

REPORT ON MACHINERY.

Port of Sunderland

MON 3 MAY 1897

No. in Survey held at Sunderland Date, first Survey 16th June 1896 Last Survey 8th Mar 1897
 g. Book. (Number of Visits 39)
 on the Screw Steamer "Annie" Tons { Gross 3743.24
 Net 2445.41
 Master Richard. Grahl Built at Hartlepool By whom built Furness, Withy & Co When built 1897
 Engines made at Sunderland By whom made W. Allan & Co Ld when made 1897
 Millers made at Sunderland By whom made W. Allan & Co Ld when made 1897
 Registered Horse Power _____ Owners J. B. Guthe & Co Port belonging to Nest Hartlepool
 m. Horse Power as per Section 28 299 Is Electric Light fitted No

GINES, &c.—Description of Engines Tri compound No. of Cylinders 3 No. of Cranks 3
 Diameter of Cylinders 25" 40" 66" Length of Stroke 45" Revolutions per minute 70 Diameter of Screw shaft as per rule 11.84"
 Diameter of Tunnel shaft as fitted 11.25" Diameter of Crank shaft journals 12 1/4" Diameter of Crank pin 12 1/4" Size of Crank webs 16 1/2" x 8 7/8"
 Diameter of screw 16' 6" Pitch of screw 16' 0" No. of blades 4 State whether moveable no Total surface 75 sq ft
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 10" x 12" & 5 1/2" x 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room P 3 1/2" C 3 1/2" S 3 1/2" In Holds, &c. Four. — One 3 1/2" dia to No 1 Well.
One 3 1/2" dia. to No 2 Well. One 3 1/2" dia to No 3 Well. & One 3 1/2" dia. to No 4 & after wells and after Bulk.
 No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump C. P. 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 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
 Are that 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 vessel Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes. worked from top platform of engine Room.

ILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 4600 sq ft Is forced draft fitted no
 No. and Description of Boilers 2 Cyl. Multiblr S. ended Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs
 Date of test 19.12.96 Can each boiler be worked separately yes Area of fire grate in each boiler 62.5 sq ft No. and Description of safety valves to
 each boiler 2 spring Area of each valve 8.3 sq in Pressure to which they are adjusted 165 lbs Are they fitted
 with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 2 ft. Mean diameter of boilers 15' 3 5/8"
 Length 11' 0 1/2" Material of shell plates S Thickness 1 1/16" Description of riveting: circum. seams a.r. lap long. seams d.r. butt
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 7/8" Lap of plates or width of butt straps 16"
 Percentages of strength of longitudinal joint rivets 86.29 Working pressure of shell by rules 160 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 28" x 26" x 1 3/16" No. and Description of Furnaces in each boiler 4 plain Material S Outside diameter 39"
 Length of plain part top 6' 2" Thickness of plates crown 23" Description of longitudinal joint welded No. of strengthening rings 12"
 bottom 7' 0" bottom 32" Working pressure of furnace by the rules 164 Combustion chamber plates: Material S Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 5/8"
 Pitch of stays to ditto: Sides 8 1/4" x 8" Back 8 1/4" x 8" Top 8 1/4" x 8 1/4" stays are fitted with nuts or riveted heads nuts Working pressure by rules 161
 Material of stays S Diameter at smallest part 1.350 Area supported by each stay 68 sq in Working pressure by rules 176 End plates in steam space:
 Material S Thickness 1 3/32" Pitch of stays 18" x 15 3/4" How are stays secured d. nuts Working pressure by rules 175 Material of stays S
 Diameter at smallest part 2.50 Area supported by each stay 324 sq in Working pressure by rules 176 Material of Front plates at bottom S
 Thickness 3/4" Material of Lower back plate S Thickness 3/4" Greatest pitch of stays 14" Working pressure of plate by rules 209
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/4" x 4 5/8" Material of tube plates S Thickness: Front 3/4" Back 3/4" Mean pitch of stays 8 1/2" x 9 1/4"
 Pitch across wide water spaces 14" Working pressures by rules 209 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 7 1/4" x 1.5" Length as per rule 29' 6" Distance apart 8 1/4" Number and pitch of Stays in each 2 of 8 1/4"
 Working pressure by rules 171 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 ✓

* See appended Report

2 DONKEY BOILER Description *Sudrons Patent*
 Made at *Stockton* By whom made *Sudron & Co^o Ltd* When made *26.12.96* Where fixed *Stokehole*
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *1441* Fire grate area *25.9* Description of safety valves *Spring direct*
 No. of safety valves *2* Area of each *5.94* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *Yes* If steam from main boilers enter the donkey boiler *NO* Diameter of donkey boiler *6' 6"* Length *15' 0"* Material of shell plates *steel* Thickness *7/16"*
 Description of riveting long. seams *d. r. lap* Diameter of rivet holes *13/16"* Whether punched or drilled *drilled* Pitch of rivets *2"*
 Lap of plating *4 1/4"* Per centage of strength of joint Rivets *73* Thickness of shell crown plates *17/32"* Radius of do. *5' 9"* No. of Stays to do. *gus*
 Dia. of stays *2"* Diameter of furnace Top *5' 5"* Bottom *5' 10"* Length of furnace *3' 3"* Thickness of furnace plates *5/8"* Description
 joint *lap s. r.* Thickness of furnace crown plates *9/16"* Stayed by *dished* Working pressure of shell by rules *83*
 Working pressure of furnace by rules *81 lbs* Diameter of uptake *2 1/2"* Thickness of uptake plates *3/4"* Thickness of stay tubes *1/4"*

SPARE GEAR. State the articles supplied:— *Top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, feed & bilge pump valves, propeller, bolts nuts & iron assorted. Tail end shaft & 1/3 crank shaft.*

The foregoing is a correct description,

WILLIAM ALLAN & CO., LIMITED

Manufacturer. of main engines & boilers.

Henry Dumble
 Dates of Survey while building
 During progress of work in shops -
 During erection on board vessel -
 Total No. of visits
1896 June 16. 30. July 9. 15. 16. 18. 31. Aug. 27. Sept. 12. 15. 21. Oct. 3. 20. 30. Nov. 2. 4. 11. 13. 26. 30. Dec. 4. 8. 10. 17. 19. 21. 1897 Jan. 11. 12. 14. 21. Feb. 20. 23. 27. Mar. 1. 2. 3. 4. 8. (39)
W. H. Pl. 1897. April 5. 15. 26

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

The machinery of this vessel has been constructed under special survey, the materials & workmanship being good & efficient, & the engines when tried under steam worked satisfactorily. The main steam pipes were tested by hydraulic ^{pressure} to 320 lbs, & to complete the machinery survey, the following work requires to be done viz:— Suctions to tanks, holds & tunnel well to fit as per approved plan the tunnel to be made watertight & fitted with a watertight door, & donkey boiler mountings fitted & boiler tried under steam.

On completion of the above mentioned work the vessel will, in my opinion, be then eligible for the notification in the Register Book of L.M.C. 4. 97.

The above mentioned incomplete work, has been satisfactorily finished.

An additional donkey boiler has been fitted. See attached Report.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4. 97

The amount of Entry Fee. £ *2* : : : When applied for,
 Special £ *34. 19* : : : *4. 5. 97*
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : : *15/4/97*

Committee's Minute

TUES 4 MAY 1897

Assigned

+ L.M.C. 4. 97

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



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Lloyd's Register Foundation

Certificate (if required) to be sent to WEST HARTLEPOOL.

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