

REPORT ON MACHINERY.

No. 6855.

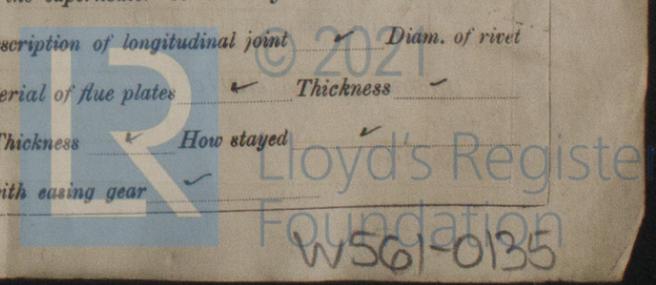
Port of Belfast.

Received at London Office MON 7 NOV 1910

No. in Survey held at Belfast Date, first Survey 1st March Last Survey 29th Oct. 1910
 Reg. Book. on the T. S. S. Star of India (Number of Visits 63.)
 Master J. J. Kearney. Built at Belfast By whom built Workman Clark & Co Ltd Tons { Gross 7316
 Engines made at Belfast. By whom made Workman Clark & Co Ltd (N^o 297) when made 1910 Net 4601
 Boilers made at Do By whom made Do (N^o 297) when made 1910 When built 1910
 Registered Horse Power _____ Owners Star Line Ltd Port belonging to Belfast
 Nom. Horse Power as per Section 28 756 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Triple Expansion No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 22", 37", 62" Length of Stroke 45" Revs. per minute 90 Dia. of Screw shaft as per rule 13.16 Material of Steel
 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 Yes If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 4.8"
 Dia. of Tunnel shaft as per rule 11.9" Dia. of Crank shaft journals as per rule 12.49 Dia. of Crank pin 13.4" Size of Crank webs 88" x 18.5" Dia. of thrust shaft under
 collars 13.4" Dia. of screw 15.9" Pitch of Screw 18.3" No. of Blades 3 State whether moveable Yes Total surface 70 sq ft
 No. of Feed pumps 2 Diameter of ditto 6" Stroke 20" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 6" Stroke 20" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 8 Sizes of Pumps 8" x 5.5" x 8" S.S. 4" x 4" x 5" San. No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 Blr Room 4-3.2" 8" x 2.2" x 4.5" W. 8" x 12" x 12" Aux Air 8.5" x 10" x 10" Ref. Cut In Holds, &c. N^o 1-2-3.2" N^o 2-2-3.2" N^o 3-2-3.2"
9 1/4" x 3.2" N^o 4-2-3.2" N^o 5-2-3.2" Tunnel well 1-2.2"
 No. of Bilge Injections 2 sizes 8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes - 3.2"
 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 Yes
 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 both
 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 none How are they protected Yes
 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 21.9.10 of Stern Tube 21.9.10 Screw shaft and Propeller 21.9.10
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Wm Beardmore & Steel Co of Scotland
 Total Heating Surface of Boilers 11,040 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 4 Single Ended
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 5.9.10 No. of Certificate 436
 Can each boiler be worked separately Yes Area of fire grate in each boiler 68.4 sq ft No. and Description of Safety Valves to
 each boiler double Acting loaded Area of each valve 11.0 sq ft Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 16" Mean dia. of boilers 15.7.5" Length 11.10.5" Material of shell plates Steel
 Thickness 1.32" Range of tensile strength 38/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.T. Riv
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1.32" Pitch of rivets 10.5" Lap of plates or width of butt straps 23.16"
 Per centages of strength of longitudinal joint rivets 88.5% Working pressure of shell by rules 234 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring N^o 1/2 No. and Description of Furnaces in each boiler 4 Morrison Material Steel Outside diameter 43.4"
 Length of plain part top 3.9" Thickness of plates crown 3.9" Description of longitudinal joint weld No. of strengthening rings Yes
 bottom 6.4" bottom 6.4" Working pressure of furnace by the rules 253 Combustion chamber plates: Material Steel Thickness: Sides 4.1" Back 3.2" Top 4.1" Bottom 3.2"
 Pitch of stays to ditto: Sides 8.8" x 8.4" Back 6.4" x 7.4" Top 6.4" x 7.4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 200
 Material of stays Steel Diameter at smallest part 1.2 to 1.8" Area supported by each stay Various Working pressure by rules 218 End plates in steam space:
 Material Steel Thickness 1.32" Pitch of stays 15" x 15.5" How are stays secured O.N.T. 40.2 Working pressure by rules 202 Material of stays Steel
 Diameter at smallest part 2.1" x 3.1" Area supported by each stay 30.24" Working pressure by rules 209 Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 3.1" Greatest pitch of stays 13.5" Working pressure of plate by rules 219
 Diameter of tubes 2.5" Pitch of tubes 3.5" x 3.3" Material of tube plates Steel Thickness: Front 6.3" Back 1.16" Mean pitch of stays 7.3"
 Pitch across wide water spaces 13.5" Working pressures by rules 201 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9.2" x 2 @ 3" Length as per rule 33.16" Distance apart 8.4" Number and pitch of stays in each 3 @ 7.4"
 Working pressure by rules 202 Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked
 separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet
 holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes



