

# REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

Received at London Office 19

No. in Survey held at West Hartlepool Date, first Survey 3rd Oct. 1899 Last Survey 5th Sept. 1900

Reg. Book Upp on the S.S. "Corjistan" (Number of Visits 62)

Master Wall Built at West Hartlepool By whom built R. Gray & Co. Ltd. Tons Gross 3261  
Net 2092 When built 1900

Engines made at West Hartlepool By whom made Central Marine Engine Works, N. when made 1900

Boilers made at As By whom made As when made 1900

Registered Horse Power 400 Owners Angelo Agnini & Partners Ltd. Port belonging to Swansea

Nom. Horse Power as per Section 28 451 Is Refrigerating Machinery fitted No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 28. 4 3/4. 42 Length of Stroke 48 Revs. per minute 65 Dia. of Screw shaft as per rule 13.65 as fitted 14.0 Lgth. of stern bush 5.3

Dia. of Tunnel shaft as per rule 12.35 as fitted 12.75 Dia. of Crank shaft journals as per rule 13 as fitted 13.25 Dia. of Crank pin 13.25 Size of Crank webs 8x18 Dia. of thrust shaft under collars 13.5 Dia. of screw 16.3 Pitch of screw 16.0 No. of blades 4 State whether moceable Yes Total surface 80 sq

No. of Feed pumps 2 Diameter of ditto 4 Stroke 30 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 30 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 4 1/2 x 10 & 12 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four each 3 1/2 diam. In Holds, &c. Three, two 3 1/2 in each hold and one 2 1/2 in after well connected to peak.

No. of bilge injections 1 sizes 6 1/2 Connected to condenser, or to circulating pump Imp 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 True

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 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 30.8.00 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 6654 Is forced draft fitted As shown

No. and Description of Boilers Two Single ended Steel Working Pressure 160 Tested by hydraulic pressure to 320

Date of test 18.6.00 Can each boiler be worked separately Yes Area of fire grate in each boiler 71 sq No. and Description of safety valves to each boiler Two Spring Area of each valve 9.62 Pressure to which they are adjusted 165 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 21 Mean dia. of boilers 16.0 Length 12.0 Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 27-30 Are they welded or flanged Both Descrip. of riveting: cir. seams Lap with long. seams N.O. Cleaps

Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9 7/8 Lap of plates or width of butt straps 20 7/8

Per centages of strength of longitudinal joint rivets 88.2 plate 85.23 Working pressure of shell by rules 181 Size of manhole in shell 16x12

Size of compensating ring 35 1/2 x 31 1/2 x 1 7/8 No. and Description of Furnaces in each boiler 4 Plain Material Steel Outside diameter 40 1/2

Length of plain part top 7.10 bottom 7.7 Thickness of plates crown 4.9 bottom 6.4 Description of longitudinal joint N.O. Cleaps No. of strengthening rings 1/2

Working pressure of furnace by the rules 163 Combustion chamber plates: Material Steel Thickness: Sides 1/8 Back 1/8 Top 1/8 Bottom 1/8

Pitch of stays to ditto: Sides 9 Back 10 1/2 Top 10 If stays are fitted with nuts or riveted heads True Working pressure by rules 170

Material of stays Steel Diameter at smallest part 1.63 Area supported by each stay 94 Working pressure by rules 176 End plates in steam space:

Material Steel Thickness 1 1/2 Pitch of stays 21 1/4 x 16 How are stays secured As per rule Working pressure by rules 209 Material of stays Steel

Diameter at smallest part 2.66 Area supported by each stay 304 Working pressure by rules 162 Material of Front plates at bottom Steel

Thickness 2 3/32 Material of Lower back plate Steel Thickness 2 7/32 Greatest pitch of stays 14 Working pressure of plate by rules 177

Diameter of tubes 2 3/4 Pitch of tubes 4 Material of tube plates Steel Thickness: Front 2 3/32 Back 7/8 Mean pitch of stays As per rule

Pitch across wide water spaces 13 3/4 Working pressures by rules 166 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 3/4 x 1 1/4 Length as per rule 2.3 Distance apart 10 Number and pitch of Stays in each Two 9

Working pressure by rules 170 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. 1 Description Single ended two furnaces  
 Made at Shekton By whom made Riley Bros. When made 26.7.00 Where fixed St. Richard  
 Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 2360 Fire grate area 20 9 Description of safety valves Spring  
 No. of safety valves 2 Area of each 4 9/16 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 9.0 Length 8.0 Material of shell plates Steel Thickness 1 1/2 Range of tensile strength 27.3 1/2 Descrip. of riveting long. seams Lap Rivet Dia. of rivet holes 1 1/16 Whether punched or drilled drilled Pitch of rivets 3 1/4  
 Lap of plating 6 3/8 Per centage of strength of joint 76.8 Rivets end Thickness of shell plates 3/4 Radius of do. pitch No. of Stays to do. 16 1/2 x 1 1/2  
 Dia. of stays. 2 1/2 Diameter of furnace Top 31 Bottom L Length of furnace 6 1/2 Thickness of furnace plates 1 1/2 Description of joint Welded Thickness of e. chbr plates 1 1/2 Stayed by 1 1/2 Stays 3/4 pitch Working pressure of shell by rules 88 lbs  
 Working pressure of furnace by rules 89 lbs Diameter of uptake 3 1/2 Thickness of uptake plates 3/4 1 1/2 Thickness of water tubes 5/16

**SPARE GEAR.** State the articles supplied:— 2 Main bearing bolts, 2 bottom end bolts, 2 top end bolts, 1 set of shaft coupling bolts all fitted with nuts, 1 set of feed and 1 set of tip pump valves, Springs for H.P. piston, valves for air & circulating pumps, 2 propeller blades (cast iron), Studs, nuts, bolts given.  
 The foregoing is a correct description,  
 Manufacturer. J. B. Borrowman MANAGER Main Engineer of Port

Dates of Survey while building	During progress of work in shops - -	1899. Oct. 3. 4. 13.	1900. Feb. 7. 16. 20. 21. 22. 27.	Mar. 1. 2. 5. 7. 8. 9. 10. 13. 15. 16. 20. 21. 29. 31.
	During erection on board vessel - -	Apr. 3. 4. 5. 10. 11. 12. 13. 26.	May 1. 2. 3. 7. 8. 9. 10. 12. 14. 17. 18. 29. 30.	June 7. 11. 15. 18. 21. 22. 25.
	Total No. of visits	July 2. 5. 6. 13. 16. 17.	Aug. 14. 29. 30.	Sept. 5.

Is the approved plan of main boiler forwarded herewith yes  
 " " " donkey " " " no

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
The machinery has been specially surveyed during construction the material and workmanship good and renders the vessel eligible in my opinion to have the Record \* £ 69.00 in the Register Book of the Society.

It is submitted that  
 this vessel is eligible for  
**THE RECORD** + £ 69.00 F.D. 17.9.00  
18.9.00

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

The amount of Entry Fee. . . . .	£ 3	When applied for,
Special . . . . .	42	13.9.00
Donkey Boiler Fee . . . . .	£ :	When received,
Travelling Expenses (if any) £ :		14.9.00

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

Committee's Minute **TUES. 18 SEP 1900**  
 Assigned

+ £ 69.00  
 MACHINERY CERTIFICATE WRITTEN.



No. of Engines	Three
No. of Owners	
Name, Residence	The ...
having	Street
Manager	
Dated	31
RS & Co	