

REPORT ON MACHINERY.

8574

Port of West Hartlepool

THURS. 30 JUL 1891

Received at London Office

18

No. 8574

No. in Survey held at West Hartlepool

Date, first Survey 24th Dec 1890 Last Survey 11th July 1891

Reg. Book. on the new steamer

SILVIA

(Number of Visits 1)

Tons } Gross 1228.65
Net 771.52

Master Andrew Built at West Hartlepool By whom built R. Irvine & Co When built 1891

Engines made at West Hartlepool By whom made Central Marine Eng Works when made 1891

Boilers made at West Hartlepool By whom made Central Marine Eng Works when made 1891

Registered Horse Power 98 Owners J. Sutcliffe Esq. Port belonging to Grimsby

ENGINES, &c.—

Description of Engines Triple Expansion, Inverted, Direct Acting, Surface Condens No. of Cylinders 3 (3 Banks)
Diam. of Cylinders 16 1/2 - 26 - 44 Length of Stroke 33 Rev. per minute 65 Point of Cut off, High Pressure .55 Low Pressure .55
Diameter of Screw shaft 8 1/2 Diam. of Tunnel shaft 8 1/2 Diam. of Crank shaft journals 8 1/2 Diam. of Crank pin 8 1/2 size of Crank webs 11 1/8 x 5 1/8
Diameter of screw 12 - 3 Pitch of screw Differential No. of blades 4 state whether moveable No total surface 44 1/2 sq ft
No. of Feed pumps 2 diameter of ditto 2 1/2 Stroke 20 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 diameter of ditto 3 Stroke 20 Can one be overhauled while the other is at work Yes

Where do they pump from Fore and Aft Holds, Engine Room, Lunnel, After Peak and Fore Peak.

No. of Donkey Engines 2 Size of Pumps 2 1/2 dia x 14 stroke duplex Where do they pump from Feed Tanks, Hotwell & Sea
Ballast - Bilges, Tanks and Sea.

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" dia Are they connected to condenser, or to circulating pump to circulating pump.

How are the pumps worked Leveris from After 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

How are the pipes 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 7th July 1891

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Upper Platform

BOILERS, &c.—

No. of Boilers One Description Mult, Cyl, single End Material Steel (Liber-Iron) Letter (for record) S
Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 15.5.91 No 2208

Description of superheating apparatus or steam chest Total Heating Surface in Boiler 1600 sq feet.

Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately ✓

Area of square feet of fire grate surface in each boiler 36 Description of safety valves Spring direct No. to each boiler 2

Area of each valve 7.07 sq" 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 about 15" Diameter of boilers 13 - 9"

Length of boilers 10 - 0' description of riveting of shell long. seams TBS Treble circum. seams Shell end Planged Thickness of shell plates 13/16"

Diameter of rivet holes 1 1/32 - 1 1/8" whether punched or drilled drilled pitch of rivets Long 8 1/2 in 5 1/2" Lap of plating TBS 18 1/2 Lap 9 1/2"

Percentage of strength of longitudinal joint 85.66% working pressure of shell by rules 160.2 lbs size of manholes in END 16 x 12

Number of compensating rings 26 x 26 x 7/8" No. of Furnaces in each boiler 3 Description of Furnaces Brown's patent Ribbed

Outside diameter 37 1/2" length 6 - 9" thickness of plates 7/32" description of joint welded if rings are fitted No

Greatest length between rings ✓ working pressure of furnace by the rules 170.1 combustion chamber plating, thickness, sides 7/8" back 7/8" top 7/8"

Pitch of stays to ditto, sides 8 7/8 x 8" back 8 7/8 x 8 1/2" top 7/2" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 161.3

Diameter of stays at smallest part 1.3827 working pressure of ditto by rules 161.3 end plates in steam space, thickness 1 1/16"

How stays are secured Double Nuts working pressure by rules 160.5 lbs diameter of stays at smallest part 2.41"

Working pressure by rules 162.9 lbs Front plates at bottom, thickness 3/8" Back plates, thickness 29/32"

Greatest pitch of stays 12 1/2" working pressure by rules 161.4 lbs Diameter of tubes 3 1/4" ext pitch of tubes 4 1/2" x 4 1/2" thickness of tube plates, front 31/32" back 2 1/32"

How stayed Stay tubes pitch of stays 9 x 9" width of water spaces 5"

Diameter of Superheater or Steam chest 5" length 5" thickness of plates ✓ description of longitudinal joint ✓ diam. of rivet holes ✓

Are they stiffened with rings ✓ working pressure of shell by rules ✓ diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓

Working pressure by rules ✓ end plates of superheater, or steam chest; thickness ✓ how stayed ✓

Superheater or steam chest; how connected to boiler ✓

Lloyd's Register Foundation

HPL 365-0069

DONKEY BOILER— Description *Steel, Vertical, Cyl, with 3 Cross tubes*
 Made at *Stockton* by whom made *Riley Bros* when made *1869* where fixed *Stokehole*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *275* fire grate area *✓* description of safety valves *Spring direct*
 No. of safety valves *one* area of each *10.04* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *No*
 Thickness of shell plates *13/32* diameter of donkey boiler *12-0* description of riveting *Vertical lap double*
 diameter of rivet holes *3/16* whether punched or drilled *punched* pitch of rivets *2 1/16* lap of plating *1/4*
 per centage of strength of joint *71 1/2* thickness of crown plates *7/32* stayed by *6 stays 1/2 off dia*
 Diameter of furnace, top *4-10* bottom *5-5* length of furnace *4-11* thickness of plates *1/16* description of joint *Lap single*
 Thickness of furnace crown plates *1/32* stayed by *same as shell crown* working pressure of shell by rules *84 lbs*
 Working pressure of furnace by rules *84 lbs* diameter of uptake *15* thickness of plates *7/16* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *One Propeller, One set Main Bearing Bolts, One set Connecting Rod Bolts (top & bottom), One set Coupling Bolts, One set Feed and Bilge Pump Valves, One set H.P. Piston Springs, Bolts & nuts assorted, 6 Bars Iron assorted.*

The foregoing is a correct description,
 For THE CENTRAL MARINE ENGINE WORKS, Manufacturers of main Engines & Valves only. *Thomas Mudd*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Main Steam Pipes have been tested to 320 lbs per sq inch by hydraulic pressure & found tight & sound. The Engines & Boilers have been constructed under special survey, of a good quality of workmanship they have tried under steam and safety valves adjusted & found to work well, and, are in my opinion, eligible to have L.M.C. 7.91. in the Register of this Society.*

It is submitted that the amount necessary for the record of this boiler is £16.7.0
for the record of this boiler

W. M. Blackie

The amount of Entry Fee *£ 0 : 0 : 0* received by me,
 Special £ *16 : 7 : 0* 29/7/91
 Donkey Boiler Fee £ : :
 Certificate (if required) .. £ : : 18
 To be sent as per margin.
 (Travelling Expenses, if any, £)

Committee's Minute
 + L.M.C. 7/91

Thomas M. Blackie
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

LLOYD'S REGISTER OF BRITISH & FOREIGN SHIPPING
 PARTICULARS FOR RECORD OF
 Port *Stockton*
 No. of Report *275*
 Step's Name *Riley Bros*
 Stage's | Longitudinal | Transverse | Shell Plates | Screw | Plates | Chamber | Lifting | Register

