

REPORT ON MACHINERY.

No. 21717

Port of GlasgowNo. in Survey held at
Reg. Book.GlasgowDate, first Survey 18th Sept 03 Last Survey 14th April 1904

Received at London Office

(Number of Visits 42)on the Steel Ser. Steamer "Dublin"Master HarrisonBuilt at PaisleyBy whom built Messrs John Buller & CoTons Gross 126.75Net 271.63Engines made at GlasgowBy whom made Messrs Ross & DuncanWhen built 1904Boilers made at "By whom made Messrs Ross & Duncanwhen made 1904

Registered Horse Power

Owners Tedcastle, McCormick & Co.Port belonging to DublinNom. Horse Power as per Section 28 156Is Refrigerating Machinery fitted NoIs Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple ExpansionNo. of Cylinders ThreeNo. of Cranks 3Dia. of Cylinders 18 : 29 : 48Length of Stroke 36Revs. per minute 90

Dia. of Screw shaft

as per rule 10.02Material of IronIs 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 Yesliners are fitted, is the shaft lapped or protected between the liners Continuous linerLength of stern bush 3' 10 1/2"

Dia. of Tunnel shaft

as per rule 9.15

Dia. of Crank shaft journals

as per rule 9.5Dia. of Crank pin 10 1/4Size of Crank webs 6 3/8 x 15

Dia. of thrust shaft under

collars 10 1/4Dia. of screw 12' 0"Pitch of screw 15' 0"No. of blades 4State whether moveable NoTotal surface 49'No. of Feed pumps 2Diameter of ditto 3 1/4Stroke 18"Can one be overhauled while the other is at work YesNo. of Bilge pumps 2Diameter of ditto 3 1/2Stroke 18"Can one be overhauled while the other is at work YesNo. of Donkey Engines FourSizes of Pumps 7 x 4 1/2 x 8"8 x 8 x 8"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room On 2 1/4" & on 2 3/4"4 1/2 x 2 1/2 x 5"In Holds, &c. Two 2 1/4" in each hold (Nos 1 & 2from of engines. Engines aft.)No. of bilge injections 1sizes 4 1/2Connected to condenser, or to circulating pump YesIs a separate donkey suction fitted in Engine room & size Yes 2 1/4"Are all the bilge suction pipes fitted with roses YesAre the roses in Engine room always accessible YesAre the sluices on Engine room bulkheads always accessible NoneAre all connections with the sea direct on the skin of the ship YesAre they Valves or Cocks BothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates YesAre the discharge pipes above or below the deep water line AboveAre they each fitted with a discharge valve always accessible on the plating of the vessel YesAre the blow off cocks fitted with a spigot and brass covering plate YesWhat pipes are carried through the bunkers Inward bilge suctionHow are they protected Strong wooden casingsAre all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges YesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock New vesselIs the screw shaft tunnel watertight No tunnelIs it fitted with a watertight door Yesworked from Engines aft.

BOILERS, &c.—

(Letter for record S.)Total Heating Surface of Boilers 2540 sq ftIs forced draft fitted NoNo. and Description of Boilers One single endedWorking Pressure 170 lbsTested by hydraulic pressure to 340 lbsDate of test 17.2.04Can each boiler be worked separately YesArea of fire grate in each boiler 75'

No. and Description of safety valves to

each boiler Two Direct SpringArea of each valve 7.67'Pressure to which they are adjusted 175 lbsAre they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 4' 0"Mean dia. of boilers 16' 0"Length 11' 0"Material of shell plates SteelThickness 1 1/32Range of tensile strength 27 to 32Are they welded or flanged NoDescrip. of riveting: cir. seams Ends double r. long. seamsDouble StrapEnds RivetedDiameter of rivet holes in long. seams 1 5/16Pitch of rivets 9" & 4 1/2"Lap of plates or width of butt straps 1' 7"

Per centages of strength of longitudinal joint

rivets 87.2plate 85.4Working pressure of shell by rules 170 lbsSize of manhole in shell 16" x 12"Size of compensating ring 11' 11 1/2" diaNo. and Description of Furnaces in each boiler Four MorrisonMaterial SteelOutside diameter 42 1/4"

Length of plain part

top Yes

Thickness of plates

crown 1/2Description of longitudinal joint WeldedNo. of strengthening rings YesWorking pressure of furnace by the rules 178 lbsCombustion chamber plates: Material SteelThickness: Sides 19/32Back 19/32Top 19/32Bottom 19/32Pitch of stays to ditto: Sides 8 x 8 3/4Back 8 x 8 3/4Top 8 x 8 3/4Bottom 8 x 8 3/4Are stays fitted with nuts or riveted heads NutsWorking pressure by rules 168Material of stays SteelDiameter at smallest part 1 3/8"Area supported by each stay 40'Working pressure by rules 169 lbs

