

REPORT ON MACHINERY.

189
No. 11527.

TUES. MAY 28 1901

Port of Hell Hartlepool
Survey held at Hell Hartlepool Date, first Survey 30th Aug 1900 Last Survey 24th May 1901
(Number of Visits 54)
On the S.S. "Vauxhall Bridge"
Reader Built at H. Hartlepool By whom built H. Gray & Co. Ltd.
made at H. Hartlepool By whom made Central Marine Engine Works when made 1901
made at do By whom made do when made 1901
Indicated Horse Power 280 Owners Vauxhall Steamship Co. Port belonging to London
Net Power as per Section 28 268 Is Refrigerating Machinery fitted no Is Electric Light fitted no

VES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
Cylinders 25.38.65 Length of Stroke 42 Revs. per minute 65 Dia. of Screw shaft 12.07 as per rule 12.25 as fitted 12.25 Lgth. of stern bush 4.9
Tunnel shaft 12 Dia. of screw 16.10 Pitch of screw 14.9 Dia. of Crank shaft journals 11.25 as per rule 11.75 as fitted 11.75 Dia. of Crank pin 11.75 Size of Crank webs 163.75 Dia. of thrust shaft under 12 Dia. of screw 16.10 Pitch of screw 14.9 No. of blades 4 State whether moveable no Total surface 86.4
Feed pumps 2 Diameter of ditto 3.4 Stroke 26 Can one be overhauled while the other is at work yes
Bilge pumps 2 Diameter of ditto 4 Stroke 26 Can one be overhauled while the other is at work yes
Donkey Engines 2 Sizes of Pumps 4x6 & 10x9 No. and size of Suctions connected to both Bilge and Donkey pumps
Engine Room Four, each 3.5 diam? In Holds, &c. Seven, two 3.5 in each hold
and one 2.4 in after well.
Bilge injections 1 size 6.5 Connected to condenser, or to circulating pump Pump Is a separate donkey suction fitted in Engine room & size yes 3.5
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
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
How are they protected —
All pipes are carried through the bunkers none
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
Were stern tube, propeller, screw shaft, and all connections examined in dry dock 22.6.01 Is the screw shaft tunnel watertight yes
Is it fitted with a watertight door yes worked from upper platform

Boilers, &c.—(Letter for record (S)) Total Heating Surface of Boilers 395.7 Is forced draft fitted no
and Description of Boilers Two single ended steel Working Pressure 160 Tested by hydraulic pressure to 320 lb
Date of test 24.1.01 Can each boiler be worked separately yes Area of fire grate in each boiler 48.4 No. and Description of safety valves to —
boiler Two Spring Area of each valve 8.29 Pressure to which they are adjusted 165 lb Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 1.24 Mean dia. of boilers 25.0 Length 10.6 Material of shell plates Steel
Thickness 1.5 Range of tensile strength 27-30 Are they welded or flanged Both Descrip. of riveting: cir. seams none long. seams Butt
Diameter of rivet holes in long. seams 1.76 Pitch of rivets 8.76 Lap of plates or width of butt straps 18
Percentages of strength of longitudinal joint 86.3 Working pressure of shell by rules 160 Size of manhole in shell 16x12
Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Ritted Material Steel Outside diameter 3.75
Length of plain part 6.6 Thickness of plates 1.5 Description of longitudinal joint Butt No. of strengthening rings —
Working pressure of furnace by the rules 160 Combustion chamber plates: Material Steel Thickness: Sides 1.5 Back 1.5 Top 1.5 Bottom 2.8
Pitch of stays to ditto: Sides 8.5 Back 8.5 Top 8.5 If stays are fitted with nuts or riveted heads both Working pressure by rules 163
Material of stays Steel Diameter at smallest part 1.38 Area supported by each stay 74 Working pressure by rules 161.3 End plates in steam space: —
Material Steel Thickness 1.5 Pitch of stays 22.23 How are stays secured both Working pressure by rules 165 Material of stays Steel
Diameter at smallest part 3.28 Area supported by each stay 511 Working pressure by rules 168 Material of Front plates at bottom Steel
Thickness 1.5 Material of Lower back plate Steel Thickness 1.5 Greatest pitch of stays 15 Working pressure of plate by rules 201
Diameter of tubes 3.4 Pitch of tubes 4.2 Material of tube plates Steel Thickness: Front 1.5 Back 1.5 Mean pitch of stays 9
Pitch across wide water spaces 14.4 Working pressures by rules 166 Girders to Chamber tops: Material Steel Depth and —
Thickness of girder at centre 8x1.4 Length as per rule 2.4 Distance apart 4.2 Number and pitch of Stays in each Two 8.5 pitch
Working pressure by rules 147 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 —
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 —

