

REPORT ON MACHINERY.

No. 23901

SAI. 28 NOV 1908

Port of Sunderland

Received at London Office

No. in Survey held at SunderlandDate, first Survey June 10th Last Survey 21st Nov^r 1908(Number of Visits 56)

Reg. Book.

on the

S. S. GreenbattTons { Gross
Net

Master

Built at SunderlandBy whom built Wm J. Priestman & CoWhen built 1908Engines made at SunderlandBy whom made North Eastern Marine Eng^r Co L^dwhen made 1908Boilers made at SunderlandBy whom made Sittowhen made 1908

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28 180Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted no

ENGINES, &c.—Description of Engines

Inverted triple expansionNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 19.31.51Length of Stroke 36Revs. per minute 75

Dia. of Screw shaft

as per rule 10.97Material of IronIs 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 Yes

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 Yes

If two

liners are fitted, is the shaft lapped or protected between the liners YesLength of stern bush 3.9

Dia. of Tunnel shaft

as per rule 9.67

Dia. of Crank shaft journals

as per rule 10.05Dia. of Crank pin 10.4Size of Crank webs 6.4 x 15.4

Dia. of thrust shaft under

collars 10.4Dia. of screw 13.9Pitch of Screw 14.6No. of Blades 4State whether moveable noTotal surface 60 ftNo. of Feed pumps 2Diameter of ditto 3Stroke 16.2Can one be overhauled while the other is at work YesNo. of Bilge pumps 2Diameter of ditto 3.2Stroke 16.2Can one be overhauled while the other is at work YesNo. of Donkey Engines 2Sizes of Pumps 9 x 11 x 10 & 5 x 3.5 x 5

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

In Engine Room 4 of 2.2In Holds, &c. 2 of 2.2 in each holdNo. of Bilge Injections onesizes 3.2Connected to condenser, or to circulating pump one of 3.2 in tunnel wellIs a separate Donkey Suction fitted in Engine room & size Yes - 3"Are all the bilge suction pipes fitted with roses YesAre the roses in Engine room always accessible YesAre the sluices on Engine room bulkheads always accessible YesAre all connections with the sea direct on the skin of the ship YesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel YesAre the Blow Off Cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers fore hold suctionHow are they protected wood casingsAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesDates of examination of completion of fitting of Sea Connections 15.10.08 of Stern Tube 15.10.08 Screw shaft and Propeller 14.11.08Is the Screw Shaft Tunnel watertight YesIs it fitted with a watertight door Yesworked from top platformBOILERS, &c.—(Letter for record RS)Manufacturers of Steel J. Spencer & SonsTotal Heating Surface of Boilers 2938Is Forced Draft fitted noNo. and Description of Boilers one S.E. Cyl^d Mull^rWorking Pressure 180 lbsTested by hydraulic pressure to 360 lbsDate of test 15.10.08No. of Certificate 2726Can each boiler be worked separately YesArea of fire grate in each boiler 74 ft

No. and Description of Safety Valves to

each boiler 2 springArea of each valve 8.29Pressure to which they are adjusted 185 lbsAre they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 19"Mean dia. of boilers 16.9Length 11.0Material of shell plates steelThickness 1.76Range of tensile strength 28.2/32Are the shell plates welded or flanged noDescrip. of riveting: cir. seams d.r.l.long. seams E & d.b.s.Diameter of rivet holes in long. seams 1.32Pitch of rivets 9.2Lap of plates or width of butt straps 20"

Per centages of strength of longitudinal joint

rivets 84.64Working pressure of shell by rules 180.2 lbsSize of manhole in shell 16 x 12"Size of compensating ring 7 x 1.76No. and Description of Furnaces in each boiler 4 DightonMaterial steelOutside diameter 43.2

