

Rpt. 4.

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 22/12/08 19 When handed in at Local Office 19 Port of London

No. in Survey held at 23 on the Reg. Book. 23

Master Built at By whom built

Engines made at By whom made

Boilers made at By whom made

Registered Horse Power Owners

Nom. Horse Power as per Section 28 42 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Compound surface condensing No. of Cylinders two No. of Cranks two

Dia. of Cylinders 14" x 28" Length of Stroke 20 Revs. per minute 120 Dia. of Screw shaft 6" as per rule 6.43 as fitted 6.12 Material of screw shaft 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 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 painted Length of stern bush 2'-6"

Dia. of Tunnel shaft as per rule 5.715 as fitted 5.814 Dia. of Crank shaft journals as per rule 6.0 as fitted 6 Dia. of Crank pin 6 Size of Crank webs 8"x3 3/4" Dia. of thrust shaft under collars 6 Dia. of screw 7'-0" Pitch of Screw 10'-6" No. of Blades 3 State whether moveable no Total surface 21 ft

No. of Feed pumps one Diameter of ditto 2 1/4" Stroke 10" Can one be overhauled while the other is at work

No. of Bilge pumps one Diameter of ditto 2 1/4" Stroke 10" Can one be overhauled while the other is at work

No. of Donkey Engines one duplex Sizes of Pumps 2 3/4" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one 2" dia In Holds, &c. two 2" & one in tank 2"

No. of Bilge Injections one sizes 3" Connected to condenser, or to circulating pump yes 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 none

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

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 20.11.08 of Stern Tube 19.11.08 Screw shaft and Propeller 20.11.08

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

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers 800 ft Is Forced Draft fitted no No. and Description of Boilers one single ended

Working Pressure 130 lbs Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler 33 ft No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 4'9" Pressure to which they are adjusted 135 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers on woodwork 12" (rule lapped) Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space:

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules Material of stays

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

Diameter at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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	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, two bottom end bolts, two main bearing bolts, one set of coupling bolts, one set of feed & brife pumps valves, one set of air circulating pump valves, boiler tubes, condenser tubes, a quantity of iron bolts & nuts

The foregoing is a correct description,

GRABTREE & CO., LIMITED.

Manufacturer.

Dates of Survey while building

During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 14.11.08 Slides 20.11.08 Covers 14.11.08 Pistons 14.11.08 Rods 14.11.08
Connecting rods 14.11.08 Crank shaft 14.11.08 Thrust shaft 20.11.08 Tunnel shafts ✓ Screw shaft 14.11.08 Propeller 20.11.08
Stern tube 19.11.08 Steam pipes tested 14.12.08 Hull Engine and boiler seatings 19.11.08 Engines holding down bolts 18.12.08
Completion of pumping arrangements 18.12.08 Boilers fixed 18.12.08 Engines tried under steam 18.12.08
Main boiler safety valves adjusted 18.12.08 Thickness of adjusting washers 1/4" F. 1/32
Material of Crank shaft steel Identification Mark on Do. 2149ATAM Material of Thrust shaft 992 FLS Identification Mark on Do. steel
Material of Tunnel shafts steel Identification Marks on Do. 2149ATAM Material of Screw shafts steel Identification Marks on Do. 993 FLS
Material of Steam Pipes copper Test pressure 300 lbs

General Remarks

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

These engines have been constructed under special survey in accordance with the rules of this society, the material has been tested & the workmanship is good on completion they were satisfactorily fitted & tried & tested under steam

The machinery of this vessel being now in a good condition it is in my opinion eligible for the record + L.M.C. 12.08

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.08

28/12/08

28/12/08

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 5 : 6 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 5 : 5 : 3

When applied for,

When received,

Committee's Minute

Assigned

TUES 29 DEC 1908

+ L.M.C. 12.08

Frank L. Sturgeon

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

FRI 12 FEB 1909

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