Mess Swan Hunter & W Richardson Ltd S.S. 796

Rpt. 4.

REPORT ON MACHINERY.

No. 55625.

Port of Newcastle on Tyne Received at London Office TUES. 27 OCT 1908

No. in Reg. Book. 87 Survey held at Newcastle Date, first Survey Nov. 6th '07 Last Survey 26 Oct. 1908 (Number of Visits 5)

on the Steel S.S. "FANGTURM" (S/S 796) Tons Gross 5004 Net 3170.

Master Built at Newcastle By whom built Swan Hunter & W Richardson When built 1908

Engines made at Newcastle By whom made Swan Hunter & W Richardson Ltd when made 1908

Boilers made at Do By whom made Do when made 1908.

Registered Horse Power Owners Hansa Deutsche Dampfschiff Act Ges Port belonging to Bremen

Nom. Horse Power as per Section 28 ~~475~~ 470 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 23, 31½-48-71 Length of Stroke 51 Revs. per minute 64 Dia. of Screw shaft as per rule 14.74 as fitted 15 3/16 Material of screw shaft I 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 ✓ 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 ✓ Length of stern bush 7½

Dia. of Tunnel shaft as per rule 12-82 as fitted 13 5/16 Dia. of Crank shaft journals as per rule 13-46 as fitted 14 Dia. of Crank pin 14 Size of Crank webs 21 x 9 1/16 Dia. of thrust shaft under collars 14¼ Dia. of screw 18'-6" Pitch of Screw 19'-3" No. of Blades 4 State whether moveable Yes Total surface 100 ☐ft

No. of Feed pumps 2 Diameter of ditto 3¾ Stroke 28 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4½ Stroke 28 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps C 13¾ x P 15¾ x S 23⅝, C 9⅞ x P 6 x S 11⅞ No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 6 - 3½ In Holds, &c. Two of 3½ in each hold. Tunnel Well - One 3

No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump C P Is a separate Donkey Suction fitted in Engine room & size Yes 3½ ✓

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 bolt-

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 at line & 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'd bilge pipes 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 24-8-08 of Stern Tube 24-8-08 Screw shaft and Propeller 24-8-08

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 I Spencer & Son.

Total Heating Surface of Boilers ~~6218~~ 6216 ☐ft Is Forced Draft fitted Yes No. and Description of Boilers Three Cyl. Mult:, S End.

Working Pressure 213 Tested by hydraulic pressure to 426 Date of test 4-9-08 No. of Certificate 7751

Can each boiler be worked separately Yes Area of fire grate in each boiler 51 ☐ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 7 ☐" Pressure to which they are adjusted 218 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 27 ~~Mean~~ outside dia. of boilers 13-11 Length 11-7½ Material of shell plates S

Thickness 23/16 Range of tensile strength 28¾ to 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams d lap long. seams d straps Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 9⅞ ~~Lap of plates or~~ width of butt straps 21¼

Per centages of strength of longitudinal joint rivets 84-6 plate 85-5 Working pressure of shell by rules 245 Size of manhole in shell 16 x 12

Size of compensating ring 9 x 1 7/16 No. and Description of Furnaces in each boiler 3 Suspension Material S Outside diameter 42 3/8

Length of plain part top ∫ bottom Thickness of plates crown 5/8 bottom Description of longitudinal joint Weld No. of strengthening rings ✓

Working pressure of furnace by the rules 238 Combustion chamber plates: Material S Thickness: Sides 21/32 Back 21/32 Top 21/32 Bottom 1/32

Pitch of stays to ditto: Sides 7¾ x 7⅞ Back 7⅞ x 7¾ Top 7⅞ x 7⅝ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 244

Material of stays Iron ~~Diameter~~ area at smallest part 2-03 Area supported by each stay 61 Working pressure by rules 249 End plates in steam space:

Material S Thickness 1 3/32 Pitch of stays 7½ x 14¾ How are stays secured dn & lw. Working pressure by rules 219 Material of stays S