DONKEY BOILER— No. 7 Description *Blakes Patent*
 Made at *Middlesex* By whom made *Richardson & Hartnoll* When made *1901* Where fixed *Stockholm*
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *2425* Fire grate area *18.5* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *4.07* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *7.0* Length *14.0* Material of shell plates *Steel* Thickness *1 1/2* Range of tensile strength *27-32* Descrip. of riveting long. seams *Lap double* Dia. of rivet holes *1 1/2* Whether punched or drilled *Drilled* Pitch of rivets *3"*
 Lap of plating *4 5/8* Per centage of strength of joint Rivets *8 3/4* Thickness of shell crown plates *1 1/2* Radius of do *None* No. of Stays to do. *1*
 Dia. of stays. *1* Diameter of furnace Top *2.6* Bottom *5.3* Length of furnace *5.8* Thickness of furnace plates *1 1/2* Description of joint *Lap single* Thickness of furnace crown plates *1 1/2* Stayed by *1 3/8" Lap 9 3/4" pitch* Working pressure of shell by rules *84.8*
 Working pressure of furnace by rules *86.5* Diameter of uptake *2 1/2* Thickness of uptake plates *7 1/2* Thickness of water tubes *1 1/2*

SPARE GEAR. State the articles supplied:— *Propeller, 2 Main bearing bolts, 2 top end bolts, 2 bottom end bolts, 1 set of shaft coupling bolts all fitted with nuts, 1 set of feed pump valves, 1 set of bilge pump valves, Springs for S.P. piston, 2 3/4 Condenser tubes, 2 3/4 boiler tubes, nuts, bolts & giron.*
 The foregoing is a correct description,
 Manufacturer. *Wm. C. Rosenman*

Dates of Survey while building
 During progress of work in shops— *1900. Aug. 30. Sept. 7. 11. Oct. 10. Nov. 8. 12. 15. 19. 20. 21. 23. 28. 29. Dec. 3. 7. 10. 12. 14. 17. 18. 21.*
 During erection on board vessel— *1901. Jan. 7. 9. 14. 15. 17. 18. 21. 22. 23. 24. 28. 29. Feb. 4. 6. 7. 11. 12. 13. 18. 20. 22. 26. Mar. 29. Apr. 11. 17. 18. 19. 26.*
 Total No. of visits *54*
 Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *no*

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

Material of screw shaft *Iron* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *no*
 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 *no*
 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 *no* If two liners are fitted, is the shaft lapped or protected between the liners *no*

The machinery has been specially Surveyed during construction. The material and workmanship good and under the best eligible in my opinion to have the Record + L.R.C. 5.01 in the Register Book of the Society.

It is submitted that this vessel is eligible for THE RECORD. + L.R.C. 5.01

Ch. 28.5.01

28.5.01

The amount of Entry Fee. £ *2* : : When applied for, *15.5.1901*
 Special £ *33* 8 : :
 Donkey Boiler Fee £ : : When received, *15.5.1901*
 Travelling Expenses (if any) £ : : *75.5.1901*

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

Committee's Minute

FRI. MAY 31 1901

Assigned

+ L.R.C. 5.01

MACHINERY CERTIFICATE
 WRITTEN.



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 Foundation

Certificate (if required) to be sent to W. Hartnoll