

REPORT ON MACHINERY.

Received at London Office WED. OCT. - 7. 1914

Date of writing Report 3rd Oct. 1914 When handed in at Local Office 6th Oct. 1914 Port of Southampton
 No. in Survey held at Southampton Date, First Survey 19th Nov. 1913 Last Survey 3rd Oct. 1914
 Reg. Book. 351 on the S.S. 'TEIGN' (Number of Visits 45)
 Master ✓ Built at Southampton By whom built Day Summers & Co. Ltd. When built 1914
 Engines made at Southampton By whom made Day Summers & Co. Ltd. when made 1914
 Boilers made at Southampton By whom made Day Summers & Co. Ltd. when made 1914
 Registered Horse Power ✓ Owners Royal Mail Steam Packet Co. Port belonging to Southampton
 Nom. Horse Power as per Section 28 52 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 15" - 30" Length of Stroke 24" Revs. per minute 140 Dia. of Screw shaft 6 1/4" Material of screw shaft Iron
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight in the propeller boss Yes
 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 2'-5"
 Dia. of Tunnel shaft 6 1/2" Dia. of Crank shaft journals 6 5/8" Dia. of Crank pin 6 7/8" Size of Crank webs 8 3/4" x 4 1/4" Dia. of thrust shaft under collars 6 7/8" Dia. of screw 6'-10" Pitch of Screw 8'-7 1/2" No. of Blades 4 State whether moveable No Total surface 24 sq. ft.
 No. of Feed pumps 1 Diameter of ditto 2 1/4" Stroke 12" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work ✓
 No. of Donkey Engines 2 Sizes of Pumps 4 1/2" x 2 3/4" x 4 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room & Stokehold 3-2"
 In Engine Room Stokehold 3-2" In Holds, &c. one each side (port & starboard) 2"
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes - 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 ✓
 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 Bilge suction pipes to forehold How are they protected Under the ceiling
 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 22nd June 1914 of Stern Tube 29th June 1914 Screw shaft and Propeller 9th July 1914
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record (S) ✓) Manufacturers of Steel Wm Beardmore & Co. Ltd., The Lancashire Steel Co. Ltd.
 Total Heating Surface of Boilers 1050 sq. ft. Is Forced Draft fitted No No. and Description of Boilers One single ended multi
 Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbs Date of test 20-2-14 No. of Certificate 307
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 40 sq. ft. No. and Description of Safety Valves to each boiler 2 - Spring loaded Area of each valve 7-07 sq. in. Pressure to which they are adjusted 125 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 11'-0 23/32" Length 9'-0" Material of shell plates Steel
 Thickness 23/32" Range of tensile strength 29/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams SK Lap
 long. seams SK Butt Strap Diameter of rivet holes in long. seams 1" Pitch of rivets 4" Lap of plates or width of butt straps 10"
 Per centages of strength of longitudinal joint 81.2% Working pressure of shell by rules 122 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 6 1/2" x 23/32" No. and Description of Furnaces in each boiler 2 - Corrugated Material Steel Outside diameter 3'-5 1/2"
 Length of plain part top Thickness of plates bottom 3/8" Description of longitudinal joint Weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 122 lbs Combustion chamber plates: Material Steel Thickness: Sides 7/32" Back 9/32" Top 7/32" Bottom 7/8"
 Pitch of stays to ditto: Sides 9 1/2" x 7 3/4" Back 10" x 10" Top 9" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 120 lbs
 Material of stays Steel Diameter at smallest part 1.19" Area supported by each stay 72 sq. in. Working pressure by rules 132 lbs End plates in steam space: Steel
 Diameter at smallest part 3-26" Area supported by each stay 252 sq. in. Working pressure by rules 134 lbs Material of Front plates at bottom Steel
 Thickness 13/16" Pitch of stays 16 1/4" x 15 1/2" How are stays secured SK & Washers Working pressure by rules 124 lbs Material of stays Steel
 Diameter of tubes 3" Pitch of tubes 4 1/8" x 4" Material of tube plates Steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 12 3/16"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 129 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 5 1/2" x 1 1/2" Length as per rule 26" Distance apart 9" Number and pitch of stays in each 2-8"
 Working pressure by rules 123 lbs 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 ✓

If not, state whether, and when, also will be sent
 Is Report also sent on the Hull of the Ship?
 23-75 ft.
 given as it
 13
 46

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____
 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 _____ Radius of do. _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two top end bolts+nuts; two bottom end bolts+nuts. Two main bearing bolts; one set of coupling bolts; one set of feed & bulge pump valves; one crank shaft, one propeller shaft & one propeller; assorted bolts+nuts & iron.*

The foregoing is a correct description,
 For DAY SUMMERS & Co. Ltd.
Graham C. Day Manufacturer.

Dates of Survey while building
 During progress of work in shops -- *Nov. 19th, Dec. 8, 18, & 29 (1913), Jan. 1, 6, 9, 15, 19, 23 & 26, Feb. 4, 11, 16, 20, 25, 27, Mar. 2, 6, 9, 11, 18, 20 & 30.*
 During erection on board vessel --- *April 13, 28, 30, May 6, 28, June 22, 23, 25 & 29 (1914), July 9, 15, 16, 17, 22, 23, 25, 28 & 30, August 10th, Sept 30th, Oct 31st 1914.*
 Total No. of visits *45.* Is the approved plan of main boiler forwarded herewith *Yes.*

Dates of Examination of principal parts—Cylinders *6-1-14* Slides *19-1-14* Covers *18-12-13* Pistons *25-2-14* Rods *23-1-14*
 Connecting rods *26-1-14* Crank shaft *15-1-14* Thrust shaft *15-4-14* Tunnel shafts *15-4-14* Screw shaft *9-3-14* Propeller *27-2-14*
 Stern tube *9-3-14* Steam pipes tested *25-7-14* Engine and boiler seatings *23-6-14* Engines holding down bolts *28-7-14*
 Completion of pumping arrangements *10-8-14* Boilers fixed *23-7-14* Engines tried under steam *30-7-14*
 Main boiler safety valves adjusted *30-7-14* Thickness of adjusting washers *star 1/2" Port 9/32"*
 Material of Crank shaft *Iron* Identification Mark on Do. *No 120 J.H.* Material of Thrust shaft *Iron* Identification Mark on Do. *No 120 J.H.*
 Material of Tunnel shafts *Iron* Identification Marks on Do. *No 120 J.H.* Material of Screw shafts *Iron* Identification Marks on Do. *No 120 J.H.*
 Material of Steam Pipes *Solid drawn copper.* Test pressure *240 lbs per sq inch*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The engines & boiler of this vessel have been constructed under special survey, the materials & workmanship being sound & good. The machinery has been efficiently fitted on board, tried under steam & found satisfactory. The boiler safety valves have been adjusted under steam to their working pressure, tried for accumulation & found satisfactory. In my opinion the machinery of this vessel is now eligible to be classed in the Register Book with the notation + L.M.C. 10-14.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.14.

J.W.D. 7/10/14
J.H.
 John Houston
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1 : 0 : 0 When applied for.
 Special .. £ 8 : 0 : 0 *6th Oct 1914*
 Donkey Boiler Fee .. £ : : :
 Travelling Expenses (if any) £ : : : *1/10/14*

Committee's Minute *FRI. OCT. - 9. 1914*
 Assigned *+ L.M.C. 10.14*

Certificate (if registered) to be sent to Southampton
 Yes.

The Surveyors are requested not to write on or below the space for Committee's Minute.

MACHINERY CERTIFICATE WRITTEN.