Length of plain part

top

Thickness of plates

crown

Description of longitudinal joint

weld

No. of strengthening rings

No. of strengthening rings

No. of strengthening rings

Working pressure of furnace by the rules 188 lbsCombustion chamber plates: Material steelThickness: Sides 3/4Back 15/32Top 3/4Bottom 7/8Working pressure by rules 184 lbsPitch of stays to ditto: Sides 11.2 x 8.2Back 11.2 x 10Top 8.2 x 11If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 190.1 lbsMaterial of stays steelDiameter at smallest part 2.43Area supported by each stay 115Working pressure by rules 180 lbsMaterial of stays steelThickness 1.32Pitch of stays 25 x 22.2How are stays secured d & w.Working pressure by rules 180 lbsMaterial of Front plates at bottom steelDiameter at smallest part 9.42Area supported by each stay 562.5Working pressure by rules 181.8 lbsMaterial of Front plates at bottom steelThickness 1.3Greatest pitch of stays 14.2 x 10Working pressure of plate by rules 180 lbsMean pitch of stays 9.2 x 11.4Diameter of tubes 3.4Pitch of tubes 4.16 x 4.2Material of tube plates steelThickness: Front 13/16Back 13/16Mean pitch of stays 9.2 x 11.4Working pressure of plate by rules 180 lbsPitch across wide water spaces 14.2Working pressures by rules 215.7 lbsthickness of girder at centre 8.2 x 4.2Length as per rule 30Distance apart 11Number and pitch of stays in each 2-8.2Working pressure by rules 182 lbsSuperheater or Steam chest; how connected to boiler Yes

Can the superheater be shut off and the boiler worked

separately Yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Thickness

Pitch of rivets

Working pressure of shell by rules

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

Working pressure of end plates

W666-0006

Manufacturers of Steel

SPARE GEAR. State the articles supplied:— 2 top end, 2 bottom end, 2 Main bearing & 1 set of coupling bolts, 1 Main & 1 Sonkey feed check valve, 1 set-Air & Circulating pump Valves, 1 set-feed & bilge pump Valves, 1 piston spring, 12 Junkring bolts, Bolts & Nuts assorted & iron of sizes

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING CO. LTD.
Walker & Deane Ltd Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1908 June, 10, 22, 30, July 4, 13, 15, 21, 24, 30, Aug. 4, 5, 10, 12, 13, 14, 19, 20, 26, 31, Sept. 3, 11,
	During erection on board vessel - -	15, 14, 18, 21, 23, 25, 28, 29, 30, 31, 2, 4, 8, 10, 13, 14, 15, 16, 20, 22, 26, 24, 28, 30, Nov. 2, 3, 4, 5, 6, 9, 10,
	Total No. of visits	56

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "
 Dates of Examination of principal parts—Cylinders 28.10.08 Slides 3.11.08 Covers 28.10.08 Pistons 28.10.08 Rods 22.10.01
 Connecting rods 22.10.08 Crank shaft 30.10.08 Thrust shaft 5.11.08 Tunnel shafts 3.11.08 Screw shaft 16.10.08 Propeller 1.10.01
 Stern tube 13.10.08 Steam pipes tested 10.11.08 Engine and boiler seatings 15.10.08 Engines holding down bolts 11.11.08
 Completion of pumping arrangements 13.11.08 Boilers fixed 11.11.08 Engines tried under steam 13.11.08
 Main boiler safety valves adjusted 13.11.08 Thickness of adjusting washers P. V. $\frac{3}{8}$ " ; S. V. $\frac{13}{32}$ "
 Material of Crank shaft Steel Identification Mark on Do. 505B Material of Thrust shaft Steel Identification Mark on Do. 6137N
 Material of Tunnel shafts Iron Identification Marks on Do. 507B Material of Screw shafts Iron Identification Marks on Do. 499B
 Material of Steam Pipes Copper Test pressure 400

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel) has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam ahead & astern & worked satisfactorily.

I beg to recommend that this vessel is eligible in my opinion to have the record ~~in~~ L.M.C. 11.18 in the Register Book

It is submitted that
this vessel is eligible for
THE RECORD. + LMC. 11.08

The amount of Entry Fee..	£ 2	:	0	:	0	When applied for,
Special	£ 27	:	0	:	0	24 Nov. 1928
Donkey Boiler Fee	£	:		:		When received,
Travelling Expenses (if any)	£	:		:		4.12.28

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

Committee's Minute

FRI. 11 DEC 1908

Assigned

+ Lm 6 11.08

MACHINERY CERTIFICATE
WRITTEN.

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Foundation