

REPORT ON MACHINERY.

MON 2 JUL 1900

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office 18

No. in Survey held at Middlesbro'-on-tees Date, first Survey 14 February Last Survey 29 May 1890.
Reg. Book. 911 on the Steel Auxiliary boiler for G's 'Buteshire' (Number of Visits 21)

Master By whom built Newcastle By whom built Hawthorn Leslie & Coy. Ltd When built 1893.
Engines made at Newcastle By whom made 6 when made 1893.
Boilers made at Middlesbro'-on-tees By whom made Sir G. Furness, Postgate & Coy when made 1900.

Registered Horse Power ✓ Owners Edouard S. S. Coy. Ltd (J. Baird & Co.) Port belonging to Glasgow.
Nom. Horse Power as per Section 28 ✓ Is Refrigerating Machinery fitted Yes. Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines

Description of Engines			No. of Cylinders	No. of Cranks
Dia. of Cylinders	Length of Stroke	Revs. per minute	Dia. of Screw shaft	Lgth. 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
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	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 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		

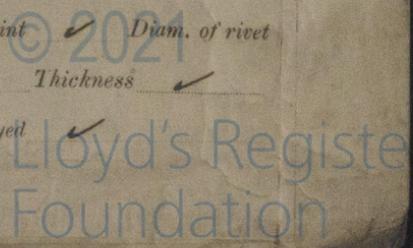
BOILERS, &c.—

(Letter for record (7)) Total Heating Surface of Boilers 1313 Is forced draft fitted No.

No. and Description of Boilers 1. Cyl. built, single ended. Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs.
 Date of test 29.5.00 Can each boiler be worked separately ✓ Area of fire grate in each boiler 42.5 No. and Description of safety valves to each boiler 2 Area of each valve 2 1/2 dia Pressure to which they are adjusted 160 lb. Are they fitted with easing gear Yes.
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 2' 1 1/2" Length 10' 6" Material of shell plates S.
 Thickness 1 1/32" Range of tensile strength 24-32 Are they welded or flanged No. Descrip. of riveting: cir. seams D. P. Lap. long. seams dbl. straps.
 Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 3/8" Lap of plates 16" x 1 1/2" thick.
 Per centages of strength of longitudinal joint 84.1 Working pressure of shell by rules 181 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring 4 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3. Brighton Material S. Outside diameter 34 1/2"
 Length of plain part ✓ Thickness of plates ✓ Description of longitudinal joint weld. No. of strengthening rings ✓
 Working pressure of furnace by the rules 164.8 Combustion chamber plates: Material S. Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 3/8"
 Pitch of stays to ditto: Sides 4 3/4" x 4 1/2" Back 8" x 4 3/4" Top 9" x 4 1/2" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 160 lbs
 Material of stays iron. Diameter at smallest part 1 1/2" Area supported by each stay 64.5 Working pressure by rules 220 lbs and plates in steam space:
 Material S. Thickness 1 1/16" Pitch of stays 14" x 15" How are stays secured D. N. & W. Working pressure by rules 218 lbs Material of stays S.
 Diameter at smallest part 2 1/2" Area supported by each stay 255 Working pressure by rules 192.1 Material of Front plates at bottom S.
 Thickness 3/16" Material of Lower back plate S. Thickness 3/4" Greatest pitch of stays 11" x 8" Working pressure of plate by rules 210.
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates S. Thickness: Front 3/32" Back 5/8" Mean pitch of stays 8 3/4"
 Pitch across wide water spaces 15" Working pressures by rules 160.3 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8 1/4" x 1 1/4" Length as per rule 24" Distance apart 9" Number and pitch of Stays in each 2: 9 1/2"
 Working pressure by rules 144.5 Superheater or Steam chest; how connected to boiler None 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 ✓

Is a Report also sent on the Hull of the Ship? not, state whether, and when, one will be sent?

MD8766-0079



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. Plates

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,

FOR SIR CHRISTOPHER FURNESS, WESTGARTH & CO., LD. Manufacturer.

H. Jackson 1900 Feb: 14, 15, 27 Mar: 2, 17, 20, 23, 27, April 2, 4, 10, 19, 23, 30. May 2, 4, 9, 14, 15, 18, 20, 29.
 MANAGER.

Dates of Survey while building { During progress of work in shops - - -
 { During erection on board vessel - - -
 Total No. of visits *Twenty-one.*

Is the approved plan of main boiler forwarded herewith
 " donkey " " " *Yes.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under Special Survey, in accordance with the plan approved in Secretary's letter dated 24.9.99. The materials and workmanship are good. On completion the boiler was examined under an hydraulic pressure of 320 lbs, and found tight and satisfactory.*

This boiler has been sent to London, where it will be fitted on board.

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	£	4	4	9.6.1900
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	12.6.1900

H. D. Lidley Fowell.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned

