

REPORT ON MACHINERY.

Port of MIDDLESBROUGH-ON-TEES,Received at London Office MUN. MAR 25 1901

No. in Survey held at

Date, first Survey 14th March 1900Last Survey 16th March 1901

Book.

(Number of Visits 109)Name of the Steel screw steamer Alleghany.Built at H. Evans & Co. Ltd. Hartlepool By whom built Furness, Withy & Co. Ltd. Liverpool When built 1901Machines made at Middlesbrough-tees By whom made Richardsons, Westgarth & Co. Ltd. when made 1901.Boilers made at " By whom made " when made 1901.

Registered Horse Power

Owners British Maritime Trust Ltd. Port belonging to H. HartlepoolHorse Power as per Section 28 380.Is Refrigerating Machinery fitted NoIs Electric Light fitted No

GINES, &c.—Description of Engines

See compoundNo. of Cylinders 3.No. of Cranks 3.Diameter of Cylinders 25", 40", 68" Length of Stroke 48" Revs. per minute 65. Dia. of Screw shaft as per rule 13.26Dia. of Tunnel shaft as fitted 12.2" Dia. of Crank shaft journals as per rule 12.63 Dia. of Crank pin 13.4" Size of Crank webs 21" x 10" Dia. of thrust shaft underShafts 13.4" Dia. of screw 18.0" Pitch of screw 14.0" No. of blades 4. State whether moveable No. Total surface 90 sq. ft.No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes.No. of Bilge pumps 2 Diameter of ditto 4.2" Stroke 24" Can one be overhauled while the other is at work Yes.No. of Donkey Engines 2 Sizes of Pumps Feed 1 1/2" x 5.26" Duplex No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room Three of 32" dia. In Holds, &c. Three. Two 3 1/2" in each hold, one2 1/2" in after well.No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump No. Is a separate donkey suction fitted in Engine room & size Yes: 6"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 all pipes 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.Have the stern tube, propeller, screw shaft, and all connections examined in dry dock See below Is the screw shaft tunnel watertight Yes.Is it fitted with a watertight door Yes worked from Upper platformBOILERS, &c.— (Letter for record (S)) Total Heating Surface of Boilers 6300 sq. ft. Is forced draft fitted No.and Description of Boilers Three, Cyl. built, Single Ended. Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.No. of test (1) 22.1.01. Can each boiler be worked separately Yes. Area of fire grate in each boiler 49.5 sq. ft. No. and Description of safety valves toeach boiler 1 Double, direct spring. Area of each valve 9.62 sq. ft. 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 As side tanks. Mean dia. of boilers 14.3" Length 11.0" Material of shell plates S.Thickness 19/32" Range of tensile strength 29.5 Are they welded or flanged No. Descrip. of riveting: cir. seams D. P. lap. long. seams St. l. steps.Diameter of rivet holes in long. seams 15/16" Pitch of rivets 8 3/4" 2 rows. Lap of plates or width of butt straps 19 1/2" x 1 1/4" thick.Percentages of strength of longitudinal joint 89.6 Working pressure of shell by rules 206.9 lbs. Size of manhole in shell 16" x 12"No. of compensating ring 35 x 20 x 1 1/2" No. and Description of Furnaces in each boiler 3. Induction. Material S. Outside diameter 41 1/4"Length of plain part top 4.8" Thickness of plates bottom 32" Description of longitudinal joint weld. No. of strengthening rings ✓Working pressure of furnace by the rules 196. Combustion chamber plates: Material S. Thickness: Sides 32" Back 32" Top 32" Bottom 16"No. of stays to ditto: Sides 4 1/2" x 4 1/2" Back 4 1/2" x 4 1/2" Top 4 1/2" x 4 1/2" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 196.5Material of stays S. Diameter at smallest part 1 5/8" Area supported by each stay 62 sq. ft. Working pressure by rules 280.4 End plates in steam space:Material S. Thickness 16" Pitch of stays 15" x 14 1/2" How are stays secured D. N. W. Working pressure by rules 191.2 Material of stays S.Diameter at smallest part 2 1/2" Area supported by each stay 214.5 sq. ft. Working pressure by rules 226.4 Material of Front plates at bottom S.Thickness 16" Material of Lower back plate S. Thickness 8" Greatest pitch of stays 15" x 4 1/2" Working pressure of plate by rules 229.Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates S. Thickness: Front 16 1/2" x 5/8" Back 3 1/4" Mean pitch of stays 9 1/2"Thickness across wide water spaces 14 1/2" Working pressures by rules 3. 223.3 Girders to Chamber tops: Material S. Depth andThickness of girder at centre 8 1/2" x 13 1/4" Length as per rule 28" Distance apart 4 1/2" Number and pitch of Stays in each Two: 4 1/2"Working pressure by rules 284. Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler workedseparately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓Fitted 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—

