

REPORT ON MACHINERY.

No. 10102.

FRI 28 JAN 1910

Received at London Office

Date of writing Report 20.1.1910 When handed in at Local Office 24.1.1910 Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey 4.10.09 Last Survey 20.1.1910
Reg. Book. on the steel S.S. Celtic Pride (Number of Visits 32)

Master R. B. Reed Built at Aberdeen By whom built A. Hall & Co. Ltd Tons { Gross 426.79
Net 219.94
When built 1910

Engines made at Aberdeen By whom made A. Hall & Co. Ltd when made 1910

Boilers made at do By whom made do do do when made 1910

Registered Horse Power 80 Owners Joseph Rouse Ltd Port belonging to Hull

Nom. Horse Power as per Section 28 80.00 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 14 1/2" 39" Length of Stroke 24" Revs. per minute 105 Dia. of Screw shaft 8 1/2" Material of screw shaft iron

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 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 2' 9"

Dia. of Tunnel shaft 8 1/2" Dia. of Crank shaft journals 8 1/2" Dia. of Crank pin 8 3/4" Size of Crank webs 12 1/2" x 5" Dia. of thrust shaft under collars 8 1/2"

Dia. of screw 8' 6 1/2" Pitch of Screw 12' 6" No. of Blades 4 State whether moveable No Total surface 314 sq ft

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 13 1/2" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 13 1/2" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps Ballast 6x4x8" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps one of 2" After hull one of 2"

In Engine Room one of 2" After hull one of 2" In Holds, &c. one in each wing of 2"

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size one, 3 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 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 Above

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 Suctions from hold How are they protected Strong 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 21.12.09 of Stern Tube 21.12.09 Screw shaft and Propeller 23.12.09

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record (7)) Manufacturers of Steel W. Beardmore & Co. Ltd. & Colville & Sons Ltd. The S. Coy of Scot. & N. Eng.

Total Heating Surface of Boilers 1343 sq ft Is Forced Draft fitted No No. and Description of Boilers two, Cyl. mult. single ended

Working Pressure 135 lbs Tested by hydraulic pressure to 240 Date of test 30.12.09 No. of Certificate 601

Can each boiler be worked separately Yes Area of fire grate in each boiler 50 sq ft No. and Description of Safety Valves to each boiler 2: direct spring

Area of each valve 4.04 sq in Pressure to which they are adjusted 140 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork about 6" Mean dia. of boilers 13' 0" Length 18' 6" Material of shell plates S

Thickness 1 1/2" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams d.r. lap

long. seams double straps Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 5 1/4" - 2 1/2" Lap of plates or width of butt straps 10 1/2" x 12 1/2"

Per centages of strength of longitudinal joint rivets 80.69 Working pressure of shell by rules 140 Size of manhole in shell 16 1/2" x 12 1/2"

plate 49.4 No. and Description of Furnaces in each boiler 3: plain Material S Outside diameter 41"

Length of plain part top 3 1/2" bottom 3 1/2" Thickness of plates crown 3 1/2" Description of longitudinal joint weld No. of strengthening rings None

Working pressure of furnace by the rules 148 Combustion chamber plates: Material S Thickness: Sides 3 1/2" Back 3 1/2" Top 3 1/2" Bottom 3 1/2"

Pitch of stays to ditto: Sides 10 1/4" x 9 1/2" Back 10' x 10" Top 10' x 9 1/2" If stays are fitted with nuts or riveted heads None Working pressure by rules 150

Material of stays S Diameter at smallest part 1 1/2" Area supported by each stay 100 sq in Working pressure by rules 150 End plates in steam space: Material S

Thickness 1 1/2" Pitch of stays 18' x 16" How are stays secured turner Working pressure by rules 140 Material of stays S

Diameter at smallest part 2 1/2" Area supported by each stay 288 sq in Working pressure by rules 151 Material of Front plates at bottom S

Thickness 1 1/2" Material of Lower back plate S Thickness 3 1/4" Greatest pitch of stays 13' x 10" Working pressure of plate by rules 140

Diameter of tubes 3 1/2" ext Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates S Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 15" Working pressures by rules B. 155 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 32" Distance apart 10" Number and pitch of stays in each 2: 9 1/2"

Working pressure by rules 151 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately Yes

Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint 2020 Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

W491-0078

Lloyd's Register Foundation

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 _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with casing 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:— *Two top, & 2 bottom end bolts, nuts; 2 main bearings, & 1 set coupling bolts nuts; 1 set each, the, oscillating, Fed & Bilge pump valves; 1 main & 1 donkey check valve; bolts & nuts assorted, & iron of various sizes.*

The foregoing is a correct description,
FOR ALEXANDER HALL & CO., LTD.

Arthur Langhorne Manufacturers of main Engines & Boilers.

Dates of Survey while building: During progress of work in shops— *1909. Oct. 7, 15, 25, 26. Nov. 2, 4, 8, 10, 18, 22, 24, 29. Dec. 2, 4, 6, 8, 11, 12, 16, 21, 23, 24, 28, 29, 30.*
 During erection on board vessel— *1910 Jan. 6, 10, 13, 14, 17, 18, 20.*
 Total No. of visits *32.* Is the approved plan of main boiler forwarded herewith *Yes.*

Dates of Examination of principal parts—Cylinders *8.22.29* Slides *8.24* Covers *8.24* Pistons *8.22* Rods *26*
 Connecting rods *26* Crank shaft *8* Thrust shaft *18* Tunnel shafts *8.11* Screw shaft *18* Propeller *16*
 Stern tube *29* Steam pipes tested *14.1.10* Engine and boiler seatings *7.22* Engines holding down bolts *30*
 Completion of pumping arrangements *14.1.10* Boilers fixed *13.1.10* Engines tried under steam *18.1.10*
 Main boiler safety valves adjusted *18.1.10* Thickness of adjusting washers *Port 3/8" Starboard 1/2"*
 Material of Crank shaft *Iron* Identification Mark on Do. *2340 (LH)* Material of Thrust shaft *Iron* Identification Mark on Do. *482A*
 Material of Tunnel shafts *Iron* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *484A*
 Material of Steam Pipes *Copper, solid drawn, 4 1/2" bore, No 8 T.W.G.* Test pressure *240 lbs per sq. inch.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
*These Engines, and the boiler, have been constructed under Special Survey and in accordance with the Secretary's letters, the Rules, & approved plan. The materials, and workmanship, are good and efficient. When completed, and properly fitted on board, they were tried under steam at moorings, with satisfactory results, and are now, in good order, and in my opinion, entitled to the record **L.M.C. 1.10** in the Register Book.*

It is submitted that this vessel is eligible for **THE BRONZ + L.M.C. 1.10**

J.P.S. *H.E.D.*
28.1.10.

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

The amount of Entry Fee .. £ 1 : 0 :
 Special .. £ 12 : 0 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *26.1.1910.*
 When received, *31.1.1910.*

Committee's Minute **TUES. 1 FEB 1910**
+ L.M.C. 1.10

Assigned



Aberdeen Office

FLAT (If B) GARE State thick way of Bu Write 'Sheer Stroke' opposite its corresponding letter DOUB Leng and thickn POOR RAIS BRID FORE LENG manu Plate 18 Has t FRA REV Sof Low Bows Top Rigg Sails Equ Num Certif 303 304 305 306 307 308 Nu Cer 36 Leon Ste Boa Pun Win Eng Wh Coa Nur Cei Car Stat Nur 307 Bu The Bu

Certificate (if required) to be sent to or below the space for Committee's Minute.

MACHINERY CERTIFICATE WRITTEN