

REPORT ON MACHINERY

No. 6122

TUE. OCT. 24. 1911

Received at London Office

Date of writing Report 10 When handed in at Local Office OCT 28 1911 Port of NEWCASTLE ON TYNE.

No. in Survey held at Newcastle on Tyne Date, First Survey 19th Apl. 1911 Last Survey 18th Oct. 1911
Reg. Book. on the S. S. Cho Sen - Inaru (Number of Visits 45)

Master Built at Walker By whom built Armstrong Whitworth & Co. When built 1911
Tons } Gross 2832
Net 1804

Engines made at Wallsend By whom made North Eastern Marine Eng^g Co. L^{td} when made 1911

Boilers made at Wallsend By whom made Ditto when made 1911

Registered Horse Power Owners Osaka Shosen Kaisha Port belonging to Osaka

Nom. Horse Power as per Section 28 279 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 22, 37, 61 Length of Stroke 42 Revs. per minute 70 Dia. of Screw shaft as per rule 12.75 Material of screw shaft Iron
as fitted 13"

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 4' 8"

Dia. of Tunnel shaft as per rule 11.18 Dia. of Crank shaft journals as per rule 11.74 Dia. of Crank pin 12 Size of Crank webs 25 1/2 x 7 1/2 Dia. of thrust shaft under collars 12 Dia. of screw 16.0 Pitch of Screw 16.0 No. of Blades 4 State whether moveable No Total surface 78 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 24 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps F. 6 x 4 x 6; B. 7 1/2 x 9 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 of 3" Tunnel well In Holds, &c. 2 of 3" to each + 1 of 2 1/2"

No. of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes - 3 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

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 nil 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 28.8.11 of Stern Tube 28.8.11 Screw shaft and Propeller 19.9.11

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. S. Spencer & Sons

Total Heating Surface of Boilers 3648 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 S.E. Cyl^{dr} - Invert^d

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 25.8.11 No. of Certificate 8185

Can each boiler be worked separately Yes Area of fire grate in each boiler 46.3 sq ft No. and Description of Safety Valves to each boiler 2 spring patent Area of each valve 8.29 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 13.6 Length 11.6 Material of shell plates steel

Thickness 1 3/32 Range of tensile strength 28 3/4/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d & v lap

Per centages of strength of longitudinal joint rivets 92-6 plate 85-3 Working pressure of shell by rules 184.7 lbs Size of manhole in shell 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Brighton Material steel Outside diameter 40"

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

Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material steel Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 7/8

Pitch of stays to ditto: Sides 10 1/2 x 9 3/8 Back 10 1/2 x 9 3/8 Top 10 1/2 x 9 3/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180-5 lbs

Material of stays steel Diameter at smallest part 2.03 Area supported by each stay 98.437 Working pressure by rules 185 lbs End plates in steam space:

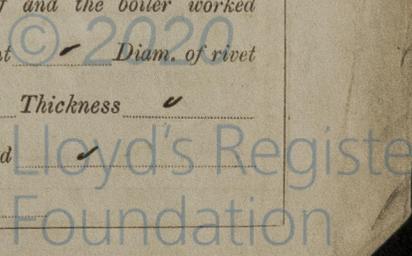
Material steel Thickness 1 3/8 Pitch of stays 19 x 25 How are stays secured d & v w. Working pressure by rules 182 lbs Material of stays steel

Diameter at smallest part 8.29 Area supported by each stay 475 Working pressure by rules 184 lbs Material of Front plates at bottom steel

Thickness 1 Material of Lower back plate steel Thickness 15/16 Greatest pitch of stays 14 1/2 x 10 1/2 Working pressure of plate by rules 189 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 5/8 Material of tube plates steel Thickness: Front 1 Back 13/16 Mean pitch of stays 9 1/4 x 9"

Pitch across wide water spaces 14 1/2 Working pressures by rules 182 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 x 15/8 Length as per rule 32 Distance apart 10 1/2 Number and pitch of stays in each 2-9 3/8 Working pressure by rules 184 lbs 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



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:— *2 top end, 2 bottom end, 2 main bearing & 1 set of coupling bolts, 1 set-feed & bilge pump valves, Bolts & nuts assorted & iron of sizes, Propeller & Propeller shaft*

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING Co., LTD.

J. S. Jamison Manufacturer.
Dates of Survey while building: During progress of work in shops—
During erection on board vessel—
Total No. of visits *45*

1911
Apr. 19. May. 4. 9. 11. 12. 15. 18. 22. 29. Jun. 1. 9. 12. 15. 27. 28. 30. Jul. 3. 5. 7.
14. 18. 19. 20. 21. 25. 27. Aug. 2. 10. 17. 23. 25. 28. 30. Sep. 5. 13. 14. 15. 18. 19. 21. 22. 27. Oct. 11. 17. 18.

Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " " *Please return for duplicate job*

Dates of Examination of principal parts—Cylinders *24.8.11* Slides *24.8.11* Covers *24.8.11* Pistons *24.8.11* Rods *24.8.11*
Connecting rods *24.8.11* Crank shaft *10.8.11* Thrust shaft *25.7.11* Tunnel shafts *10.8.11* Screw shaft *17.8.11* Propeller *8.9.11*
Stern tube *25.8.11* Steam pipes tested *17.10.11* Engine and boiler seatings *28.8.11* Engines holding down bolts *19.9.11*
Completion of pumping arrangements *21.9.11* Boilers fixed *19.9.11* Engines tried under steam *4.10.11*
Main boiler safety valves adjusted *4.10.11* Thickness of adjusting washers *P.P. 9/16 P.S. 1/32; S.P. 1/32, S.S. 1/2*

Material of Crank shaft *Steel* Identification Mark on Do. *C.C. 10.8.11* Material of Thrust shaft *Steel* Identification Mark on Do. *RMC 25.7.11*
Material of Tunnel shafts *Iron* Identification Marks on Do. *C.C. 10.8.11* Material of Screw shafts *Iron* Identification Marks on Do. *H.C. 17.8.11*
Material of Steam Pipes *Iron* Test pressure *540 lbs*

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 and worked satisfactorily*)

I beg to recommend that this vessel is eligible in my opinion to have the record *L.M.C. 10.11* in the Register Book

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 10.11.
F.D.

J.W. G.R.L.
24/10/11

The amount of Entry Fee	.. £ 2 : 0 : 0	When applied for,
Special	.. £ 33 : 19 : 0	OCT 23 1911
Donkey Boiler Fee	.. £ : : :	When received,
Travelling Expenses (if any)	£ : : :	<i>28.10.11</i>

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

Committee's Minute *FRI. OCT. 27 1911*
Assigned *+ L.M.C. 10.11*

Certificate (if required) to be sent to NEWCASTLE ON TYNE

