

REPORT ON MACHINERY.

No. 57166

Port of Newcastle on Tyne Received at London Office 11th 17 AUG 1909

No. in Survey held at 10 Date, first Survey 7th Jan 1909 Last Survey 6th Aug 1909
Reg. Book. S. S. Annaberg (Number of Visits 46)

on the S. S. Annaberg

Master Walker Built at Walker By whom built Swan Hunter & Wigham Richardson Tons { Gross 4463
Net 2798
When built 1909

Engines made at Walker By whom made Swan Hunter & Wigham Richardson when made 1909

Boilers made at Walker By whom made Wigham when made 1909

Registered Horse Power 523 Owners Deutch Australische D.G. Port belonging to Hamburg

Nom. Horse Power as per Section 28 523 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Inverted, triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27. 45. 74 Length of Stroke 54 Revs. per minute 70 Dia. of Screw shaft 15.44 Material of S. S. steel
as per rule 15.44 as fitted 15.44 screw shaft

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 5.3

Dia. of Tunnel shaft 13.95 Dia. of Crank shaft journals 14.64 Dia. of Crank pin 15 Size of Crank webs 22.5 x 9.5 Dia. of thrust shaft under collars 15.4 Dia. of screw 18.6 Pitch of Screw 18.6 No. of Blades 4 State whether moveable no Total surface 1097

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 4.5 Stroke 28 Can one be overhauled while the other is at work yes

No. of Donkey Engines 4 Sizes of Pumps 6 x 8 x 6 & 7 x 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps 2 of 3.5 to each & 1 of 2.5 tunnel well

In Engine Room 4 of 3.5 In Holds, &c. 2 of 3.5 to each & 1 of 2.5 tunnel well

No. of Bilge Injections 1 sizes 9 Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 3.5

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

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 hold suction How are they protected strong wood casings

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 19.6.09 of Stern Tube 19.6.09 Screw shaft and Propeller 19.6.09

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record yes) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 7389 Is Forced Draft fitted yes No. and Description of Boilers 3 S.E. Cyl. Mull.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 2.6.09 No. of Certificate 7859

Can each boiler be worked separately yes Area of fire grate in each boiler 64.3 No. and Description of Safety Valves to each boiler 2 spring Area of each valve 12.56 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2.3 Mean dia. of boilers 15.3 Length 12.0 Material of shell plates steel

Thickness 1.4 Range of tensile strength 28.5/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap long. seams l. r. d. s. Diameter of rivet holes in long. seams 1.56 Pitch of rivets 9 Lap of plates or width of butt straps 19.5

Per centages of strength of longitudinal joint rivets 89.3 Working pressure of shell by rules 188 lbs Size of manhole in shell 16 x 12 plate 88.3

Size of compensating ring 9 x 1.4 No. and Description of Furnaces in each boiler 3 suspension Material steel Outside diameter 49.7

Length of plain part top 19.32 Thickness of plates bottom 19.32 Description of longitudinal joint weld No. of strengthening rings 1

Working pressure of furnace by the rules 189 lbs Combustion chamber plates: Material steel Thickness: Sides 2.5 Back 5/8 Top 2.5 Bottom 1.32

Pitch of stays to ditto: Sides 7.5 x 7.5 Back 7.5 x 7.5 Top 8.5 x 7.5 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 217.7 lbs

Material of stays Iron Diameter at smallest part 2.03 Area supported by each stay 62 Working pressure by rules 245 lbs End plates in steam space: Material steel Thickness 1 Pitch of stays 17 x 15.5 How are stays secured d. r. w. Working pressure by rules 180 lbs Material of stays steel

Diameter at smallest part 5.56 Area supported by each stay 261.37 Working pressure by rules 213 lbs Material of Front plates at bottom steel

Thickness 1 Material of Lower back plate steel Thickness 7/8 Greatest pitch of stays as per plan Working pressure of plate by rules 183 lbs

Diameter of tubes 2.5 Pitch of tubes 4 x 4 Material of tube plates steel Thickness: Front 1 Back 3/4 Mean pitch of stays 12 x 8

Pitch across wide water spaces 13.5 Working pressures by rules 189 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 11 x 13 Length as per rule 34.6 Distance apart 8.5 Number and pitch of stays in each 3 - 7.5

Working pressure by rules 204 lbs Superheater or Steam chest; how connected to boiler yes 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 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

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 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:— Propeller, propeller shaft, 1 pair top end, 1 pair bottom end, brasses, Air & Oil pump rods, 1 slide rod, 1 slot link block, 1 pump end link, 1 engine end link, 1 set feed and bilge pump Valves & seats, 1 set Air pump Valves, 1 set H.P. piston Valve rings, 1 set H.P. M.P. piston springs, 3 feed check Valves, 2 top end, 2 bottom end, 2 main bearing & 1 set of coupling bolts, Bolts & nuts assorted and view of angles

The foregoing is a correct description,

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

Manufacturer.

Dates of Survey while building: During progress of work in shops: Jan 7. 12. 25. Feb 2. 3. 4. 17. 18. 22. Mar 1. 5. 9. 24. 25. 29. Apr 5. 7. 8. 13. 16. 19. 23. 27. May 5. 7. 10. 17. During erection on board vessel: May 21. 24. 25. 28. Jun 2. 20. 29. Jul 6. 7. 9. 12. 13. 15. 20. 21. 27. 29. Aug 4. 6.

Total No. of visits: 46

Is the approved plan of main boiler forwarded herewith: Yes

Dates of Examination of principal parts—Cylinders 19.3.09 Slides 19.3.09 Covers 19.3.09 Pistons 19.3.09 Rods 19.3.09

Connecting rods 19.3.09 Crank shaft 7.4.09 Thrust shaft 13.4.09 Tunnel shafts 13.4.09 Screw shaft 10.5.09 Propeller 10.5.09

Stern tube 24.5.09 Steam pipes tested 25.5.26 June 1909 Engine and boiler seatings 28.5.09 Engines holding down bolts 15.7.09

Completion of pumping arrangements 29.7.09 Boilers fixed 15.7.09 Engines tried under steam 29.7.09

Main boiler safety valves adjusted 29.7.09 Thickness of adjusting washers S.P. $\frac{7}{16}$, S.S. $\frac{3}{8}$, M.P. $\frac{1}{2}$, M. $\frac{5}{8}$, P.P. $\frac{3}{8}$, P.S. $\frac{7}{8}$

Material of Crank shaft Steel Identification Mark on Do. 2931 P.A. Material of Thrust shaft Steel Identification Mark on Do. J.H.H. 1909

Material of Tunnel shafts Steel Identification Marks on Do. J.H.H. 1909 Material of Screw shafts Steel Identification Marks on Do. J.H.H. 1909

Material of Steam Pipes Steel Test pressure 550 lbs

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam ahead and astern & worked satisfactorily

We beg to recommend that this vessel is eligible in our opinion to have the record L.M.C. 8.09 in the Register Book

The amount of Entry Fee £ 3 : 0 : 0 When applied for, 18 AUG 1909

Special .. £ 46 : 2 : 0

Donkey Boiler Fee .. £ : : When received, 18.8.1909

Travelling Expenses (if any) £ : : 19.8

Committee's Minute

Assigned

John H Heck & R.W. Coomber. Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.