

REPORT ON MACHINERY.

MIN No. DEC 13 1908

Received at London Office

Date of writing Report 22/12/08 19 1908 When handed in at Local Office Yarmouth 19 1908 Port of London

No. in Survey held at Yarmouth Date, First Survey 23/10 Last Survey 12/12/08
Reg. Book. 23 on the S.S. Esperanto (Number of Visits 220)

Master By whom built Cochrane Bros Tons Gross 220
Engines made at Yarmouth By whom made Craptree 160 L.A. Net 1908-12

Boilers made at Newcastle By whom made R. Stephenson 160 L.A. when made 1908
Registered Horse Power 42 Owners F. H. Beckwith Port belonging to London

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 1/2" 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 no
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 no

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 no Length of stern bush 2'-6"

Dia. of Tunnel shaft 5.715" as per rule 6.0" Dia. of Crank shaft journals 6" as fitted 6" Dia. of Crank pin 6" Size of Crank webs 8" x 3 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 #

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 two 2" + one in tank 2"
In Engine Room one 2" diam 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 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 ✓

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 no) Manufacturers of Steel no

Total Heating Surface of Boilers 800 # Is Forced Draft fitted no No. and Description of Boilers one single ended
Working Pressure 130 lbs Tested by hydraulic pressure to no Date of test no No. of Certificate no

Can each boiler be worked separately no Area of fire grate in each boiler 33 # 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 12" (bale lapp) Mean dia. of boilers no Length no Material of shell plates no
Thickness no Range of tensile strength no Are the shell plates welded or flanged no Descrip. of riveting: cir. seams no

long. seams no Diameter of rivet holes in long. seams no Pitch of rivets no Lap of plates or width of butt straps no
Per centages of strength of longitudinal joint no Working pressure of shell by rules no Size of manhole in shell no

Size of compensating ring no No. and Description of Furnaces in each boiler no Material no Outside diameter no
Length of plain part no Thickness of plates no Description of longitudinal joint no No. of strengthening rings no

Working pressure of furnace by the rules no Combustion chamber plates: Material no Thickness: Sides no Back no Top no Bottom no
Pitch of stays to ditto: Sides no Back no Top no If stays are fitted with nuts or riveted heads no Working pressure by rules no

Material of stays no Diameter at smallest part no Area supported by each stay no Working pressure by rules no End plates in steam space: no
Material no Thickness no Pitch of stays no How are stays secured no Working pressure by rules no Material of stays no

Diameter at smallest part no Area supported by each stay no Working pressure by rules no Material of Front plates at bottom no
Thickness no Material of Lower back plate no Thickness no Greatest pitch of stay no Working pressure of plate by rules no

Diameter of tubes no Pitch of tubes no Material of tube plates no Thickness: Front no Back no Mean pitch of stays no
Pitch across wide water spaces no Working pressures by rules no Girders to Chamber tops: Material no Depth and no

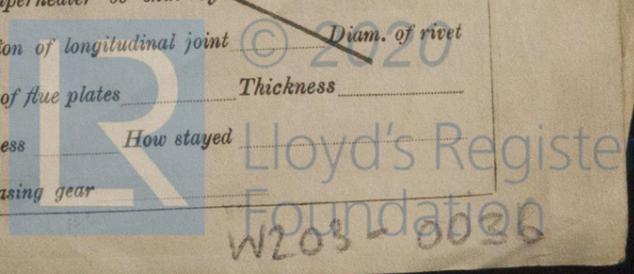
thickness of girder at centre no Length as per rule no Distance apart no Number and pitch of stays in each no
Working pressure by rules no Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked no

separately no Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet no

holes no Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no
If stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no

Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

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 _____ Rivets _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ 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 & bilge 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. *J. G. Forster*

Dates of Survey while building

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

Sept. 18. 24. 30. Nov. 20. Dec. 18

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 *pt 4/4 F. 15/32*
Material of Crank shaft *steel* Identification Mark on Do. *2149ATA* Material of Thrust shaft *992 FLS* Identification Mark on Do. *steel*
Material of Tunnel shafts *steel* Identification Marks on Do. *as thrust* 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 & bound & 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

J. G. Forster
28/12/08

H. E. D.
28/12/08.

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

When applied for, *28/12/08*

When received, *11.5.09*

Committee's Minute

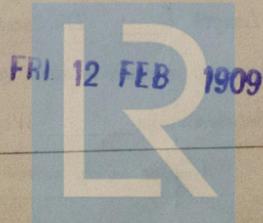
TUES 29 DEC 1908

Assigned

+ L.M.C. 12.08

Frank L. Sturgeon

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



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