

REPORT ON MACHINERY.

No. 23303

Received at London Office

etc. of writing Report *Jan'y 1911* When handed in at Local Office *13th Jan'y 1911* Port of *Hull*
 Date, First Survey *Feb. 23rd* Last Survey *5th Jan'y 1911*
 No. in Survey held at *Hull*
 Reg. Book. *1328* on the *Shel Sc. Sr. Bury*
 (Number of Visits) *1634*
 Tons { Gross *1634*
 Net *879*
 Master *Bury* Built at *Hull* By whom built *Messrs Earle's & Co Ltd* When built *1910*
 Engines made at *Hull* By whom made *Messrs Earle's & Co Ltd* when made *1910*
 Boilers made at *Hull* By whom made *Messrs Earle's & Co Ltd* when made *1910*
 Registered Horse Power *309* Owners *Gt. Central Railway* Port belonging to *Hull Gumsby*
 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

GINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *22" ~ 35" ~ 60"* Length of Stroke *42"* Revs. per minute *90* Dia. of Screw shaft *12"* Material of *Steel*
 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
 the propeller boss *Yes* If the liner is in more than one length are the joints burned *One length* 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
 vers are fitted, is the shaft lapped or protected between the liners *—* Length of stern bush *60"*
 Dia. of Tunnel shaft *11.1"* Dia. of Crank shaft journals *11.65"* Dia. of Crank pin *12.5"* Size of Crank webs *18 1/2" x 8"* Dia. of thrust shaft under
 bars *12.125"* Dia. of screw *14 1/2"* Pitch of Screw *16 ~ 9"* No. of Blades *4* State whether moveable *Yes* Total surface *62 sq ft*
 No. of Feed pumps *2* Diameter of ditto *4"* Stroke *21"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* 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 Weirs 9 1/2" x 4" x 21"* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *Three 2 1/2", One 3"* In Holds, &c. *One each 2 1/2" to Cent. tank, 2 1/2" to Eng. Room tank, 2 1/2" to No. 4 tank, 3" drain from A Peak*
 No. of Bilge Injections *1* sizes *1/2"* Connected to condenser, or to circulating pump *Yes* 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 *19.12.10* of Stern Tube *19.12.10* Screw shaft and Propeller *19.12.10*
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *top platform*

MANUFACTURERS, &c.—(Letter for record *a.*) Manufacturers of Steel *Messrs J. Spencer Sons*
 Total Heating Surface of Boilers *5540 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *Two Cyl. Multi S Ended*
 Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *4.10.10* No. of Certificate *1773*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *72 sq ft* No. and Description of Safety Valves to
 boiler *Two Spring* Area of each valve *14.19 sq in* Pressure to which they are adjusted *182 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean dia. of boilers *16 ~ 0"* Length *11' 8 1/2"* Material of shell plates *S*
 Thickness *1 1/2"* Range of tensile strength *29.32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *S.D.*
 Cir. seams *D.B.S.V.R.* Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *9 1/2"* Lap of plates or width of butt straps *21 5/8"*
 Percentages of strength of longitudinal joint *92.5* Working pressure of shell by rules *211 lbs* Size of manhole in shell *20" x 15 1/2"*
 of compensating ring *7" x 1 1/2"* No. and Description of Furnaces in each boiler *3 Messrs J. Spencer Sons* Material *S* Outside diameter *4' 4"*
 Length of plain part *top 31"* Thickness of plates *bottom 32"* Description of longitudinal joint *Welded* No. of strengthening rings *0*
 Working pressure of furnace by the rules *205 lbs* Combustion chamber plates: Material *S* Thickness: Sides *1 1/2"* Back *1 1/2"* Top *1 1/2"* Bottom *1"*
 Distance 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 *S* Diameter at smallest part *1 5/8"* Area supported by each stay *78.75 sq in* Working pressure by rules *197 lbs* End plates in steam space:
 Material *S* Thickness *1 5/32"* Pitch of stays *15" x 15"* How are stays secured *D. Nuts* Working pressure by rules *267 lbs* Material of stays *S*
 Diameter at smallest part *2 13/16"* Area supported by each stay *225 sq in* Working pressure by rules *207 lbs* Material of Front plates at bottom *S*
 Thickness *1"* Material of Lower back plate *S* Thickness *7/8"* Greatest pitch of stays *15" x 12"* Working pressure of plate by rules *186 lbs*
 Diameter of tubes *3 3/4"* Pitch of tubes *4 1/2" x 4 1/2"* Material of tube plates *S* Thickness: Front *1"* Back *7/8"* Mean pitch of stays *9"*
 Distance across wide water spaces *14 1/4"* Working pressures by rules *201 lbs* Girders to Chamber tops: Material *S* Depth and
 Thickness of girder at centre *10 1/2" x 1 3/4"* 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*
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 Fitted 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
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 boiler 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
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	Plates
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	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 connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, One set each, air feed bilge pump valves, a shaft impeller for circulation pump, a quantity of bolts and nuts, valve spindles, brasses, rods etc

The foregoing is a correct description,
F. J. Palethorpe Manufacturer.

Dates of Survey while building	During progress of work in shops -	SECRETARY: 1910:- Feb 23. Mar 14. 16. 21. 23. Apr. 4. 7. 8. 14. 21. 22. 26. 27. May 4. 23. 24. 27. 31. Jun 2. 6. 9. 16. Jul 5. 21. 25. Aug 5. 6. 8. 9. 10. 13. 16. 17. 22. 25. 29. 30. 31. Sep. 6. 13. 15. 16. 17. 19. 24. 27. Oct 1. 4. 5. 6. 7. 13. 17. 18. 20. 24. 26. 27. 29. Nov. 1. 2. 5. 15. 16. 22. 23. 24. Dec 2. 3. 6. 14. 19.	
Total No. of visits	75	Is the approved plan of main boiler forwarded herewith	No
		Is the approved plan of donkey boiler forwarded herewith	No

Dates of Examination of principal parts—Cylinders	21. 7. 10	Slides	7. 10. 10	Covers	15. 9. 10	Pistons	25. 8. 10	Rods	15. 9. 10
Connecting rods	15. 9. 10	Crank shaft	25. 7. 10	Thrust shaft	5. 11. 10	Tunnel shafts	6. 12. 10	Screw shaft	27. 9. 10
Propeller	19. 12. 10	Stern tube	24. 10. 10	Steam pipes tested	23. 11. 10	Engine and boiler seatings	27. 10. 10	Engines holding down bolts	21. 12. 10
Completion of pumping arrangements	5. 1. 11	Boilers fixed	21. 12. 10	Engines tried under steam	5. 1. 11	Main boiler safety valves adjusted	5. 1. 11	Thickness of adjusting washers	7/16 3/8 3/8 3/8
Material of Crank shaft	S	Identification Mark on Do.	342 F.C.	Material of Thrust shaft	S	Identification Mark on Do.	342 F.C.	Material of Tunnel shafts	S
Identification Marks on Do.	342 F.C.	Material of Screw shafts	S	Identification Marks on Do.	343 F.C.	Material of Steam Pipes	Steel	Test pressure	540 lbs per sq inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of the vessel have been constructed under special survey, in accordance with the Rules, the materials and workmanship are sound and 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 *L.M.C. 1. 11.* in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1. 11.

The amount of Entry Fee	£ 3	When applied for,	14-1
Special	£ 35. 9	When received,	2/21. 19. 11
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£ 2		

Committee's Minute

Assigned

TUE. 17 JAN 1911

+ L.M.C. 1. 11.

MACHINERY CERTIFICATE WRITTEN.



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