

Swan Hunter & W Richardson L^{ts} S. S. No 760

Rpt. 4.

REPORT ON MACHINERY.

No. 51123

Port of Newcastle on Tyne Received at London MON. 13 AUG 1906

No. in Survey held at Newcastle Date, first Survey 14 Feb 1906 Last Survey 14 Aug 1906
Reg. Book. (Number of Visits 29)

on the Steel S. S. BRAUNFELS Tons Gross 5551 Net 559
Master Newcastle Built at Newcastle By whom built Swan Hunter & W Richardson L^{ts} When built 1906

Engines made at Newcastle By whom made Swan Hunter & W Richardson L^{ts} when made 1906
Boilers made at D By whom made D when made 1906

Registered Horse Power 500 Owners Messrs The Hansa Co. Port belonging to Bremen
Nom. Horse Power as per Section 28 500 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4
Dia. of Cylinders 24-34-51-74 Length of Stroke 54 Revs. per minute 60 Dia. of Screw shaft as per rule 15-35 Material of screw shaft Steel
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 tapped or protected between the liners Yes Length of stern bush 72
Dia. of Tunnel shaft as per rule 13-5 Dia. of Crank shaft journals as per rule 14-17 Dia. of Crank pin 14 3/4 Size of Crank webs 22 1/2 x 9 1/2 Dia. of thrust shaft under collars 15 Dia. of screw 19-0 Pitch of Screw 21-0 No. of Blades 4 State whether moveable Yes Total surface 112 sq ft
No. of Feed pumps 2 Diameter of ditto 4 Stroke 28 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 28 Can one be overhauled while the other is at work Yes
No. of Donkey Engines 2 Sizes of Pumps 15 3/4 x 23 5/8 - 6 x 11 3/4 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Six 3 1/2 In Holds, &c. In all holds two 3 1/2

Tunnel well One 3 1/2
No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump CP Is a separate Donkey Suction fitted in Engine room & size Yes 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 Yes
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 & below
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 For Bilge Suction 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 June 1906 of Stern Tube June 1906 Screw shaft and Propeller June 1906
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.—(Letter for record R) Manufacturers of Steel J Spence & Son
Total Heating Surface of Boilers 63724 Is Forced Draft fitted Yes No. and Description of Boilers 3. Steel Cylindrical
Working Pressure 213 Tested by hydraulic pressure to 426 Date of test 18-6-06 No. of Certificate 7250
Can each boiler be worked separately Yes Area of fire grate in each boiler 53 sq ft No. and Description of Safety Valves to each boiler 2 Spring Area of each valve 8-25 Pressure to which they are adjusted 218 Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 2-6 Mean dia. of boilers 14-0 Length 12-0 Material of shell plates S
Thickness 1 1/2 Range of tensile strength 283 3/4 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams d lap
long. seams d shap Diameter of rivet holes in long. seams 19/16 Pitch of rivets 9 7/8 Lap of plates or width of butt straps 22 9/16
Per centages of strength of longitudinal joint rivets 96 Working pressure of shell by rules 246 Size of manhole in shell 16 x 12
plate 84
Size of compensating ring 9 x 1 1/2 No. and Description of Furnaces in each boiler 3 Morrison Material S Outside diameter 44
Length of plain part top 5/8 Thickness of plates crown 5/8 Description of longitudinal joint welded No. of strengthening rings 1
bottom 1 3/32 Working pressure of furnace by the rules 229 Combustion chamber plates: Material S Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 1 3/32
Pitch of stays to ditto: Sides 7 3/8 x 7 3/4 Back 7 3/4 x 7 3/4 Top 7 3/8 x 7 3/8 If stays are fitted with nuts or riveted heads nut Working pressure by rules 244
Material of stays Iron Diameter at smallest part 2-36 Area supported by each stay 61 Working pressure by rules 290 End plates in steam space:
Material S Thickness 1 1/4 Pitch of stays 15 1/2 x 14 3/4 How are stays secured d n & w Working pressure by rules 218 Material of stays S
Diameter at smallest part 5-56 Area supported by each stay 223 Working pressure by rules 249 Material of Front plates at bottom S
Thickness 1 Material of Lower back plate S Thickness 1 Greatest pitch of stays in plan Working pressure of plate by rules 44-213
Diameter of tubes 2 1/2 Pitch of tubes 33 1/4 x 33 1/4 Material of tube plates S Thickness: Front 1 Back 7/8 Mean pitch of stays 21 1/8
Pitch across wide water spaces 13 1/2 Working pressures by rules 238 Girders to Chamber tops: Material S Depth and thickness of girder at centre 11 1/4 x 13 1/8 Length as per rule 33 1/2 Distance apart 7 1/8 Number and pitch of stays in each 3-7 5/8
Working pressure by rules 252 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately
Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes 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

