

REPORT ON MACHINERY.

Appl. No. 12/1905
SAI. 12 AUG 1905

Port of WEST HARTLEPOOL

Received at London Office 19

No. in Survey held at West Hartlepool Date, first Survey 28th March 05 Last Survey 23rd May 1905
 Reg. Book. on the Main boiler for Lochrane Houli No. 343 (Number of Visits 44. 36.) Tons ^{Gross} _{Net}
 Master Built at Selly By whom built Lochrane Iron When built 1905
 Engines made at By whom made when made
 Boilers made at West Hartlepool By whom made Central Marine Engine Works when made 1905
 Registered Horse Power Owners Port belonging to
 Nom. Horse Power as per Section 28 71 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Central Marine Engine Works

ENGINES, &c.—Description of Engines

No. of Cylinders No. of Cranks

Dia. of Cylinders Length of Stroke Revs. per minute Dia. of Screw shaft Material of screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight in the propeller boss

If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush

Dia. of Tunnel shaft Dia. of Crank shaft journals Dia. of Crank pin Size of Crank webs Dia. of thrust shaft under collars Dia. of screw Pitch of screw No. of blades State whether moveable Total surface

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room In Holds, &c.

No. of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight

Is it fitted with a watertight door worked from

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 1148 sq ft Is forced draft fitted

No. and Description of Boilers One Cylindrical Working Pressure 185 lb Tested by hydraulic pressure to 270 lb

Date of test 22/5/05 Can each boiler be worked separately Area of fire grate in each boiler 32 sq ft No. and Description of safety valves to each boiler 2 Spring loaded Area of each valve 3.98 sq in Pressure to which they are adjusted 190 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8 1/2 Mean dia. of boilers 12.0 Length 10.2 Material of shell plates Steel

Thickness 1 1/4 Range of tensile strength 27.2 Are they welded or flanged both Descrip. of riveting: cir. seams long. seams all unpeeled

Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 7 5/16 Lap of plates or width of butt straps 16 1/2

Per centages of strength of longitudinal joint Working pressure of shell by rules 186 lb Size of manhole in shell 16 x 12

Size of compensating ring 32 x 28 x 1 1/2 No. and Description of Furnaces in each boiler Two Plain Material Steel Outside diameter 44 1/2

Length of plain part 5.9 Thickness of plates 12 1/16 Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 188 lb Combustion chamber plates: Material Steel Thickness: Sides 12 1/16 Back 14 1/16 Top 14 1/16 Bottom 14 1/16

Pitch of stays to ditto: Sides 9 1/2 x 9 Back 9 1/2 x 9 Top 9 1/2 x 9 If stays are fitted with nuts or riveted heads Working pressure by rules 191 lb

Material of stays Steel Diameter at smallest part 1 5/8 Area supported by each stay 9 1/2 x 9 Working pressure by rules 221 lb End plates in steam space: Material Steel Thickness 1 1/4 Pitch of stays 17 x 15 1/2 How are stays secured all nut Working pressure by rules 191 lb Material of stays Steel

Diameter at smallest part 2 1/2 Area supported by each stay 17 x 15 1/2 Working pressure by rules 192 lb Material of Front plates at bottom Steel

Thickness 1 Material of Lower back plate Steel Thickness 1 5/16 Greatest pitch of stays 14 Working pressure of plate by rules 185 lb

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates Steel Thickness: Front 1 Back 12 1/16 Mean pitch of stays 9

Pitch across wide water spaces 14 1/2 Working pressures by rules 189 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 x 1 1/2 Length as per rule 31 9/16 Distance apart 8 1/4 Number and pitch of Stays in each two 9 1/2

Working pressure by rules 196 lb Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to-superheater Are they fitted with easing gear

DONKEY BOILER— No. _____ Description _____
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
 No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
 Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____
 Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
 Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____
 Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,
Wm. B. Rowson Manufacturer.

Dates of Survey while building
 During progress of work in shops - - 1905. Mar. 28, 29, 30 Apr. 3, 5, 6, 7, 10, 11, 12, 13, 14, 17, 18, 19, 20, 26, 27, 28, May 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 22, 23
 During erection on board vessel - - at Quis. July 28 - Aug 1, 3.
 Total No. of visits *Hpl. 36 Quis 3* Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " "

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

Note
 This case is similar in all respects to Central Boiler R 122. West Hamlepool Report No. 12626 dated 23rd May, 1905.

This Main Boiler has been constructed under Special Survey in accordance with the approved Plate Print and has been satisfactorily tested by hydraulic pressure and found tight and sound.

This Boiler has been forwarded to Grimsby where it will be placed on board *Merch. Cochrane Sons & Co. S.S. No. 340.*

This boiler has been securely fastened on board the steamer "James" & the safety valves adjusted under steam.
J. Ritchie, Quis.

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee .. £	:	:	When applied for,	
Special £	3	11	23. 5. 05	
Donkey Boiler Fee .. . £	:	:	When received,	
Travelling Expenses (if any) £	:	:	13/6/05	

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

Committee's Minute _____
 Assigned _____
 TUES. 15 AUG 1905