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 _____
 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 _____
 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:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed and bilge pump valves: a quantity of assorted bolts & nuts: iron of various sizes: 1 propeller shaft complete: 2 propeller blades: 4 slide valve spindles: 2 sets of rings for

The foregoing is a correct description,
 FOR WORKMAN, CLARK & CO., LIMITED
 Manufacturer.

Dates of Survey while building	During progress of work in shops	Mar. 1. 4. 10. 11. 14. 15. 16. 17. 18. 21. 22. 24. 25. 31.
	During erection on board vessel	Apr. 29. Oct. 4. 7. 10. 11. 12. 14. 15. 18. 19. 20. 21. 25. 26. 27. 28. 29.
	Total No. of visits	63

Dates of Examination of principal parts—Cylinders 8. 8. 10 Slides 8. 8. 10 Covers 19. 8. 10 Pistons 29. 7. 10 Rods 29. 7. 10
 Connecting rods 29. 7. 10 Crank shaft 29. 7. 10 Thrust shaft 11. 8. 10 Tunnel shafts 11. 8. 10 Screw shaft 26. 8. 10 Propeller 19. 8. 10
 Stern tube 8. 9. 10 Steam pipes tested 13. 8. 10 Engine and boiler seatings 21. 9. 10 Engines holding down bolts 14. 10
 Completion of pumping arrangements 28. 10. 10 Boilers fixed 14. 10. 10 Engines tried under steam 29. 10. 10
 Main boiler safety valves adjusted 25. 10. 10 Thickness of adjusting washers 7/16 to 1/2"
 Material of Crank shaft Steel Identification Mark on Do. 297 Material of Thrust shaft Steel Identification Mark on Do. 29
 Material of Tunnel shafts Steel Identification Marks on Do. 297 Material of Screw shafts Steel Identification Marks on Do. 29
 Material of Steam Pipes Wrought iron Test pressure 600 lbs per sq"

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery has been built under special survey: the material and workmanship being good, and satisfactorily tried under steam
 It is submitted that above vessel is eligible for a record of + L.M.C. 10.10 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.10.

F.D. J.W.H. 8/11/10. J.P.R.

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

The amount of Entry Fee...	£ 3.0.0	When applied for,
Special	£ 57.16.0	1-11-19.10
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any) £	:	4-11-19.10

TUE. 8 NOV 1910

Committee's Minute
 Assigned

Thme 10.10

MACHINERY CERTIFICATE WRITTEN.

(L) VESSELS
 These particulars are supplied
 Official Number. 129635
 No., Date, and Port of Previous
 Whether British or Foreign Built. British
 Whether a Steam and if a Steam Tug
 Number of Decks Two
 Number of Masts
 Rigged
 Stern
 Build
 Galleries
 Head
 Framework and description of vessel
 Number of Bulkheads
 Number of water ballast and their capacity in tons
 Total to quarter the depth from waterline to bottom of keel
 No. of sets of Engines. Two
 Description of Engines. Inverted V Triple expansion surface
 No. of Shafts. Two
 Particulars of Shafts. Description, No. of Iron or Steel, Loaded Pressure
 Under Tonnage Deck
 Space or spaces between Turret or Tank
 Forecastle
 Bridge space
 Poop or Break
 Side Houses
 Deck Houses
 Chart Houses
 Spaces for machinery Section 78 (2) 1894
 Excess of Hatch
 Gross Tonnage
 Deductions, as per Register
 NOTE.—The on Bridge Space Poop Passag
 No. of Owners
 Name, Residence
 The Station
 French
 Name
 Dated

Certificate (if required) to be sent to this office

The Surveyors are requested not to write on or below the space for Committee's Minute.