End plates in steam space:

Material SteelThickness 1 1/32Pitch of stays 18" x 16"How are stays secured Double nutsWorking pressure by rules 174 lbsMaterial of stays SteelDiameter at smallest part 2 1/2"Area supported by each stay 288'Working pressure by rules 180 lbsMaterial of Front plates at bottom SteelThickness 13/16Material of Lower back plate SteelThickness 1 1/16Greatest pitch of stays 13 3/4Working pressure of plate by rules 232 lbsDiameter of tubes 3 1/2"Pitch of tubes 4 3/4 x 4 7/8Material of tube plates SteelThickness: Front 1 1/2Back 2 1/2Mean pitch of stays 10' 8"Pitch across wide water spaces 14"Working pressures by rules 187Girders to Chamber tops: Material Iron

Depth and

thickness of girder at centre 4" x 2"Length as per rule 28.6Distance apart 8"Number and pitch of Stays in each Yes at 8 3/4"Working pressure by rules 195 lbsSuperheater or Steam chest; how connected to boiler Yes

Can the superheater be shut off and the boiler worked

separately Yes

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

W1092-0160

DONKEY BOILER— No. *One* Description *Vertical. Cross tubes in firebox*
 Made at *Gateshead on Tyne* By whom made *Clark R. Chapman & Co. Ltd.* When made *1904* Where fixed *In S. & R. hold*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb* No. of Certificate *6734* Fire grate area *14 2/3* Description of safety valves *Direct Spring*
 No. of safety valves *2* Area of each *3 1/4* Pressure to which they are adjusted *95 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *5' 6"* Length *12' 0"* Material of shell plates *Steel* Thickness *13/32* Range of tensile strength *27-32* Descrip. of riveting long. seams *Double riveted lap* Dia. of rivet holes *13/16* Whether punched or drilled *Drilled* Pitch of rivets *3"*
 Lap of plating *4 1/8* Per centage of strength of joint *42.2* Rivets *42.2* Thickness of shell crown plates *9/16* Radius of do. *5' 0"* No. of Stays to do. *6*
 Dia. of stays *2"* Diameter of furnace Top *4' 3 1/2"* Bottom *4' 9 1/8"* Length of furnace *5' 6"* Thickness of furnace plates *9/16* Description of joint *S.R. lap* Thickness of furnace crown plates *1/2* Stayed by *Vertical stays & uptake* Working pressure of shell by rules *95.9*
 Working pressure of furnace by rules *98 lb* Diameter of uptake *14 1/2"* Thickness of uptake plates *7/16* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Two main bearing bolts. Two piston rod bolts & nuts. Two con. rod bolts & nuts. Set coupling bolts. Set feed & bilge pump valves. Set piston springs for each piston. Bolts & nuts. Firebricks. Assorted iron.*

The foregoing is a correct description,

Loss & Duncan Manufacturer.

Dates of Survey { During progress of work in shops— { 1903: Sept 18. Oct 2, 21, 24, 28. Nov 6, 10, 15, 16, 20, 22, 26, 30. Dec 2, 8, 10, 15, 16, 18, 21, 24, 29, 1904
 { During erection on board vessel — { Jan 11, 13, 18, 20, 25, 29. Feb 1, 9, 11, 16, 22. Mar 14, 15, 17, 24, 29. April 5, 7, 12, 14.
 building { Total No. of visits *42*

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

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

The machinery & boilers of this vessel have been constructed under special survey & in accordance with the requirements of the Rules.

The Electric Lighting report will be forwarded shortly.

Note. The dynamo removed & not replaced. h.w.c. 5.11. 99 & 74.

It is submitted that the vessel is eligible for the notation + LMC 4.04 in the Register.

The forging certificates of shafting are enclosed.

It is submitted that this vessel is eligible for THE RECORD I.L.M.C. 4.04. ELEC LIGHT.

EmS
26.4.04
26.4.04

Certificate (if required) to be sent to

The amount of Entry Fee. £ *2 : 0 :* When applied for, *25 APR 1904*
 Special .. £ *23 : 8 :* When received, *28 APR 1904*
 Donkey Boiler Fee .. £ *:*
 Travelling Expenses (if any) £ *:*

Committee's Minute

Glasgow 25 APR 1904

Assigned

+ L.M.C. 4.04

When fee is paid
 MACHINERY CERTIFICATE
 WRITTEN 27-4-04



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