

REPORT ON MACHINERY.

No. 25788

Received at London Office WED. JAN. 15. 1913

Date of writing Report 19 When handed in at Local Office

14/1 10 13 Port of Hull.

No. in Survey held at Hull.
Reg. Book.

Date, First Survey Sep. 23

Last Survey Jan 8

1913

69491 on the Ship St. K. "ST. LEONARD"

(Number of Visits 26

Gross 296

Net 128

Master Built at Selby By whom built Cochrane & Sons

When built 1912

Engines made at By whom made when made 1912

Boilers made at Hull By whom made Messrs Charles D. Holmes & Co. Ltd. when made 1912

Registered Horse Power Owners Grimsby Tug & Ship Lifting Co. Ltd. Port belonging to Grimsby.

Nom. Horse Power as per Section 28 80 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple Expansion

No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 13"-23"-34" Length of Stroke 24" Revs. per minute 104 Dia. of Screw shaft as per rule 4.4 Material of screw shaft as fitted 8" Iron

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 6.61 Dia. of Crank shaft journals as per rule 6.24 Dia. of Crank pin 4 1/2" Size of Crank webs 4 3/4" x 14" Dia. of thrust shaft under

collars 4 1/2" Dia. of screw 9-1/2" Pitch of Screw 11-0" No. of Blades 4 State whether moveable No Total surface 20 sq

No. of Feed pumps 2 Diameter of ditto 2 3/8" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 3/8" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 Sizes of Pumps 6" x 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" on forward & on aft In Holds, &c. 1-2" to main hold. 1-2" to

fore hold. 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" Yes

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 Under

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 12.10.12 of Stern Tube 12.10.12 Screw shaft and Propeller 12.10.12

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

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Phoenix A. & W. Hinder Tinsley of Hinder

Total Heating Surface of Boilers 1332 sq Is Forced Draft fitted No No. and Description of Boilers One aft. mult. single ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 2.12.12 No. of Certificate 1947.

Can each boiler be worked separately Area of fire grate in each boiler 42.45 sq No. and Description of Safety Valves to

each boiler Two - Spring Area of each valve 4.9 sq 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 13.6" Length 10.6" Material of shell plates S

Thickness 1/2" Range of tensile strength 28 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams R.P.D.

long. seams C.B.S.L.P. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18 3/8"

Per centages of strength of longitudinal joint rivets 24.5 Working pressure of shell by rules 185 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 8" x 1 1/2" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 38"

Length of plain part top 5' 10 3/4" Thickness of plates crown 23" Description of longitudinal joint Welded No. of strengthening rings 0

bottom 6' 2 1/2" bottom 32 Working pressure of furnace by the rules 180 lbs. Combustion chamber plates: Material S Thickness: Sides 16" Back 16" Top 16" Bottom 1"

Pitch of stays to ditto: Sides 9 x 4 3/4" Back 9 x 8 1/2" Top 9 1/2 x 7 1/2" stays are fitted with nuts or riveted heads 2 Working pressure by rules 213 lbs.

Material of stays S Diameter at smallest part 2.40 Area supported by each stay 10' 250 Working pressure by rules 213 lbs. End plates in steam space:

Material S Thickness 1 1/2" Pitch of stays 9 x 15" How are stays secured R.B.S.W. Working pressure by rules 182 lbs. Material of stays S

Diameter at smallest part 6.37 Area supported by each stay 285 sq Working pressure by rules 230 lbs. Material of Front plates at bottom S

Thickness 1" Material of Lower back plate S Thickness 16" Greatest pitch of stays 14 x 9 Working pressure of plate by rules 219 lbs.

Diameter of tubes 3 1/2" Pitch of tubes 6" x 4 3/4" Material of tube plates S Thickness: Front 1" Back 3" Mean pitch of stays 11"

Pitch across wide water spaces 14 Working pressures by rules 185 lbs. Girders to Chamber tops: Material S Depth and

thickness of girder at centre 9 1/2" - 1 3/4" Length as per rule 34.94 Distance apart 9.5 Number and pitch of stays in each 3-4 3/4"

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:— *Two each top & bottom end connecting rod bolts & nuts, two main beam bolts & nuts, one set of coupling bolts & nuts, one set each side & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts &c.*

The foregoing is a correct description,

P. PRO CHARLES D. HOLMES & CO. LTD.

Manufacturer.

Dates of Survey while building	During progress of work in shops --	1912:— Sep. 23. Oct. 8. 10. 12. 16. 23. 29. Nov. 13. 15. 19. 21. 26. 28. Dec. 2. 4. 16. 20
	During erection on board vessel --	Dec. 23. 24. 27. 30. 31. 1913:— Jan. 2. 3. 7. 8.
	Total No. of visits	26
	Is the approved plan of main boiler forwarded herewith <i>RM. No. 25758</i>	

Dates of Examination of principal parts—Cylinders	13. 11. 12	Slides	4. 12. 12	Covers	4. 12. 12	Pistons	4. 12. 12	Rods	28. 11. 12
Connecting rods	4. 12. 12	Crank shaft	28. 11. 12	Thrust shaft	4. 12. 12	Tunnel shafts	✓	Screw shaft	10. 10. 12
Propeller	10. 10. 12	Stern tube	10. 10. 12	Steam pipes tested	31. 12. 12	Engine and boiler seatings	12. 11. 12	Engines holding down bolts	16. 12. 12
Completion of pumping arrangements	7. 1. 13	Boilers fixed	3. 1. 13	Engines tried under steam	3. 1. 13				
Main boiler safety valves adjusted	3. 1. 13	Thickness of adjusting washers	<i>Found 16 "left 8"</i>						
Material of Crank shaft	✓	Identification Mark on Do.	Nº 97675D	Material of Thrust shaft	✓	Identification Mark on Do.	Nº 97675D		
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	✓	Identification Marks on Do.	Nº 97675D		
Material of Steam Pipes	<i>Solid drawn copper.</i>			Test pressure	<i>300 lbs. per sq. inch hydraulic.</i>				

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. 1-13.** *in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1.13.

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

The amount of Entry Fee	£ 1 : 0 :	When applied for.	14/11/13
Special	£ 12 : 0 :	When received.	31/1/13
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ 4/0 :		
Committee's Minute	FRI. JAN. 17 1913		
Assigned	+ L.M.C. 1.13		

MACHINERY CERTIFICATE



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