

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL.

Received at London Office TUES JAN 9 1900

No. in Survey held at *Hess Hartlepool* Date, first Survey *3rd July* Last Survey *5th Jan. 18 1900*
 Reg. Book *37* on the *S.S. "Helsingborg"* Number of Visits *36*
 Master *J. Sheriel* Built at *H. Hartlepool* By whom built *D. Gray & Co. Ltd.* When built *1900*
 Engines made at *H. Hartlepool* By whom made *Central Marine Eng. Works. Ltd.* when made *1899-1900*
 Boilers made at *do* By whom made *do* when made *1899-1900*
 Registered Horse Power *220* Owners *Nederlandsche Stoomvaart Maatschappij Helsingborg (N.B. Borfitzen)* Port belonging to *Helsingborg*
 Nom. Horse Power as per Section 28 *221* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Triple expansion* No. of Cylinders *3* No. of Cranks *3*
 Diameter of Cylinders *22.35-5.9* Length of Stroke *39* Revolutions per minute *65* Diameter of Screw shaft *as per rule 10.89*
 Diameter of Tunnel shaft *as per rule 9.85* Diameter of Crank shaft journals *10.75* Diameter of Crank pin *10.75* Size of Crank webs *as fitted 11.25*
 Diameter of screw *14.6* Pitch of screw *14.9* No. of blades *4* State whether moveable *no* Total surface *63 sq*
 No. of Feed pumps *2* Diameter of ditto *3* Stroke *26* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* Diameter of ditto *3 1/2* Stroke *26* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *2* Sizes of Pumps *3 1/2 x 6 x 10 x 9* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Four, two 3 1/2 x 6 x 10 x 9* In Holds, &c. *Two, two 3" in 4" 1. two 3" in main*
two 3" in after hold & one 2 1/2" in tunnel well connected to after peak.
 No. of bilge injections *1* sizes *6* Connected to condenser, or to circulating pump *Pumps a separate donkey suction fitted in Engine room & size 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 *no*
 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 *Nov 1900* 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 *3378* Is forced draft fitted *no*
 No. and Description of Boilers *Two Single ended Steel* Working Pressure *160* Tested by hydraulic pressure to *320*
 Date of test *10.99* Can each boiler be worked separately *yes* Area of fire grate in each boiler *41 sq* No. and Description of safety valves to
 each boiler *Two Spring* Area of each valve *7.07* Pressure to which they are adjusted *164 lbs* Are they fitted
 with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *14* Mean diameter of boilers *13.9*
 Length *10.0* Material of shell plates *Steel* Thickness *1 1/2* Description of riveting: circum. seams *Lap joints* long. seams *Butt*
 Diameter of rivet holes in long. seams *1 1/2* Pitch of rivets *7 1/2* Lap of plates or width of butt straps *16 1/2*
 Per centages of strength of longitudinal joint *85* Working pressure of shell by rules *162* Size of manhole in *ends 16 x 12*
 Size of compensating ring *Flanged* No. and Description of Furnaces in each boiler *3 fitted* Material *Steel* Outside diameter *3.1 1/2*
 Length of plain part *top 6.3 bottom 7.0* Thickness of plates *crown 15/32 bottom 3/2* Description of longitudinal joint *Beaded* No. of strengthening rings *—*
 Working pressure of furnace by the rules *170* Combustion chamber plates: Material *Steel* Thickness: Sides *19/32* Back *19/32* Top *19/32* Bottom *3/4*
 Pitch of stays to ditto: Sides *8 3/4* Back *8 3/4* Top *8 3/4* If stays are fitted with nuts or riveted heads *Nuts* 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 1/2* Pitch of stays *19 x 16 1/2* How are stays secured *By nuts* Working pressure by rules *161.8* Material of stays *Steel*
 Diameter at smallest part *2.53* Area supported by each stay *308* Working pressure by rules *163* Material of Front plates at bottom *Steel*
 Thickness *15/16* Material of Lower back plate *Steel* Thickness *15/16* Greatest pitch of stays *14 1/2* Working pressure of plate by rules *215*
 Diameter of tubes *3 1/2* Pitch of tubes *4 1/2* Material of tube plates *Steel* Thickness: Front *15/16* Back *5/8* Mean pitch of stays *9*
 Pitch across wide water spaces *14 1/2* Working pressures by rules *166* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *8 x 1 1/4* Length as per rule *2.3* Distance apart *8 1/2* Number and pitch of Stays in each *4 x 8 1/2*
 Working pressure by rules *173* Superheater or Steam chest; how connected to boiler *—* 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— Description *Blakes Patent*
 Made at *Middlesex* By whom made *Turner & Beal* When made *10.99* Where fixed *Hoof hold*
 Working pressure *80* tested by hydraulic pressure to *100* No. of Certificate *2082* Fire grate area *28* Description of safety valves *Spring driven*
 No. of safety valves *2* Area of each *4.04* Pressure to which they are adjusted *80 lb.* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *7.0* Length *14.0* Material of shell plates *Steel* Thickness *15/32*
 Description of riveting long. seams *Cap double* Diameter of rivet holes *15/16* Whether punched or drilled *Punched* Pitch of rivets *3"*
 Lap of plating *4 5/8* Per centage of strength of joint *83.7* Rivets *83.7* Thickness of shell crown plates *15/32* Radius of do. *Ham.* No. of Stays to do. *—*
 Dia. of stays *—* Diameter of furnace Top *2.6* Bottom *5.3* Length of furnace *5.8* Thickness of furnace plates *19/32* Description of joint *Cap single* Thickness of furnace crown plates *2 1/2* Stayed by *18 Stay 9 3/4* Working pressure of shell by rules *87.8*
 Working pressure of furnace by rules *86.5* Diameter of uptake *2 1/2* Thickness of uptake plates *7 5/8* Thickness of water tubes *5/16*

