

NO. 8797

REPORT ON MACHINERY.

Port of Leith

Received at London Office TUES. JUL 28 1896

No. in Survey held at Leith Date, first Survey 18th October Last Survey 27th June 1896

Reg. Book. on the S. K. "White Cross" (Number of Visits 33)

Tons { Gross 101.48
Net 7.74

Master David Parker Built at Amstruther By whom built William Jarvis When built 1896

Engines made at Leith By whom made John Cean & Co when made 1896

Boilers made at do By whom made do when made 1896

Registered Horse Power 38 Owners White Cross Steamship Co Ltd Port belonging to Amstruther

Nom. Horse Power as per Section 28 38

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

Diameter of Cylinders 14" & 29" Length of Stroke 20" Revolutions per minute 120 Diameter of Screw shaft as per rule 5.59"
 Diameter of Tunnel shaft as per rule 5.31" Diameter of Crank shaft journals 5.5/8" Diameter of Crank pin 5.5/8" Size of Crank webs 12" x 4 3/16"
 Diameter of screw 7' 6" Pitch of screw 9' 0" No. of blades 4 State whether moveable No Total surface 15 f

No. of Feed pumps 1 Diameter of ditto 2 1/4" Stroke 10" Can one be overhauled while the other is at work ✓

No. of Bilge pumps 1 Diameter of ditto 2 1/4" Stroke 10" Can one be overhauled while the other is at work ✓

No. of Donkey Engines One Sizes of Pumps 6" x 3" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" dia + ejector 1 1/4" dia. In Hold, &c. One 2" dia + ejector 1 1/4" dia.

No. of bilge injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump yes 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 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 None How are they protected ✓

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessels Is the screw shaft/tunnel watertight None

Is it fitted with a watertight door ✓ worked from ✓

OILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 660 f

No. and Description of Boilers One, multitubular single ended Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbs

Date of test 4-5-96 Can each boiler be worked separately ✓ Area of fire grate in each boiler 30 f No. and Description of safety valves to each boiler 2 - direct spring Area of each valve 4.9 sq" Pressure to which they are adjusted 120 lbs Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 6" Mean diameter of boilers 9' 6 1/16"

Length 9' 0" Material of shell plates Steel Thickness 1/2" Description of riveting: circum. seams Lap & Rivd. long. seams S.B.S. & Rivd.

Diameter of rivet holes in long. seams 15/16" Pitch of rivets 4 15/16" Lap of plates or width of butt straps 10"

Per centages of strength of longitudinal joint 81 Working pressure of shell by rules 126 lbs Size of manhole in shell 16" x 12"

Size of compensating ring Mc Neils No. and Description of Furnaces in each boiler 2 - plain Material Steel Outside diameter 37 3/16"

Length of plain part 6.4 ft Thickness of plates 19/32" Description of longitudinal joint S.B.S.S. Rivd No. of strengthening rings ✓

Working pressure of furnace by the rules 130 lbs Combustion chamber plates: Material Steel Thickness: Sides 15/32" Back 15/32" Top 9/16" Bottom 15/32"

Pitch of stays to ditto: Sides 7" Back 6 3/4" Top 9 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 128 lbs

Material of stays Steel Diameter at smallest part .76 Area supported by each stay 4.9 sq" Working pressure by rules 123 lbs End plates in steam space: Material Steel Thickness 29/32" Pitch of stays 18" How are stays secured by doubling strips Working pressure by rules 156 lbs Material of stays Steel

Diameter at smallest part 4.770" Area supported by each stay 32.4 sq" Working pressure by rules 132 lbs Material of Front plates at bottom Steel

Thickness 5/8" Material of Lower back plate Steel Thickness 21/32" Greatest pitch of stays 11 1/8" Working pressure of plate by rules 153 lbs

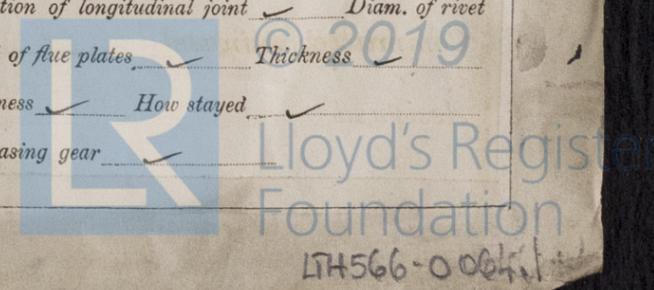
Diameter of tubes 3 1/2" Pitch of tubes 4 1/16" x 4 3/4" Material of tube plates Steel Thickness: Front 5/8" Back 1/16" Mean pitch of stays 9 1/2"

Pitch across wide water spaces 13" 1/2" Working pressures by rules 173 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 5" x 1" Length as per rule 18" Distance apart 9 1/4" Number and pitch of Stays in each 2 - 7"

Working pressure by rules 123 lbs Superheater or Steam chest; how connected to boiler None 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 ✓

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 ✓



DONKEY BOILER— Description *None*

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 enter the donkey boiler Diameter of donkey boiler Length Material of shell plates Thickness

Description of riveting long. seams Diameter 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:— *As per Rule.*

The foregoing is a correct description,

John Lewis & Co Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boilers of this vessel have been constructed under special survey & the materials & workmanship are sound & good. The engines have been tried & the boiler safety valves adjusted, under steam, at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of +L.M.C. 6, 96. The approved boiler tracing is forwarded herewith.*

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 6. 96.

J.S.
28.7.96

Emd.
28.7.96

Certificate (if required) to be sent to

The amount of Entry Fee. . . £ 1 : - : - When applied for,
Special £ 8 : - : - 27th July 1896
Donkey Boiler Fee £ - : - : - When received,
Travelling Expenses (if any) £ - : - : - 11-4 26th 10th 1896

Thomas Field
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *9-11-4* WRITTEN: *4/11/96 W.M.B.*
FRI, JUL 31 1896

Assigned *+ L.M.C. 6. 96*

Official Letter
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The Surveyors are requested not to write on or below the space for Committee's Minute.