

REPORT ON MACHINERY

No. 7093.

TUE. JUN. 11. 1912

Office of writing Report 4th June 1912 When handed in at Local Office Belfast Port of Belfast
 No. in Survey held at Belfast Date, First Survey May 3rd Last Survey June 6th 1912
 Reg. Book. 706 on the S.S. Geographic (Number of Visits 17) Gross 2022
 Master A. McNeil Built at Belfast By whom built Harland & Wolff Tons Net 447 When built 1906
 Engines made at Belfast By whom made - when made -
 Boilers made at - By whom made - when made -
 Registered Horse Power 788 Owners Belfast S.S. Coy L^{td} Port belonging to Belfast
 Nom. Horse Power as per Section 28 788 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

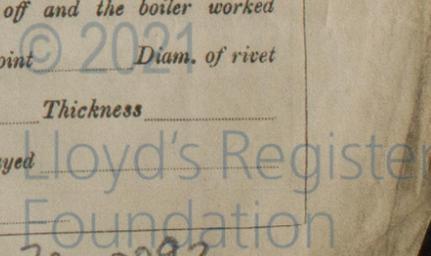
ENGINES, &c.—Description of Engines Wain Screw Quadruple Expansion Cylinders 8 No. of Cranks 8
 Dia. of Cylinders 21"-29"-41"-58" Length of Stroke 36" Revs. per minute 155 Dia. of Screw shaft 11.97" Material of S. Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes 18.25" (Dia. of shaft) at cone
 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
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4'-3"
 Dia. of Tunnel shaft 10.66" as per rule 11.0" as fitted Dia. of Crank shaft journals 11.19" as per rule 11.76" as fitted Dia. of Crank pin 12" Size of Crank web 2 1/2 x 8 1/4" Dia. of thrust shaft under
 collars 1 1/4" Dia. of screw 11'-3" Pitch of Screw 13'-9" No. of Blades 3 State whether moveable No Total surface 4108 sq. ft.
 No. of Feed pumps None Diameter of ditto None Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 3 Diameter of ditto 4" Stroke 15" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines See other sheet No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 7-3" In Holds, &c. 2-3"

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 - 4"
 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 Below
 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 Yes of Stern Tube Yes Screw shaft and Propeller Yes
 Is the Screw Shaft Tunnel watertight Stated dead it fitted with a watertight door Yes worked from Upper decks

OILERS, &c.—(Letter for record 3) Manufacturers of Steel W. Caldwell & Sons L^{td}
 Total Heating Surface of Boilers 11448 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 2 - W. End. Cylind^{rs}
 Working Pressure 200 lbs Tested by hydraulic pressure to 280 lbs Date of test 28-5-12 No. of Certificate 1-6-12
 Can each boiler be worked separately Yes Area of fire grate in each boiler 158 sq. ft. No. and Description of Safety Valves to
 each boiler 4 - Direct Spring Area of each valve 10.82 sq. ft. Pressure to which they are adjusted 200 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 4 ft Mean dia. of boilers 6'-0" Length 21'-0" Material of shell plates Steel
 Thickness 1 1/32" Range of tensile strength 29-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap, W. & S.
 long. seams B. Butt, Double of rivet holes in long. seams 1 1/32" Pitch of rivets 10" Top of plates or width of butt straps 24 1/2"
 Per centages of strength of longitudinal joint rivets 98.4 Working pressure of shell by rules 251 lbs Size of manhole in shell 16" x 12"
 plate 82.8 Size of compensating ring McNaile No. and Description of Furnaces in each boiler 8 - Morrison Material Steel Outside diameter 45"

Length of plain part top 10" bottom 10" Thickness of plates crown 3 3/32" bottom 3 3/32" Description of longitudinal joint Weld No. of strengthening rings Yes
 Working pressure of furnace by the rules 237 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 7/16" Top 5/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 7/8" x 7" Back 7/8" x 7" Top 8 1/2" x 7" If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 208 lbs
 Material of stay Steel Diameter at smallest part 1 1/8" to 1 1/2" Area supported by each stay 52 sq. ft. Working pressure by rules 245 lbs plates in steam space:
 Material Steel Thickness 1 1/4" Pitch of stays 7 1/2" x 15" How are stays secured Nuts & Washers Working pressure by rules 272 lbs Material of stays Steel
 Diameter at smallest part 2 1/8" x 2 1/8" Area supported by each stay 27/2 sq. ft. Working pressure by rules 242 lbs Material of Front plates at bottom Steel
 Thickness 1 5/16" Material of Lower back plate Yes Thickness Yes Greatest pitch of stays Yes Working pressure of plate by rules Yes
 Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" x 3 3/4" Material of tube plates Steel Thickness: Front 5/16" Back 7/8" Mean pitch of stays 7 1/2"
 Pitch across wide water spaces 13 3/4" Working pressures by rules 348 lbs Material of Chamber tops: Material Iron Depth and
 thickness of girder at centre 8" x (7 1/2" x 2) Length as per rule 27" Distance apart 8 1/2" Number and pitch of stays in each 3-4"
 Working pressure by rules 229 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 -

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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 _____

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: *one outer rimmer stem bush; pair bottom end braces; 2 pairs top end braces; spare eccentric strap; air pump bucket & rod; 2 bronze centrif. pump spindles; set packing for H.P. piston rod & valves; halter check valves etc., + all gear to Lloyd's Rules extra.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building _____

During progress of work in shops - - - - -

During erection on board vessel - - - - -

Total No. of visits _____

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders _____ Slides _____ Covers _____ Pistons _____ Rods _____

Connecting rods _____ Crank shaft _____ Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____

Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____

Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material of Crank shaft _____ Identification Mark on Do. _____ Material of Thrust shaft _____ Identification Mark on Do. _____

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes *W. Iron Steel* _____ Test pressure *430 lbs* _____

General Remarks (State quality of workmanship, opinions as to class, &c.)

See Report of Survey for Repairs

Certificate (if required) to be sent to this office

Fee included in Ship fees

The amount of Entry Fee _____ When applied for _____

Special .. . £ : :19....

Donkey Boiler Fee .. . £ : : _____ When received, _____

Travelling Expenses (if any) £ : :19....

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

Committee's Minute _____ FRI. JUN. 14. 1912

Assigned _____

