

REPORT ON MACHINERY

No. 22846

FRI. 12 AUG 1910

Received at London Office

Date of writing Report 4.8.10 When handed in at Local Office 4.8.10 Port of Hull
No. in Survey held at Hull Date, First Survey Sep. 1st 09 Last Survey Jan. 30 - 1910
Reg. Book. 86 on the Steel S.S. Accrington (Number of Visits 97)
Master Built at Hull By whom built Charles S & E Gals Tons Gross 1629 Net 877
Engines made at Hull By whom made Messrs when made 1910
Boilers made at Hull By whom made Charles C. Ltd. when made 1910
Registered Horse Power Owners Great Central Railway Port belonging to Grimsby
Nom. Horse Power as per Section 28 309 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 22" - 25" - 60" Length of Stroke 42" Revs. per minute 90 Dia. of Screw shaft as per rule 12" Material of screw shaft as fitted 12 1/2" 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 One length 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 5'-0"
Dia. of Tunnel shaft as per rule 11.1 as fitted 11.25 Dia. of Crank shaft journals as per rule 11.65 as fitted 12.125 Dia. of Crank pin 12.5 Size of Crank webs 18 1/2" x 8" Dia. of thrust shaft under collars 12.125 Dia. of screw 14'-0" Pitch of Screw 16'-9" No. of Blades 4 State whether moveable Yes Total surface 62 sq ft
No. of Feed pumps Two Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work Yes
No. of Bilge pumps Two Diameter of ditto 4 1/2" Stroke 21" Can one be overhauled while the other is at work Yes
No. of Donkey Engines Four Sizes of Pumps 2 Warrington 9 1/2" x 7 1/2" 2 Warrington 9" x 6" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three 2 1/2" One 3" In Holds, &c. One 2 1/2" in forepeak, One 5 1/2" in 1st tank, Two 2 1/2" in 2nd tank, Two 2 1/2" in 3rd tank, Two 2 1/2" in 4th tank, One 2 1/2" in aft peak tank.
No. of Bilge Injections 1 sizes 7 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 3"
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 None
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 tank 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 29.7.10 of Stern Tube 29.7.10 Screw shaft and Propeller 29.7.10
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.—(Letter for record (a)) Manufacturers of Steel Messrs W. Bearamore & Co
Total Heating Surface of Boilers 5540 sq ft Is Forced Draft fitted No No. and Description of Boilers Two Cyl. Multi. Single Ended
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 26.5.10 No. of Certificate 1743
Can each boiler be worked separately Yes Area of fire grate in each boiler 72 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 14.19 sq in Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 12" Int. Mean dia. of boilers 16'-0" Length 11'-8 1/2" Material of shell plates Steel
Thickness 1 1/8" Range of tensile strength 29-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.
long. seams D.B.S.R. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 2 1/8"
Per centages of strength of longitudinal joint rivets 92.5 plate 94.9 Working pressure of shell by rules 211 lbs Size of manhole in shell 20" x 15 1/2"
Size of compensating ring 7' x 1 1/2" No. and Description of Furnaces in each boiler 3 Morrisons Material Steel Outside diameter 4'-4"
Length of plain part top 21' bottom 22' Thickness of plates crown 1 1/8" bottom 1 1/4" Description of longitudinal joint welded No. of strengthening rings 1
Working pressure of furnace by the rules 205 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 1 1/8"
Pitch of stays to ditto: Sides 8' x 8 1/2" Back 7' x 8 1/2" Top 8' x 7 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 255 lbs
Material of stays Iron Diameter at smallest part 1 1/2" Area supported by each stay 78.75 sq in Working pressure by rules 194 lbs End plates in steam space:
Material Steel Thickness 1 1/2" Pitch of stays 15' x 15" How are stays secured D. Nuts Working pressure by rules 267 lbs Material of stays Iron
Diameter at smallest part 2 1/2" Area supported by each stay 225 sq in Working pressure by rules 207 lbs Material of Front plates at bottom Steel
Thickness 1" Material of Lower back plate Steel Thickness 3/8" Greatest pitch of stays 15' x 12" Working pressure of plate by rules 186 lbs
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 1" Back 3/8" Mean pitch of stays 9"
Pitch across wide water spaces 14 1/2" Working pressures by rules 201 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 1/2" x 13 1/4" Length as per rule 2'-11" Distance apart 7 1/2" Number and pitch of stays in each Three 8"
Working pressure by rules 290 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 and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air feed, and bilge pump valves, a quantity of assorted bolts nuts, valve spindle, top and bottom end connecting rod brasses etc etc

The foregoing is a correct description,

F. J. Salethorpe Manufacturer.

Dates of Survey while building	During progress of work in shops—	1909:—Sept. 9. 14. 15. 16. 22. 29. Oct. 7. 9. 16. 21. 22. 28. 30. Nov. 2. 5. 12. 15. 17. 19. 23. 25.
	During erection on board vessel—	Dec. 1. 4. 7. 11. 14. 16. 23. 24. 30. = 1910:—Jan. 5. 6. 8. 14. 18. 20. 25. 27. Feb. 3. 8. 10. 14. 17. 22. 23. 28. Mar. 2. 4. 7. 9. 14. 16. 21. 23. Apr. 4. 7. 18. 14. 21. 22. 27. May 4. 10. 23. 24. 26. 27. 30. Jun. 2. 6. 7. 9. 10. 11. 14. 16. 17. 18. 21. 22. 23. 24. 27. 28. July 1. 4. 5. 7. 12. 19. 22. 23. 27. 28. 29. 30. Aug. 4.
	Total No. of visits	97.

Dates of Examination of principal parts—	Cylinders 14. 1. 10	Slides 25. 1. 10	Covers 18. 1. 10	Pistons 23. 1. 10	Rods 22. 2. 10
Connecting rods	25. 1. 10	Crank shaft 25. 11. 09	Thrust shaft 1. 4. 10	Tunnel shafts 19. 7. 10	Screw shaft 21. 4. 10
Propeller	6. 6. 10	Stern tube 21. 4. 10	Steam pipes tested 4. 7. 10	Engine and boiler seatings 4. 7. 10	Engines holding down bolts 22. 7. 10
Completion of pumping arrangements	23. 7. 10	Boilers fixed 22. 7. 10	Engines tried under steam 23. 7. 10		
Main boiler safety valves adjusted	23. 7. 10	Thickness of adjusting washers	Port Bl. for valve 13/32	Star Bl. for valve 12/32	
Material of Crank shaft	Steel	Identification Mark on Do.	154 D.F.C	Material of Thrust shaft	Steel
Identification Mark on Do.	154 D.F.C	Material of Tunnel shafts	Steel	Identification Marks on Do.	154 D.F.C
Material of Screw shafts	Iron	Identification Marks on Do.	154 D.F.C	Material of Steam Pipes	Steel
Test pressure	360 lbs per square inch				

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been constructed under special survey in accordance with the Society's Rules, the materials and workmanship are good. The boilers tested by hydraulic pressure, and with the engines secured on board and tested under steam. They are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of $\frac{1}{2}$ L.M.C. 8. 10 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. $\frac{1}{2}$ L.M.C. 8. 10.

The amount of Entry Fee .. £ 3 :	When applied for,	11. 8 - 10
Special .. £ 25 :	9 :	
Donkey Boiler Fee .. £ :	When received,	16 8 10
Travelling Expenses (if any) £ :		

Committee's Minute

Assigned

TUE. 16 AUG 1910

+ L.M.C. 8. 10

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



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Foundation