

REPORT ON MACHINERY.

No. 24693

Port of Sunderland

Received at London Office

TUES. 10 JAN 1911

No. in Survey held at Sunderland

Date, first Survey 30 June 1910

Last Survey 4 Jan 1911

Reg. Book.

on the Steel Screw Steamer "Kirkwood"

(Number of Visits 24)

Master Martin

Built at Sunderland

By whom built R. Thompson & Son Ltd

Tons } Gross 1674
Net 1012
When built 1911

Engines made at Sunderland

By whom made L. & M. Marine Eng Co Ltd

when made 1911

Boilers made at do

By whom made do

when made 1911

Registered Horse Power

Owners Wm. & Grace, Limited, Lond.

Port belonging to London

Nom. Horse Power as per Section 28 246

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

ENGINES, &c.—Description of Engines

Vertical Triple

No. of Cylinders Three

No. of Cranks Three

Dia. of Cylinders 21 1/2 36 59 Length of Stroke 39 Revs. per minute 73 Dia. of Screw shaft as per rule 12.58 Material of screw shaft Cast steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Is the after end of the liner made water tight in the propeller boss No If the liner is in more than one length are the joints burned No 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 No If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 4'-6 1/2"

Dia. of Tunnel shaft as per rule 10.74 Dia. of Crank shaft journals as per rule 11.22 Dia. of Crank pin 1 1/8 Size of Crank webs 17x7 Dia. of thrust shaft under collars 1 1/8 Dia. of screw 1/4-6 Pitch of Screw 16-6 No. of Blades 4 State whether moveable No Total surface 68 sq ft

No. of Feed pumps 2 Diameter of ditto 3 Stroke 21 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 21 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps FEED 5 1/2 x 3 1/2 BALLAST 7 1/2 x 9 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four 2 1/2 In Holds, &c. Two 2 1/2 in each 2 1/2 tunnel

No. of Bilge Injections 1 sizes 4 in Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room of size Yes 2 1/2

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible No

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 Above

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 No

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Dates of examination of completion of fitting of Sea Connections 28.9.10 of Stern Tube 28.9.10 Screw shaft and Propeller 28.9.10

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel J. & M. Marine Eng Co Ltd

Total Heating Surface of Boilers 3922 Is Forced Draft fitted No No. and Description of Boilers Two 12 Multitubular

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 23.9.10 No. of Certificate 2862

Can each boiler be worked separately Yes Area of fire grate in each boiler 502 sq ft No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 5.94 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18 Mean dia. of boilers 14-3 1/2 Length 10-6 Material of shell plates Steel

Thickness 1 1/4 Range of tensile strength 28 1/2-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR lap

long. seams DR lap Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 9 3/16 Lap of plates or width of butt straps 19 1/2

Per centages of strength of longitudinal joint 86.6 Working pressure of shell by rules 206 Size of manhole in shell 16 x 12

Size of compensating ring Plate dished No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 43 3/8

Length of plain part top 14 bottom 14 Thickness of plates top 1/2 bottom 1/2 Description of longitudinal joint weld No. of strengthening rings —

Working pressure of furnace by the rules 189 Combustion chamber plates: Material Steel Thickness: Sides 3/4 Back 2 1/2 Top 3/4 Bottom 3/4

Pitch of stays to ditto: Sides 8 1/2 x 8 1/2 Back 8 1/2 x 7 1/2 Top 8 1/2 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 226

Material of stays Steel Diameter at smallest part 1.38 Area supported by each stay 660 Working pressure by rules 81 End plates in steam space: Material Steel Thickness 1 1/2 Pitch of stays 20 1/2 x 18 1/2 How are stays secured DR H. Working pressure by rules 202 Material of stays Steel

Diameter at smallest part 2.28 Area supported by each stay 3870 Working pressure by rules 230 Material of Front plates at bottom Steel

Thickness 1/2 Material of Lower back plate Steel Thickness 3/8 Greatest pitch of stays 15 1/2 x 7 1/2 Working pressure of plate by rules 182

Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 1/2 Back 1 1/8 Mean pitch of stays 9 x 9

Pitch across wide water spaces 15 Working pressures by rules 284 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 x 1 1/2 Length as per rule 29 1/2 Distance apart 8 1/2 Number and pitch of stays in each Two 8 1/2

Working pressure by rules 214 Superheater or Steam chest; how connected to boiler No Can the superheater be shut off and the boiler worked separately No

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

W1204-9189

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description Attached
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____
 Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 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 _____ Plates _____
 Working pressure of shell by rules _____ 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 _____
 Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Propeller & shaft 2 each bolts & nuts for top & bottom ends & main bearing, set of coupling bolt & nuts valves for all pumps, bolts, nuts, iron assorted condenser tubes etc

The foregoing is a correct description,

Manufacturer.

Walter Beattie

Dates of Survey { During progress of work in shops - - 1910 June 30, July 25, 26, Aug 11, 15, 22, 29, Sept. 1, 5, 9, 20, 22, 23, 24, 26, 27, 28
 while building { During erection on board vessel - - Oct 3, Dec 25, 7, 9, 16, 20, 1911 Jan 11
 Total No. of visits _____ 27 Is the approved plan of main boiler forwarded herewith yes
 " " " donkey " " " yes

Dates of Examination of principal parts—Cylinders 20-9-10 Slides 20-9-10 Covers 5-9-10 Pistons 5-9-10 Rods 23-9-10
 Connecting rods 23-9-10 Crank shaft 20-9-10 Thrust shaft 23-9-10 Tunnel shafts 9-9-10 Screw shaft 20-9-10 Propeller 23-9-10
 Stern tube 20-9-10 Steam pipes tested 5-12-10 Engine and boiler seatings 28-9-10 Engines holding down bolts 7-12-10
 Completion of pumping arrangements 9-12-10 Boilers fixed 7-12-10 Engines tried under steam 9-12-10
 Main boiler safety valves adjusted 9-12-10 Thickness of adjusting washers PORT STARBOARD
 Material of Crank shaft Best Steel Identification Mark on Do. 4494 ATP Material of Thrust shaft Best Steel Identification Mark on Do. 4490 ATP
 Material of Tunnel shafts do Identification Marks on Do. 1491-2 1482 ATP 1515 AFO 1503 HS Material of Screw shafts do Identification Marks on Do. 4462-5 HS
 Material of Steam Pipes length 4 1/2 x 6 w/ seamless copper Test pressure 400 lb

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

The machinery of this vessel has been constructed under special survey, the material & workmanship found good & efficient, fitted & tested in accordance with the Rules & eligible in my opinion for classification with record of + L.M.C. 1-11

The above machinery is a duplicate of that fitted on board the S.S. "Wedgwood" Reg. No. 24597

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1-11.

J.P.R.
J.W.D.
11/11

The amount of Entry Fee... £ 2 : 0 :
 Special ... £ 32 : 6 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 9/11/1911
 When received, 13/11/1911

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

Committee's Minute
 Assigned + L.M.C. 1-11
 FRI. 13 JAN 1911



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