

REPORT ON MACHINERY.

No. 6974
TUE. JUN. 15. 1911

Received at London Office
 Date of writing Report 3rd June 11 When handed in at Local Office 14th Aug. 10 11 Port of Belfast 12th Aug.
 No. in Survey held at Belfast Date, First Survey 11th Aug 1910 Last Survey 31st May 1911
 Reg. Book. S.S. "Egra" (Number of Visits 5793)
 on the S.S. "Egra" Tons } Gross 5108
 Master A. G. Muir Built at Belfast By whom built Workegan Clark Boyd When built 1911 Net 2345
 Engines made at Belfast By whom made - when made -
 Boilers made at - By whom made - when made -
 Registered Horse Power - Owners British India Steam Nav. Co. Ltd belonging to Glasgow
 Nom. Horse Power as per Section 28 1062 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Triple Expansion No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders 24 1/2 - 41 - 69 Length of Stroke 48 Revs. per minute 90 Dia. of Screw shaft 13.95 Material of Steel
 as per rule 13.95 as fitted 14.0 screw shaft
 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 ✓ 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
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 4'-8"
 Dia. of Tunnel shaft 13.04 as per rule 13.04 Dia. of Crank shaft journals 13.69 as per rule 13.69 Dia. of Crank pin 13 3/4 Size of Crank webs 18 1/2 x 9 1/2 Dia. of thrust shaft under
 collars 13 3/4 Dia. of screw 15'-9" Pitch of Screw 2'-0" No. of Blades 3 State whether moveable Yes Total surface 69 sq. ft.
 No. of Feed pumps } Diameter of ditto - Stroke - Can one be overhauled while the other is at work
 No. of Bilge pumps } Diameter of ditto - Stroke - Can one be overhauled while the other is at work
 No. of Donkey Engines - Sizes of Pumps see other sheet No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4-3 1/2 - 4-3 1/2 Independent In Holds, &c. 9-3 1/2 - 1-2 1/2

No. of Bilge Injections 2 sizes 9" Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room & size as above
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices in 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 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 Fore 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 9-2-11 of Stern Tube 13-2-11 Screw shaft and Propeller 27-2-11
 Is the Screw Shaft Tunnel watertight Stated to be fitted with a watertight door Yes worked from Top platform Engine Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel M. Beardmore & Co. Ltd
 Total Heating Surface of Boilers 10426 Forced Draft fitted Yes No. and Description of Boilers 2 Double End Cyl
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 28-2-11 No. of Certificate 441
 Can each boiler be worked separately Yes Area of fire grate in each boiler 130 sq. ft. No. and Description of Safety Valves to
 each boiler 3 - direct Spring Area of each valve 12.56 sq. in. 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 15" Mean dia. of boilers 15'-9" Length 21'-0" Material of shell plates Steel
 Thickness 3/8" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. & Y.
 long. seams Butt Lap Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 23 1/2"
 Per centages of strength of longitudinal joint rivets 91.6 plate 84.5 Working pressure of shell by rules 233 lbs Size of manhole in shell 17 x 13
 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 8 - Morrison Material Steel Outside diameter 43 1/2"
 Length of plain part top 3 1/2" bottom 3 1/2" Thickness of plates crown 3 1/8" Description of longitudinal joint Weld No. of strengthening rings 29
 Working pressure of furnace by the rules 225 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back ✓ Top 5/8" Bottom 3/2"
 Pitch of stays to ditto: Side 8 1/2 x 7 1/2" Back ✓ Top 8 1/2 x 7 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 207 lbs
 Material of stay Steel Diameter at smallest part 1 1/4" Area supported by each stay 64.9 sq. in. Working pressure by rules 217 lbs and plates in steam space:
 Material Steel Thickness 1 1/2" Pitch of stays 19 1/2 x 15 1/2" How are stays secured Nuts & Washers Working pressure by rules 201 lbs Material of stays Steel
 Diameter at smallest part 6.66 sq. in. supported by each stay 307 sq. in. Working pressure by rules 225 lbs Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
 Diameter of tubes 2 1/2" Pitch of tubes 3 1/2 x 3 5/8" Material of tube plate Steel Thickness: Front 5/8" Back 1 1/8" Mean pitch of stays 9 1/4"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 204 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8 1/2 x (3/4 x 2) Length as per rule 4'-8 3/8" Distance apart 8 1/2" Number and pitch of stays in each 6 - 7 1/2 x 7 1/2"
 Working pressure by rules 200 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

Form with fields for No., Description, Made at, By whom made, When made, Where fixed, Working pressure, Date of test, No. of Certificate, Fire grate area, Description of Safety Valves, etc.

SPARE GEAR. State the articles supplied:— See other sheet

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

W. H. Bell
Dates of Survey while building: 1910, Aug 11, Sep 8, 16, 30, Oct 27, Nov 3, 7, 10, 15, 18, 21, 24, 28, 30
Is the approved plan of main boiler forwarded herewith? Yes

Dates of Examination of principal parts: Cylinders 15, Slides 10, Covers 8, Pistons, Rods, Connecting rods 8/3/11, Crank shaft 15/11, Tunnel shafts, Engines and boiler seatings 28/2/11, Engines holding down bolts 28/2/11, Completion of pumping arrangements 31-5-11, Boilers fixed 22/2/11, Engines tried under steam 12/5/11, Main boiler safety valves adjusted 12/5/11, Thickness of adjusting washers 5 5/16 / 32

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The materials and the workmanship are of good description.

The vessel has left for the Clyde, to undergo the steam trials of the machinery, and when this has been done to the satisfaction of the Greenock Surveyors, means of opinion the vessel will be eligible for release of + L.M.C. (with date), also notation of Fused Wraps + Electric Light.

Damage: The following was done due to damage: Starboard tail shaft drawn and examined and found in order: shafting let adrift & relined: holding down bolts all hardened up & overhauled. Engines tried under steam on completion of repairs and all found satisfactory. The damage was stated to have been caused by grounding on the 48 hours trip.

The amount of Entry Fee £ 3 : 0 : 0
Special £ 41 : 11 : 0
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :
When applied for, 2-6-11
When received, 8-6-11

Committee's Minute FRI. AUG. 18. 1911
Assigned thmc 8. 11

Certificate (if required) to be sent to Committee's Minutes.

Date of writing Report
No. in Survey Reg. Book.
on the
Master
Engines made at
Boilers made at
Registered Horsepower
MULTITUBULAR
(Letter for record)
Boilers 2-2
No. of Certificate
safety valves to
Are they fitted
Smallest distance
Material of shell
Descrip. of rivets
Top of plates
rules 233
boiler 4-7
Description of l
plates: Material
Top 7 1/2 x 8 1/4
smallest part
Pitch of stay
Area supported
Lower back pl
Pitch of tube
water spaces
girder at centr
Working press
separately
holes
If stiffened wit
Working press
Dates of Survey while building
DUN
wo
DUN
bo
GENERA
Survey B
Travelling
Committ
Assigned

