

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 19 When handed in at Local Office 23-8-12 Port of Hull SAT. AUG. 24 1912
 No. in Survey held at Hull Date, First Survey Mar 14 Last Survey Aug 13 1912
 Reg. Book. (Number of Visits 23)
 Suppl. on the Slid. Sc. K. "LORD LISTER" Tons Gross 285 Net 114
 Master Built at Selby By whom built Cookpage & Sons. When built 1912
 Engines made at Hull By whom made Messrs. Charles D. Hobbes & Co. Ltd. when made 1912
 Boilers made at By whom made when made 1912
 Registered Horse Power Owners Yorkshire Steam Fishing Co. Ltd. Port belonging to Hull.
 Nom. Horse Power as per Section 28 49 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 3/4" - 22" - 36" Length of Stroke 24" Revs. per minute 110 Dia. of Screw shaft as per rule 4.44 Material of screw shaft 9
 as fitted 4 1/2" 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 If two
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 36"
 Dia. of Tunnel shaft as per rule 6.64 6.72" Dia. of Crank shaft journals as per rule 4.068 4 1/2" Dia. of Crank pin 4 1/2" Size of Crank webs 4 1/2" x 14" Dia. of thrust shaft under
 collars 4 1/4" Dia. of screw 9'-0" Pitch of Screw 11'-0" No. of Blades 4 State whether moveable No Total surface 29 sq ft
 No. of Feed pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work
 No. of Bilge pumps 1 Diameter of ditto 2 3/8" Stroke 14 1/2" Can one be overhauled while the other is at work
 No. of Donkey Engines 1 Sizes of Pumps 6" x 4 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" diam. One forward & one aft. In Holds, &c. One 2" 1/2" duct with one 2" 1/2" main hold.
 one 2" 1/2" fore-castle. Ejector suction from all bilges with discharge on deck.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 2 1/2" 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 0
 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 & duct with cut-worms 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 15.6.12 of Stern Tube 15.6.12 Screw shaft and Propeller 15.6.12
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Boilers *Glab and waltz Schuler Maschinenbau A.G. of Essen Ruhr.*
 Total Heating Surface of Boilers 1295 sq ft Is Forced Draft fitted No No. and Description of Boilers One cyl. mult. orifice in deck.
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 Date of test 26.4.12 No. of Certificate 1915
 Can each boiler be worked separately Area of fire grate in each boiler 46 sq ft No. and Description of Safety Valves to
 each boiler Two opening Area of each valve 4.9 sq in Pressure to which they are adjusted 196 lbs. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 6" Ex. Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates S.
 Thickness 1/16" Range of tensile strength 29/tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 2.29
 long. seams D.P.S.S.P. Diameter of rivet holes in long. seams 1/16" Pitch of rivets 8" Lap of plates or width of butt straps 16 3/8"
 Per centages of strength of longitudinal joint rivets 85% Working pressure of shell by rules 203 lbs. Size of manhole in shell 16" x 12"
 plate 85% No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 38"
 Size of compensating ring 4" x 1 3/16" Length of plain part top 6'-5 1/2" Thickness of plates crown 3/16" Description of longitudinal joint Welded No. of strengthening rings 0
 bottom 6'-5 1/2" Working pressure of furnace by the rules 212 lbs. Combustion chamber plates: Material S. Thickness: Sides 23" Back 23" Top 3/4" Bottom 23"
 Pitch of stays to ditto: Sides 8" x 10" Back 8 1/2" x 10" Top 8" x 11" If stays are fitted with nuts or riveted heads No Working pressure by rules 212 lbs.
 Material of stays S. Diameter at smallest part 2.40" Area supported by each stay 101.62 Working pressure by rules 213 lbs. End plates in steam space:
 Material S. Thickness 1/16" Pitch of stays 18" x 18" How are stays secured D.H. & W. Working pressure by rules 206 lbs. Material of stays S.
 Diameter at smallest part 6.33" Area supported by each stay 324.7 Working pressure by rules 203 lbs. Material of Front plates at bottom S.
 Thickness 1/16" Material of Lower back plate S. Thickness 29/32" Greatest pitch of stays 14 1/2" x 8 1/2" Working pressure of plate by rules 204 lbs.
 Diameter of tubes 3 1/2" Pitch of tubes 5 1/2" x 5" Material of tube plates S. Thickness: Front 1/16" Back 1/8" Mean pitch of stays 10"
 Pitch across wide water spaces 14 1/2" x 11 1/2" Working pressures by rules 315 lbs. Girders to Chamber tops: Material S. Depth and
 thickness of girder at centre 10 3/4" - 1 3/4" Length as per rule 2'-11 3/8" Distance apart 11" Number and pitch of stays in each 3-8"
 Working pressure by rules 203 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:— *Two each top & bottom end connecting rod bolts & nuts, two main beam bolts & nuts, one set of coupling bolts & nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.*

CHARLES D. HOLMES & Co. Ltd.
The foregoing is a correct description,
S. Arthur Holmes Manufacturer.

Dates of Survey while building: During progress of work in shops -- *1912: Mar 14. 19. May 3. 15. 17. 30 Jun 5. 7. 11. 14. 15. 18. 20. 26. 27. July 4. 9. 24. 26.*
During erection on board vessel -- *Aug. 1. 2. 9. 13.*
Total No. of visits *23.*

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

Dates of Examination of principal parts—Cylinders *20. 5. 12* Slides *4. 7. 12* Covers *4. 4. 12* Pistons *20. 6. 12* Rods *24. 6. 12*
Connecting rods *5. 6. 12* Crank shaft *7. 6. 12* Thrust shaft *4. 7. 12* Tunnel shafts ✓ Screw shaft *14. 6. 12* Propeller *14. 5. 12*
Stern tube *14. 5. 12* Steam pipes tested *2. 8. 12* Engine and boiler seatings *15. 6. 12* Engines holding down bolts *1. 8. 12*
Completion of pumping arrangements *9. 8. 12* Boilers fixed *1. 8. 12* Engines tried under steam *9. 8. 12*
Main boiler safety valves adjusted *9. 8. 12* Thickness of adjusting washers *Forward $\frac{3}{32}$ aft $\frac{5}{16}$*
Material of Crank shaft *S.* Identification Mark on Do. *N^o 8947.6.2* Material of Thrust shaft *S.* Identification Mark on Do. *N^o 8947.6.2*
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *S.* Identification Marks on Do. *N^o 8947.6.2*
Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs. per sq. inch hydraulic*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engine & boiler of this vessel have been completed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engine 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 $\frac{1}{2}$ L.M.C. 8. 12 in the Register of Ports.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8. 12.

S. M. J. W. D.
26/8/12

The amount of Entry Fee .. £ *1 : 0 :* When applied for, *23. 8. 12*
Special .. £ *4 : 14 :* 1912.
Donkey Boiler Fee .. £ : : When received, *16. 8. 12*
Travelling Expenses (if any) £ : *4/1 :* *30/8/12*

S. M. J. W. D.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. AUG 27 1912

Assigned *S. M. J. W. D.*

MACHINERY CERTIFICATE WRITTEN



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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.)

Steel