No. *one* Description *"Blakes patent" (wet back)*
 Made at *Middlesbrough* By whom made *Richardsons, Westgarth & Co. L^d* When made *1.12.00* Where fixed *In stockhold.*
 Working pressure *82 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2286* Fire grate area *19.97* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *5.94* Pressure to which they are adjusted *85 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *4' 0"* Length *15' 0"* Material of shell plates *S.* Thickness *3/32"* Range of tensile strength *32* Descrip. of riveting long. seams *lap double riveted* Dia. of rivet holes *5/16"* Whether punched or drilled *drilled* Pitch of rivets *3"*
 Lap of plating *4"* Per centage of strength of joint *85%* Rivets *8.5.4* Thickness of shell crown plates *5/32"* Radius of do. *4 1/2"* No. of Stays to do. *12*
 Dia. of stays *1"* Diameter of furnace Top *30"* Bottom *64"* Length of furnace *42"* Thickness of furnace plates *3/32"* Description of joint *lap single riveted* Thickness of furnace crown plates *1/2"* Stayed by *3" S. Stays riveted 9 3/4" x 9 3/4" p.* Working pressure of shell by rules *84 1/2*
 Working pressure of furnace by rules *82* Diameter of *tubes* *2 1/2"* Thickness of *tubes* plates *1/8" B. 5"* Thickness of *stay* tubes *5/16"*

SPARE GEAR. State the articles supplied:— *1 propeller; 2 top & 2 bottom end, 2 main bearing, & 1 set coupling bolts & nuts; 2 set each air & circulating pump valves; 1 set feed pump valves; 2 donkey pump valves; 2 rings for piston valves; 1 set Ramsbottom rings & M.P. pistons; 1 set springs L.P. pis; 1 safety valve spring; 1 waste valve spring each size; bolts & nuts assorted & doz of various sizes.*
 The foregoing is a correct description,
 For **RICHARDSONS, WESTGARTH & Co. Ltd.** Manufacturers of Marine Engines & Boilers.

Dates of Survey while building
 During progress of work in shops— *1900, March 6, April 6, May 8, June 8, July 4, Aug. 7, Sept. 10, Oct. 7*
 During erection on board vessel— *Nov. 13, Dec. 7, 1901, Jan. 11, Feb. 15, Mar. 5,*
 Total No. of visits *(incl.) 107. 10th April 1901. Mar. 15. 16. 21. Is the approved plan of main boiler forwarded herewith *yes*.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines & Boilers of this vessel have been built under Special Survey, in accordance with Rule requirements. The materials and workmanship are good & efficient. When completed and properly fitted on board, they were tried under steam at moorings with satisfactory results, and are now in good working order and in our opinion eligible for the notation **L.M.C. 3.01** in the Society's Register Books.*

It is submitted that this vessel is eligible for **THE RECORD. L.M.C. 3.01.**

The amount of Entry Fee, £ *3* 0 0 :
 Special £ *39* 0 0 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *22.3.01*
 When received, *22.3.01*

Committee's Minute

FRI. MAR 29 1901

Assigned

+ L.M.C. 3.01

MACHINERY CERTIFICATE
 WRITTEN.

Richard A. Hirst
 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 W. Warlepool

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