

REPORT ON MACHINERY.

8624
3 NOV 91

No. 8624 Port of West Hartlepool Received at London Office 13
 No. in Survey held at West Hartlepool Date, first Survey 15th June Last Survey 21st Oct 1891
 Reg. Book. _____ (Number of Visits 33)
 on the screw steamer "ZANNHΣ ΣΤΕΦΑΝΟΒΙΚ" Tons { Gross 2332.95
 Master H. P. Chionis Built at Hartlepool By whom built Messrs. Furness, Withy & Co Net 1502.40
 Engines made at Hartlepool By whom made Messrs. S. Richardson & Sons when made 1891
 Boilers made at Hartlepool By whom made Messrs. S. Richardson & Sons when made 1891
 Registered Horse Power 200 Owners Socolo, Mango & Co Port belonging to Greece
4 " " 221

ENGINES, &c.—

Description of Engines Inverted, Triple Expansion, 3 Cranks No. of Cylinders 3
 Diam. of Cylinders 22, 35, 59 Length of Stroke 39 Rev. per minute 65 Point of Cut off, High Pressure, 5 strokes Low Pressure, 6 strokes
 Diameter of Screw shaft 10 1/8 Diam. of Tunnel shaft 10 1/2 Diam. of Crank shaft journals 10 1/8 Diam. of Crank pin 10 1/2 size of Crank webs 16 1/2 x 7 1/4
 Diameter of screw 16.0 Pitch of screw 17.0 No. of blades 4 state whether moveable no total surface 73.7 sq. ft.
 No. of Feed pumps 2 diameter of ditto 2 1/4 Stroke 23 Can one be overhauled while the other is at work yes.
 No. of Bilge pumps 2 diameter of ditto 3 1/4 Stroke 23 Can one be overhauled while the other is at work yes.
 Where do they pump from Sea, main & after holds, After well, Sea & ballast tanks.
 No. of Donkey Engines 2 Size of Pumps (8 1/2 x 7) (3 1/2 x 7) Where do they pump from (Sea, ballast tanks & engine room bilge) (Sea, hotwell, main boilers, all tanks & all bilges)
 Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 No. of bilge injections one and sizes 4 1/2 Are they connected to condenser, or to circulating pump Circulating pump.
 How are the pumps worked By levers from the after piston rod crosshead.
 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 below
 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 accessible at all times yes.
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes.
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock 16th September 1891
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Top platform of engine room

BOILERS, &c.—

No. of Boilers Two Description Cyl. built. Single Ended Material Steel Letter (for record) (S)
 Working Pressure 160 lb. Tested by hydraulic pressure to 320 lb. Date of test 24th Sept. 1891
 Description of superheating apparatus or steam chest none. Heating Surface 3372 sq. ft.
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately no superheater.
 No. of square feet of fire grate surface in each boiler 442.75 Description of safety valves Spring No. to each boiler two.
 Area of each valve 5.94 Are they fitted with easing gear yes No. of safety valves to superheater _____ area of each valve _____
 Are they fitted with easing gear _____ Smallest distance between boilers and bunkers woodwork 7" Diameter of boilers 13.8"
 Length of boilers 9.4 description of riveting of shell long. seams double butt strap circum. seams double rivet lap Thickness of shell plates 1 3/8"
 Diameter of rivet holes 1 3/16 whether punched or drilled drilled pitch of rivets 1 row 8", 2 rows 4" Lap of plating 9 3/4"
 Percentage of strength of longitudinal joint 85.15 working pressure of shell by rules 160 lb. size of manholes in shell none
 size of compensating rings _____ No. of Furnaces in each boiler 3 Description of Furnaces Morrison's patent
 outside diameter 3.4 length 5.6 thickness of plates 1 1/32 description of joint welded if rings are fitted no
 greatest length between rings _____ working pressure of furnace by the rules 162 lb. combustion chamber plating, thickness, sides 5/8" back 5/8" top 5/8"
 pitch of stays to ditto, sides 8 1/2 x 8 1/2 back 8 1/2 x 8 1/4 top 8 1/2 x 8 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 161 lb.
 Diameter of stays at smallest part 1 3/8 working pressure of ditto by rules 161 lb. end plates in steam space, thickness 1 1/4"
 pitch of stays to ditto 18 1/4 x 16 1/2 how stays are secured double nuts & washers working pressure by rules 168 lb. diameter of stays at smallest part 2 5/8"
 working pressure by rules 161 lb. Front plates at bottom, thickness 1 3/16" Back plates, thickness 7/8"
 greatest pitch of stays 12" working pressure by rules 163 lb. Diameter of tubes 3 1/4" pitch of tubes 4 1/2 x 4 3/8 thickness of tube plates, front 1" back 1 1/16" how stayed stay tubes pitch of stays 13 1/2 x 9 width of water spaces 1 1/2"
 diameter of Superheater or Steam chest _____ length _____ thickness of plates _____ description of longitudinal joint _____ diam. of rivet holes _____
 pitch of rivets _____ working pressure of shell by rules _____ diameter of flue _____ thickness of plates _____ If stiffened with rings _____
 distance between rings _____ working pressure by rules _____ end plates of superheater, or steam chest; thickness _____ how stayed _____
 Superheater or steam chest; how connected to boiler _____

