

REPORT ON MACHINERY.

No. 21225

Port of Glasgow

Received at London Office

1013 20 OCT 1903

No. in Survey held at GlasgowDate, first Survey 18th March Last Survey 6-10-1903

Reg. Book.

(Number of Visits 37)

Gross

Net

When built 1903when made 1903when made 1903

Registered Horse Power

Owners G. W. D. Assheton SmithPort belonging to Barrow

Nom. Horse Power as per Section 28

91

Is Refrigerating Machinery fitted

☒

Is Electric Light fitted

☒

ENGINES, &c.—Description of Engines

Triple expansionNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 14" 22½" 37" Length of Stroke 27" Revs. per minute 106 Dia. of Screw shaft as per rule 4.8" Material 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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive solid fitting twoliners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 32½"Dia. of Tunnel shaft as per rule 6.8" Dia. of Crank shaft journals as per rule 7.2" Dia. of Crank pin 7.8" Size of Crank webs 4½" x 10½" Dia. of thrust shaft undercollars 7.8" Dia. of screw 9-9" Pitch of screw 11-6" No. of blades 4 State whether moveable no Total surface 32 ftNo. of Feed pumps 2 Diameter of ditto 2½" Stroke 13½" Can one be overhauled while the other is at work yesNo. of Bilge pumps 2 Diameter of ditto 2½" Stroke 13½" Can one be overhauled while the other is at work yesNo. of Donkey Engines 3 Sizes of Pumps 4½" x 3" 6 x 8" 3 x 2" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 1-2½" 1-2" (1½" 2" 1½") In Holds, &c. no 1-2-2"No. of bilge injections 1 sizes 3½" Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size 1-2"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 ✓Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks bothAre 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 aboveAre 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 yesWhat pipes are carried through the bunkers Bilge suction How are they protected carried through floorsAre 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 before launching Is the screw shaft tunnel watertight ✓Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—

(Letter for record (T.))

Total Heating Surface of Boilers

1640.5 ftIs forced draft fitted no

No. and Description of Boilers

1 Single-ended

Working Pressure

170 lbsTested by hydraulic pressure to 340 lbsDate of test 22-8-03 Can each boiler be worked separately ✓ Area of fire grate in each boiler 49.8 ft No. and Description of safety valves toeach boiler 2 Direct spring Area of each valve 5.41 ft Pressure to which they are adjusted 175 lbs Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 13-6" Length 10-0" Material of shell plates steelThickness 1½" Range of tensile strength 27-32 Are they welded or flanged no Descrip. of riveting: cir. seams L. D. R. long. seams D. B. S. R.Diameter of rivet holes in long. seams 1½" Pitch of rivets 7½" 3½" Lap of plates or width of butt straps 16½"Per centages of strength of longitudinal joint 87.2 Working pressure of shell by rules 176 lbs Size of manhole in shell 16 x 12"Size of compensating ring No. 1 No. and Description of Furnaces in each boiler 3 Horizons Material steel Outside diameter 41½"Length of plain part top 6-5" bottom 6-5" Thickness of plates top 1" bottom 1" Description of longitudinal joint weld No. of strengthening rings ✓Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material steel Thickness: Sides 9" Back 9" Top 9" Bottom 23"Pitch of stays to ditto: Sides 8 x 8" Back 8 x 8" Top 8 x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 170 lbsMaterial of stays iron Diameter at smallest part 2.04" Area supported by each stay 64 ft Working pressure by rules 242 lbs End plates in steam space:Material steel Thickness 31" Pitch of stays 15 x 16½" How are stays secured by nuts & washers Working pressure by rules 179 lbs Material of stays steelDiameter at smallest part 4.68" Area supported by each stay 2.47 ft Working pressure by rules 189 lbs Material of Front plates at bottom steelThickness 3½" Material of Lower back plate steel Thickness 3½" Greatest pitch of stays 13½" Working pressure of plate by rules 304 lbsDiameter of tubes 3½" Pitch of tubes 4½ x 4½" Material of tube plates steel Thickness: Front 3½" Back 1½" Mean pitch of stays 9-8"Pitch across wide water spaces 14" Working pressures by rules 182 x 175 lbs Girders to Chamber tops: Material iron Depth andthickness of girder at centre 6½ x 2" Length as per rule 27.3" Distance apart 8" Number and pitch of Stays in each 2-8"Working pressure by rules 177 lbs Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler workedseparately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivetholes ✓ 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 ✓

002374-002384-0155

DONKEY BOILER— No. *One* Description *Vertical cross tube.*
Made at *Port Dinorwic* By whom made *Port Dinorwic Dry Dock & Boiler Works* When made *1903* Where fixed *In stokehold.*
Working pressure *100 lbs* Tested by hydraulic pressure to *200 lbs* No. of Certificate *1738* Fire grate area *9.65* Description of safety valves *Direct Spring.*
No. of safety valves *One* Area of each *3.14* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *4' 6"* Length *9' 6"* Material of shell plates *steel* Thickness *7/16"* Range of tensile strength *24-32* Descrip. of riveting long. seams *Lap. D. R.* Dia. of rivet holes *3/4"* Whether punched or drilled *drilled* Pitch of rivets *2 3/4"*
Lap of plating *3 5/8"* Per centage of strength of joint *72.7* Rivets *22.7* Thickness of shell crown plates *9/16"* Radius of do. *5' 0"* No. of Stays to do. *4*
Dia. of stays *1 5/8" eff* Diameter of furnace Top *3' 5 3/8"* Bottom *3' 11 3/8"* Length of furnace *4' 0"* Thickness of furnace plates *9/16"* Description of joint *weld* Thickness of furnace crown plates *1 1/2"* Stayed by *4 stays & cambraced* Working pressure of shell by rules *128 lbs*
Working pressure of furnace by rules *160 lbs* Diameter of uptake *1' 0"* Thickness of uptake plates *7/16"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *2 Top end bolts & nuts, 2 Bottom end bolts & nuts, 2 Main bearing bolts & nuts, 1 set of Feed & Bilge pump valves, 6 boiler tubes, 6 condenser tubes, set of firebars, an assortment of iron, bolts, &c.*

The foregoing is a correct description,

James & Duncan Manufacturer.

Dates of Survey while building { During progress of work in shops— *1903: March 18, 24, 26. April 1, 6, 9, 15, 17, 23. May 5, 19, 22, 26, 29. June 23, 25, 30. July 2, 6.*
During erection on board vessel— *13, 16, 30. August 4, 7, 11, 14, 15, 17, 22, 24, 28. Sep 1, 3, 8, 14, 24. Oct 6.*
Total No. of days *27*

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

" " " donkey " " " *yes.*

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

The materials have been tested, & the work carried out under special survey, both material and workmanship being of good quality. on completion this machinery was securely fastened on board & tried under steam with satisfactory results.

*In my opinion this machinery is eligible for classification with record of **L. M. C. 10. 03.***

It is submitted that this vessel is eligible for THE RECORD

L. M. C. 10. 03.

Sms
20.10.03.

EL
20.10.03

The amount of Entry Fee. £ *1* : : : When applied for, *16.10.1903*
Special .. £ *13* : *13* : :
Donkey Boiler Fee .. £ : : : When received, *21/10/03*
Travelling Expenses (if any) £ : : :
21/10/03

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

Committee's Minute

Assigned

L. M. C. 10. 03

When fee is paid
MACHINERY CERTIFICATE
WRITTEN 27/10/07



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