/16 stayed by radius 9 1/2 pitch working pressure of shell by rules 102  
 Working pressure of furnace by rules 114 diameter of uptake ✓ thickness of plates ✓ thickness of water tubes ✓

SPARE GEAR. State the articles supplied:— Crank shaft, screw shaft, air pump rod, bucket & rod, circulating pump rod, two top end balls, two bottom end balls, two main bearing bolts,

The foregoing is a correct description,

R. & W. HAWTHORN, LEEDS & CO. LD.  
J. Mutton

Manufacturers of Marine Engines & Boilers.

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under Special Survey, the materials & workmanship are sound and good and, in my opinion, eligible to have the certification of L.M.C. 8.89 recorded when the donkey boiler safety valves have been adjusted under steam, spare gear described and engines tried.

A letter with regard to the trial of engines is attached to this report.

The vessel has sailed for London - See Letter to Secy 12/8/89

Heating surface 6900 sq ft  
HP 404 HP

The amount of Entry Fee .. £ 3 .. - - received by me

Special .. £ 35 6 .. -

Donkey Boiler Fee .. £ - .. -

Certificate (if required) .. £ gratis: 24/9/89

To be sent as per margin.

(Travelling Expenses, if any, £ .. ..)

Committee's Minute

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



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