DONKEY BOILER— Description *Cylindrical, multitubular, Dome, & 2 plain furnaces (Steel)*
 Made at *Stockton* by whom made *Messrs. Messrs. Sudron & Co. Ltd.* when made *2.9.91* where fixed *In stockhole*.
 Working pressure *60 lb.* tested by hydraulic pressure to *150 lb.* No. of Certificate *315* fire grate area *18 sq. ft* description of safety valves *Spring*
 No. of safety valves *one* area of each *11.04* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler
 diameter of donkey boiler *7.6"* length *8.0"* description of riveting *double riv. lap*
 Thickness of shell plates *13/32"* diameter of rivet holes *13/16"* whether punched or drilled *punched* pitch of rivets *2 3/4"* lap of plating *4 1/4"*
 per centage of strength of joint *70.4* thickness of ^{top end} ~~cross~~ plates *9/16"* stayed by *1 3/4" stays 13" x 13 1/2" pitch*
 Diameter of furnace, ^{top} *27 3/4"* bottom *24"* length of furnace *5.5 ft* thickness of plates *3/8"* description of joint *welded*
 Thickness of furnace crown plates *7/16"* ^{back} stayed by *1 1/8" eff. stays pitch 8" x 8"* working pressure of shell by rules *68 lb.*
 Working pressure of furnace by rules *82 lb.* diameter of ^{tube} uptake *3"* thickness of ^{tube} plates *F 1/2" B 5/8"* thickness of water tubes *N. 11 W.G.*
as reported by W.R. Austin

SPARE GEAR. State the articles supplied:— *One propeller, A set of bolts & nuts for a connecting rod, main bearing, & shaft coupling. A set of valves for the feed, bilge, air, & circulating pumps. 2 sets of piston springs. Bolts, nuts & Iron assorted. One piston rod. One air pump rod, One slide valve spindle.*
The foregoing is a correct description,
J. M. Morris Manufacturer of Engines & main boilers
 MANAGER

General Remarks (State quality of workmanship, opinions as to class, &c.)
Main steam pipes tested by hydraulic pressure to 320 lb. per square inch and found tight.
The engines and boilers of this vessel have been constructed under Special Survey, and of a good quality of workmanship they have been tried under steam the safety valves adjusted and found to work well and are now in safe and efficient working condition and, in my opinion, eligible to leave
L.S.C. 10.91. recorded in the Register of this Society.

It is submitted that this vessel is eligible to have + L.M.C. 10-91 recorded. W.A. 3-11-91

The amount of Entry Fee .. £ 2 : 0 : 0 received by me,
 Special .. £ 31 : 1 : 0
 Donkey Boiler Fee .. £ : :
 Certificate (if required) .. £ : : 20/10.1891
 To be sent as per margin.
 (Travelling Expenses, if any, £)

H. Stoddart
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 + L.M.C. 10/91
 FRI 6 NOV 1891

