

REPORT ON MACHINERY.

No. 8494.

Port of Aberdeen.

Received at London Office

19

WED. 18 OCT. 1905

No. in Survey held at Aberdeen.Date, first Survey 12th April 1905. Last Survey 16th October 1905.

Reg. Book.

(Number of Visits 42.)34-in S. on the steel S.S. "Strathairlie"Master Wm R. Wetherley Built at Aberdeen.By whom built Hall Russell & Co. LtdGross 193.Net 58.When built 1905.Engines made at Aberdeen.By whom made Hall Russell & Co. Ltdwhen made 1905Boilers made at do.By whom made do do dowhen made 1905Registered Horse Power 64Owners Aln Str Lawling Whiting & Co. LtdPort belonging to Aberdeen.Nom. Horse Power as per Section 28 64Is Refrigerating Machinery fitted noIs Electric Light fitted noENGINES, &c.—Description of Engines Triple expansion.No. of Cylinders 3No. of Cranks 3Dia. of Cylinders 12", 20", 33" Length of Stroke 21" Revs. per minute 105 Dia. of Screw shaft as per rule 6.909 Material of screw shaft as fitted 1 1/2"Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 ✓ 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 ✓ If twoliners are fitted, is the shaft lapped or protected between the liners lapped & served Length of stern bush 2' 5"Dia. of Tunnel shaft as per rule 5.693 Dia. of Crank shaft journals as per rule 5.982 Dia. of Crank pin 6 1/2" Size of Crank webs 9 1/2" x 4 1/2" Dia. of thrust shaft undercollars 6 1/4" Dia. of screw 8' 4" Pitch of screw 11' 6" No. of blades 4 State whether moveable no Total surface 29.4No. of Feed pumps 1 Diameter of ditto 2 1/4" Stroke 12" Can one be overhauled while the other is at work ✓No. of Bilge pumps 1 Diameter of ditto 2 1/4" Stroke 12" Can one be overhauled while the other is at work ✓No. of Donkey Engines two Sizes of Pumps one 5 1/4" x 3 1/2" x 5" General, one 3 x 1 1/2 x 3" Feed Duplex No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room one of 2" In Holds, &c. Fishroom, one of 2" Slushwell, one of 3"also ejector drawing from all parts, and with separate suction to engine room 2" dia.No. of bilge injections 1 sizes 3" Connected to condenser, or to circulating pump C.D. Is a separate donkey suction fitted in Engine room & size yes: 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 noneAre 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 Lucs from Fishroom, Slushwell, & F.W. tank How are they protected strong wood casingAre 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 vessel Is the screw shaft tunnel watertight noneIs it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—

(Letter for record (7))Total Heating Surface of Boilers 1254Is forced draft fitted noNo. and Description of Boilers One, cyl^d, mult^l, single ended Working Pressure 160 Tested by hydraulic pressure to 320Date of test 16.9.05 Can each boiler be worked separately ✓ Area of fire grate in each boiler 35.8 No. and Description of safety valves toeach boiler 2, Spring loaded Area of each valve 5.939 Pressure to which they are adjusted 165 lbs Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork about 8" Mean dia. of boilers 12' 0" Length 10' 0" Material of shell plates SThickness 1" Range of tensile strength 24-32 Are they welded or flanged no Descrip. of riveting: cir. seams a. r. lap long. seams double strapsDiameter of rivet holes in long. seams 1 3/16" Pitch of rivets 1 row 6 3/8" 1 row 3 7/8" Lap of plates or width of butt straps 12 3/4" Inside 1 1/4"Per centages of strength of longitudinal joint rivets 80.6 Working pressure of shell by rules 164.5 Size of manhole in shell 16" x 12"Size of compensating ring 28" dia x 1" thick No. and Description of Furnaces in each boiler 2: plain Material S Outside diameter 43"Length of plain part top 18" bottom 8 1/2" Thickness of plates crown 3/4" bottom 1" Description of longitudinal joint weld No. of strengthening rings ✓Working pressure of furnace by the rules 165 Combustion chamber plates: Material S Thickness: Sides 5" Back 5" Top 5" Bottom 5"Pitch of stays to ditto: Sides 9 1/4" x 8 3/4" Back 9 1/4" x 8 3/4" Top 9" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 166Material of stays iron Diameter at smallest part 1 1/2" Area supported by each stay 81 Working pressure by rules 165 End plates in steam space:Material S Thickness 1 1/2" Pitch of stays 16" x 16" How are stays secured a. r. & w. Working pressure by rules 162.5 Material of stays SDiameter at smallest part 2 5/16" Area supported by each stay 256 Working pressure by rules 164 Material of Front plates at bottom SThickness 3/32" Material of Lower back plate S Thickness 1 1/2" Greatest pitch of stays 13" x 9 1/4" Working pressure of plate by rules 244Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S Thickness: Front 3/32" Back 1/16" Mean pitch of stays 9" x 9"Pitch across wide water spaces 14" Working pressures by rules F. 160.9 B. 228 Girders to Chamber tops: Material iron Depth andthickness of girder at centre 6 1/2" x 2" Length as per rule 24 1/2" Distance apart 9" Number and pitch of Stays in each 2: 9"Working pressure by rules 166 Superheater or Steam chest; how connected to boiler None 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 ✓

W1591-0042

DONKEY BOILER— No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves

No. of safety valves Area of each Pressure to which they are adjusted 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 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

Thickness of furnace crown plates Stayed by Working pressure of shell by rules

Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:—Two top, & two bottom end bolts & nuts. Two main bearing, & one set coupling bolts & nuts; One set each, Air, Circulating feed & bilge pump valves, one feed check valve; one safety valve spring; bolts & nuts assorted, & iron of various sizes.

The foregoing is a correct description,

HALL, RUSSELL & CO., LTD
James Hunter

Manufacturers of Engines & Boilers

1905

| | | | |
|--------------------------------|---|--------------------------------------|---|
| Dates of Survey while building | { | During progress of work in shops - - | April. 12. 22. 29. May. 5. 8. 11. 16. 18. 25. 29. June. 1. 13. 20. 27. July. 13. 24. 28. Aug. 1. 4. |
| | | During erection on board vessel - - | 4. 9. 10. 12. 16. 21. 25. 31. Sep. 6. 11. 12. 15. 16. 19. 29. Oct. 3. 4. 5. 6. 9. 11. 12. 16 - |
| | | 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.)

These engines & Boiler, have been constructed under Special Survey, in accordance with the Secretary's letter, the approved plan, and the provisions of the Rules. The materials, and workmanship, are good and efficient. When completed and fitted on board, they were tried under steam at moorings, with satisfactory results, and are now in good working order, and in my opinion, entitled to the record **L.M.C. 10.05.** in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD **L.M.C. 10.05.**

Ans.
19.10.05

The amount of Entry Fee. £ 1 : : When applied for, 16.10.1905

Special .. £ 10 : 1 : When received, 16.10.1905

Donkey Boiler Fee .. £ : :

Travelling Expenses (if any) £ : :

Committee's Minute

FRI. 20 OCT 1905

Assigned

+ Lmb 10.05

Ridley Towell
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Lloyd's Register
Foundation

MACHINERY CERTIFICATE
WRITTEN