SPARE GEAR. State the articles supplied:— *Propeller, 3" shaft crank shaft, 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 rollers, 1 set of tiepe rollers, spring for S.P. piston, nuts, bolts & iron.*
 The foregoing is a correct description,
 Manufacturers of Main Boilers & Engines *B. Williams*

Dates { During progress of work in shops - - 1899 July 3. 13. Aug. 1. 2. 23. 24. Sept. 4. 6. 11. 12. 15. 18. 23. 25. 29. Oct. 3. 4. 5. 10.
 of Survey { During erection on board vessel - - 11. 13. 14. 16. 18. 19. 25. 30. Nov. 7. 13. 16. 21. 23. 27. 30. Dec. 19. 1900 Jan. 5.
 while building { Total No. of visits *36*

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

ENGINES—Length of stern bush *4.5 1/2* Diameter of crank shaft journals *10.37* as per rule *10.37* Diameter of thrust shaft under collars *11"*
BOILERS—Range of tensile strength *26 1/2* Are they welded or flanged *Both* **DONKEY BOILERS**—No. *1* Range of tensile strength *27 1/2*
 Is the approved plan of main boiler forwarded herewith *Yes* Is the approved plan of donkey boiler forwarded herewith *No*

The machinery has been specially surveyed during construction the material and workmanship good and under the vessel eligible in my opinion to have the Record + Lm C1,00, in the Register Book of the Society.

It is submitted that this vessel is eligible for THE RECORD. ✕ LMC1.00.

Rs. 9.1.00
9.1.00

19/5/49 Two fifteen KW. steam generators

The amount of Entry Fee.. £ *2* : :
 Special .. £ *31* : *1* :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *8.1. 1900*
 When received, *8.1. 1900*

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

Committee's Minute

FRI. 12 JAN 1900 MACHINERY CERTIFICATE WRITTEN.

Assigned

+ Lm C1,00



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Lloyd's Register Foundation

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

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