

REPORT ON MACHINERY.

No. 24970

Received at London Office THU. MAY. 9 - 1912

Date of writing Report 19 30/4/12 When handed in at Local Office 12 Port of Hull

No. in Survey held at Hull Date, First Survey Dec. 11th Last Survey Apr 19th 1912
 Reg. Book. 114 001st on the S.S. K. "SETTSU" (Number of Visits 26) Tons Gross 231
Net 91
 Master Selby Built at Selby By whom built Messrs. Cochrane & Sons When built 1912
 Engines made at Hull By whom made Messrs. Charles P. Holmes & Co. Ltd. when made 1912
 Boilers made at Hull By whom made Messrs. Charles P. Holmes & Co. Ltd. when made 1912
 Registered Horse Power 46 Owners Messrs. Tual & West. Ltd. Port belonging to Baraiff
 Nom. Horse Power as per Section 28 46 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12" - 21" - 34" Length of Stroke 24" Revs. per minute 108 Dia. of Screw shaft as per rule 4.04 Material of steel
as fitted 4.5" screw shaft
 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 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 Yes Length of stern bush 31"
 Dia. of Tunnel shaft as per rule 6.76 Dia. of Crank shaft journals as per rule 6.544 Dia. of Crank pin 6.5" Size of Crank webs 13.16" x 4.3" Dia. of thrust shaft under
as fitted 6.7" collars 6.5" Dia. of screw 8.4" x 4.5" Pitch of Screw 10.3" - 11.3" No. of Blades 4 State whether moveable No Total surface 24.5 sq ft
 No. of Feed pumps 1 Diameter of ditto 2.5" Stroke 14.5" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 1 Diameter of ditto 2.5" Stroke 14.5" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 1 Sizes of Pumps 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" - One forward & one aft In Holds, &c. One 2" to main hold. Ejection
suction from all parts with discharge on deck
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2.5" dia.
 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 Yes
 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 Hold suction How are they protected Wood casing
 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 5.2.12 of Stern Tube 5.2.12 Screw shaft and Propeller 5.2.12
 Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Messrs. Nippon Yusen Kaisha Ltd. Yokohama, Japan
 Total Heating Surface of Boilers 1380 sq ft Is Forced Draft fitted No No. and Description of Boilers One cyl. Hull. Triple main
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 26.3.12 No. of Certificate 1884
 Can each boiler be worked separately Yes Area of fire grate in each boiler 36.4 sq ft No. and Description of Safety Valves to
 each boiler Two - Spring Area of each valve 3.94 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 6" Mean dia. of boilers 12.6" Length 10.6" Material of shell plates S
 Thickness 1" Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 2.10"
 long. seams D.P.S.P. Diameter of rivet holes in long. seams 1.6" Pitch of rivets 4.5" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint 84.8 Working pressure of shell by rules 182 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring 4" x 1" No. and Description of Furnaces in each boiler 2 plain Material S Outside diameter 43"
 Length of plain part 6'-8" Thickness of plates 6.4" Description of longitudinal joint Welded No. of strengthening rings 1
 Working pressure of furnace by the rules 184 lbs. Combustion chamber plates: Material S Thickness: Sides 1.6" Back 1.6" Top 2.2" Bottom 1.6"
 Pitch of stays to ditto: Sides 9" x 9" Back 10" x 8.5" Top 9" x 8.5" If stays are fitted with nuts or riveted heads No Working pressure by rules 186 lbs.
 Material of stays S Diameter at smallest part 2.4" Area supported by each stay 10.418 sq in. Working pressure by rules 201 lbs. End plates in steam space:
 Material S Thickness 1.5" Pitch of stays 17" x 16" How are stays secured D.P.S.P. Working pressure by rules 185 lbs. Material of stays S
 Diameter at smallest part 2.7" Area supported by each stay 242 sq in. Working pressure by rules 207 lbs. Material of Front plates at bottom S
 Thickness 4" Material of Lower back plate S Thickness 2" Greatest pitch of stays 14.5" x 8.5" Working pressure of plate by rules 185 lbs.
 Diameter of tubes 3.75" Pitch of tubes 4.5" x 4.5" Material of tube plates S Thickness: Front 4" Back 4" Mean pitch of stays 9.5"
 Pitch across wide water spaces 15" x 15" Working pressures by rules 249 lbs. Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 9.5" x 1.5" Length as per rule 3'-0" Distance apart 8.5" Number and pitch of stays in each 3 - 9"
 Working pressure by rules 194 lbs. Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
 separately Diameter 12" Length 12" Thickness of shell plates 1.6" Material S Description of longitudinal joint Welded Diam. of rivet
 holes 1.6" Pitch of rivets 4.5" Working pressure of shell by rules 182 lbs. Diameter of flue 12" Material of flue plates S Thickness 1.6"
 If stiffened with rings Yes Distance between rings 12" Working pressure by rules 182 lbs. End plates: Thickness 1.6" How stayed Yes
 Working pressure of end plates 182 lbs. Area of safety valves to superheater 1.6" Are they fitted with easing gear Yes

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 each 1/2" & 1/4" bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of connecting bolts & nuts, one set each fuel & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,
p. pro **CHARLES D. HOLMES & Co. LTD.**

Charles Holmes Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1911 - Dec 11. 1912 - Jan 25, 30, Feb. 1, 2, 3, 5, 6, 8, 13, 15, 21, 23, 27, Mar 4, 6, 12, 14, 19. During erection on board vessel --- Mar 26, 30, Apr 1, 3, 16, 17, 19. Total No. of visits 26.

Is the approved plan of main boiler forwarded herewith *yes*.

Dates of Examination of principal parts—Cylinders 6.3.12 Slides 19.3.12 Covers 6.2.12 Pistons 12.3.12 Rods 14.3.12
Connecting rods 14.3.12 Crank shaft 4.3.12 Thrust shaft 4.3.12 Tunnel shafts - Screw shaft 2.2.12 Propeller 30.1.12
Stern tube 1.2.12 Steam pipes tested 1.4.12 Engine and boiler seatings 5.2.12 Engines holding down bolts 3.4.12
Completion of pumping arrangements 14.4.12 Boilers fixed 3.4.12 Engines tried under steam 14.4.12
Main boiler safety valves adjusted 14.4.12 Thickness of adjusting washers *Towards 1/16" aft 3/8"*
Material of Crank shaft *S* Identification Mark on Do. *Nº 880 T.G.D.* Material of Thrust shaft *S* Identification Mark on Do. *Nº 180 T.G.D.*
Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts *S* Identification Marks on Do. *Nº 880 T.G.D.*
Material of Steam Pipes *Solid drawn copper* Test pressure *300 lbs. per square inch*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engines secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of *L.M.C. H.12* in the Register's Book.*

It is submitted that this vessel is eligible for THE RECORD + LMC 4.12.

J.W.D. 10/5/12

The amount of Entry Fee .. £ 1 : 0 :
Special .. £ 11 : 8 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : 8/2 :
When applied for, 8/5/12
When received, 31.5.12

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

Committee's Minute FRI. MAY 10. 1912

Assigned *H.M.C. H. 12*

SHIPPING CERTIFICATE



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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.