

REPORT ON MACHINERY.

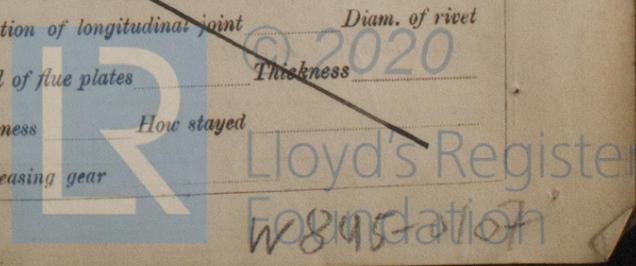
No. 42681

Received at London Office TUES. 24 MAY 1911

Date of writing Report 6/5/10 19 10 When handed in at Local Office London Port of London
 in Survey held at Gt Yarmouth Date, First Survey 23/Sept., 1909 Last Survey 29/4/10 19 10
 on the Machinery of S.S. "Frigate" (Number of Visits 11) Tons { Gross 264
 Master John Williams Built at Gt Yarmouth By whom built Crabtree & Co Ltd Net 194
 when built 1910-H
 Lines made at Yarmouth By whom made Crabtree & Co Ltd when made 1910-H
 Builders made at Stockton By whom made Riley Bros when made 1910-H
 Registered Horse Power 60 Owners North Lancashire S.S. Co (R. Single) Port belonging to Fleetwood
 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

FINES, &c.—Description of Engines Compound surface condensing No. of Cylinders two No. of Cranks two
 No. of Cylinders 16 "7.33" Length of Stroke 22" Revs. per minute 120 Dia. of Screw shaft 7.26" Material of screw shaft steel
 as fitted 7.34"
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no Is the after end of the liner made water tight
 Is 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
 shafts are fitted, is the shaft lapped or protected between the liners Lapped two liners fitted Length of stern bush 36"
 Dia. of Tunnel shaft 6.46" Dia. of Crank shaft journals 6.72" Dia. of Crank pin 7.14" Size of Crank webs 10" x 5" Dia. of thrust shaft under
 as fitted 7.14" Dia. of screw 96" Pitch of Screw 9'-0" No. of Blades 4 State whether moveable yes Total surface 2529 ft.
 No. of Feed pumps one Diameter of ditto 2 1/4" Stroke 11" Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 2 1/4" Stroke 11" Can one be overhauled while the other is at work yes
 No. of Donkey Engines two Sizes of Pumps Ballast & Bilge 7" x 8" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room one 2" diam Feed 3 1/2" duplex In Holds, &c. Two 2" diam in hold one 2" diam in
 No. of Bilge Injections one sizes 3/2" Connected to condenser, or to circulating pump yes As a separate Donkey Suction fitted in Engine room & size yes 2"
 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
 How are they protected under ceiling
 Are all pipes carried through the bunkers forward suction
 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 9-3-10 of Stern Tube 9-3-10 Screw shaft and Propeller 9-3-10
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record) Manufacturers of Steel
 Heating Surface of Boilers 1150 Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 130 lbs. Tested by hydraulic pressure to Date of test No. of Certificate 4350
 Can each boiler be worked separately yes Area of fire grate in each boiler No. and Description of Safety Valves to
 boiler two spring loaded Area of each valve 4.9 sq" Pressure to which they are adjusted 135 lbs. Are they fitted with easing gear yes
 Least distance between boiler or uptakes and bunkers or woodwork 3'-6" Mean dia. of boilers Length Material of shell plates
 Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams
 Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
 Percentages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell
 of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Thickness of plain part Thickness of plates Description of longitudinal joint No. of strengthening rings
 Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
 of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
 Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
 Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
 Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
 across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and
 thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each
 Working pressure by rules 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			When made	Where fixed
Made at	By whom made				
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 casing 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	
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	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— Two top end bolts, Two bottom end bolts, Two main bearing bolts, one set of coupling bolts, one set of valves for each pump, a quantity of bolts nuts & iron of various sizes

The foregoing is a correct description,

ONABTREE & CO., LIMITED

Manufacturer.

[Signature]
SECRETARY.

Dates of Survey while building: During progress of work in shops— '09 Sept. 23, Nov. 17, 25; Dec. 7, 15; '10 Jan 4
During erection on board vessel— Feb. 9, 10; Apr. 20, 23, 29
Total No. of visits 11

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

Dates of Examination of principal parts—Cylinders 25-10-09, Pistons 25-10-09, Rods 25-10-09, Crank shaft 14-12-09, Thrust shaft 14-12-09, Tunnel shafts ✓, Screw shaft 9-3-10, Propeller 9-3-10, Connecting rods 14-12-09, Engine and boiler seatings 10-2-10, Engines holding down bolts 18-4-10, Stern tube 9-3-10, Steam pipes tested *Hull*, Engines tried under steam 23-4-10, Completion of pumping arrangements 23-4-10, Boilers fixed 18-4-10, Main boiler safety valves adjusted 18-4-10, Thickness of adjusting washers Port 9/32 Starboard 13/64, Material of Crank shaft *steel*, Identification Mark on Do. *2PP1WIDH*, Material of Thrust shaft *steel*, Identification Mark on Do. *7PPF*, Material of Tunnel shafts ✓, Identification Marks on Do. ✓, Material of Screw shaft *steel*, Identification Marks on Do. *7PPF*, Material of Steam Pipes *copper*, Test pressure *260 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under special survey & in accordance with the rules of the Society & the workmanship is good. It has been properly fitted on board the vessel & on completion was satisfactorily tested under steam. In my opinion it is eligible for the record + L.M.C. 4.10.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.10

[Signature]
24.5.10.

The amount of Entry Fee £ 1 : 0 :
Special .. 2/3 .. £ 6 : 0 :
Donkey Boiler Fee £ ✓ : :
Travelling Expenses (if any) £ 4 : 0 : 5

When applied for, 24/5/1910
When received, 18.7.1910

[Signature]
Frank H. Sturgeson

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

Committee's Minute

FRI. 27 MAY 1910

Assigned

[Signature]
H.M.C. 4.10



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MINUTE CERTIFICATE WRITTEN

Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)