~~Diameter~~ area at smallest part 6-65 Area supported by each stay 258 Working pressure by rules 268 Material of Front plates at bottom S

Thickness 1 Material of Lower back plate S Thickness 1 Greatest pitch of stays as per plan Working pressure of plate by rules 213

Diameter of tubes 2½ Pitch of tubes 3¾ x 3¾ Material of tube plates S Thickness: Front 1 Back 7/8 Mean pitch of stays 8 13/16

Pitch across wide water spaces 13½ Working pressures by rules 222 Girders to Chamber tops: Material S Depth and thickness of girder at centre 11¼ x 1 3/8 Length as per rule 33½ Distance apart 7 7/8 Number and pitch of stays in each 3 - 7 5/8

Working pressure by rules 272 Superheater or Steam chest; how connected to boiler ✓ 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 ✓

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 ✓

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. One Description See attached report

Made at ____ By whom made ____ When made ____ Where fixed Stokehold.

Working pressure ____ tested by hydraulic pressure to ____ Date of test ____ No. of Certificate ____ Fire grate area ____ Description of Safet

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, Crank Shaft, Tail Shaft, two top end, two bottom end, two main bearing & one set coupling bolts, piston rings, two slide rods, Air pump rod, Connecting rod brasses, pump links, assorted bolts & nuts, a few bars of iron & other small gear. also fwd & bilge V

The foregoing is a correct description,

FOR SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

G F Queen

Manufacturer.

Dates of Survey while building — During progress of work in shops— 1907. Nov. 1 & 6. 10. 12. 17. 19. 20. 23. 24. 1908 Jan. 7. 10. 16. 23. 27. 30. Feb. 4. 11. 19. 26. Mch. 4. 14. 21. 24. Apl. 1. 14. 15. 24. 27. May. 4. 13. 26.

During erection on board vessel — June 4. 15. 29. July. 14. 23. Aug. 7. 19. 24. Sep. 2. 14. 7. 10. 17. 25. Oct. 12. 19. 21. 23. 24. 26.

Total No. of visits 51

Is the approved plan of main boiler forwarded herewith Yes (amended)

" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 15-1-08 Slides 15-1-08 Covers 27-1-08 Pistons 27-1-08 Rods 15-1-08

Connecting rods 15-1-08 Crank shaft 26-2-08 Thrust shaft 27-1-08 Tunnel shafts 27-1-08 Screw shaft 29-6-08 Propeller 29-6-08

Stern tube 29-6-08 Steam pipes tested 25-2-08 Engine and boiler seatings 29-6-08 Engines holding down bolts 12-10-08

Completion of pumping arrangements 22-10-08 Boilers fixed 12-10-08 Engines tried under steam 19-10-08

Main boiler safety valves adjusted 26-10-08 Thickness of adjusting washers see letter attached.

Material of Crank shaft I Steel Identification Mark on Do. Lloyds PA 2431 Material of Thrust shaft I Steel Identification Mark on Do. Lloyds I-H-H-1908

Material of Tunnel shafts I Steel Identification Marks on Do. Lloyds I-H-H-1908 Material of Screw shafts I Steel Identification Marks on Do. Lloyds I-H-H-1908

Material of Steam Pipes Wrot Iron. Steel Test pressure 639

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

The Material & Workmanship is good.
The Machinery has been built under special Survey & is eligible in my opinion for classification & the record + LMC. 10-08

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 10.08
Elec Light. F.D.
AHR
27.10.08

The amount of Entry Fee..	£	3 : 0	:	When applied for, 26 OCT 1908
Special	£	43 : 10	:	
Donkey Boiler Fee	£	2 : 2	:	When received, 28 OCT 1908
Travelling Expenses (if any)	£	:	:	

29.10.08

John H Heck.

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

Committee's Minute TUES. 27 OCT 1908

Assigned + L.M.C. 10.08
F.D. Elec. Light

MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to Forwarded 29-10-08

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