6210-261X
X193-0129

VERTICAL DONKEY BOILER—

Manufacturers of Steel *Spence & Co*

No. *One* Description *Clean See attached Report.*

Made at *New* By whom made *Swan Hunter & W Richardson* When made *1906* Where fixed *Shetland*

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 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 _____ 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 _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Spare Propeller Blade, Tail shaft, Crank shaft Two top end, two bottom end, two main bearing & set of coupling bolt, Slide rod, Air pump rod, various levers, feed & lift valves, piston springs, assorted bolts & nuts, a few bars of iron & other gear.*

FOR *The foregoing is a correct description,*
SWAN, HUNTER & WIGHAM RICHARDSON, LTD.
John H. Hech Manufacturer.

Dates of Survey while building { During progress of work in shops— *1906 Feb 14, 1907 March 14, April 16, 1908 June 7, 14, 18, 20, 22, 25, 27, 29, July 1, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 1906*
During erection on board vessel— *August*
Total No. of visits *29* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *June 06* Slides *June 06* Covers *June 06* Pistons *June 06* Rods *June 06*
Connecting rods *June 06* Crank shaft *June 06* Thrust shaft *June 06* Tunnel shafts *June 06* Screw shaft *June 06* Propeller *June 06*
Stern tube *July 06* Steam pipes tested *29.6.06* Engine and boiler seatings *July 06* Engines holding down bolts *July 06*
Completion of pumping arrangements *July & Aug: 06* Boilers fixed *Aug: 1906* Engines tried under steam *Aug: 1906*
Main boiler safety valves adjusted *3 Aug: 1906* Thickness of adjusting washers *2/16 1/2 7/16 19/32 7/16 7/16 5/8*
Material of Crank shaft *Steel* Identification Mark on Do. *17.2823.50* Material of Thrust shaft *Steel* Identification Mark on Do. *1906-1907*
Material of Tunnel shafts *Steel* Identification Marks on Do. *1906-1907* Material of Screw shafts *Steel* Identification Marks on Do. *1906-1907*
Material of Steam Pipes *Wrot Iron* Test pressure *660 lb.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Mach: is practically a duplicate of that fitted in the S-S R. Heimfeld's "Hive" Rep: 129127*
The material & workmanship is good.
The Mach: has been built under special survey & is eligible in my opinion for classification & the record. + L.M.C. 8-06.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 8.06. The light FD.

C.M.
13.8.06

13.8.06

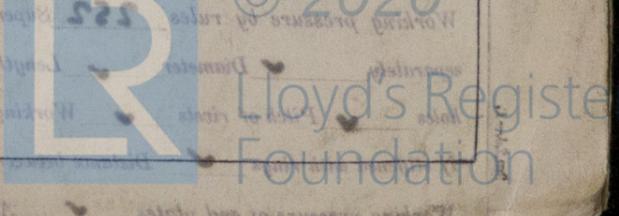
The amount of Entry Fee. £ *53* : : When applied for, *11 Aug 1906*
Special £ *45* : :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : : When received, *15/8/06*

John H Hech
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUES. 14 AUG 1906*

Assigned *L.M.C. 8.06*
F. D. Elec. light

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to Committee's Minute.