

REPORT ON MACHINERY.

Port of **SUNDERLAND**

SAT. 3 OCT 1896

No. in Survey held at **SUNDERLAND**
Reg. Book.

Date, first Survey **16 March 96** Last Survey **1st Oct 1896**
(Number of Visits **25**)

Received at London Office

on the **S.S. "Harborne"**

Tons } Gross **1278**
Net **785**
When built **1896**

Master **A. Himsley** Built at **Sunderland** By whom built **S. P. Austin & Son**

Engines made at **SUNDERLAND**. By whom made **John Dickinson & Sons** when made **1896**

Boilers made at **SUNDERLAND**. By whom made **John Dickinson & Sons** when made **1896**

Registered Horse Power **120** Owners **J & C Harrison** Port belonging to **London**

Nom. Horse Power as per Section 28 **147** Is Electric Light fitted **No**

ENGINES, &c. — Description of Engines **Triple compound** No. of Cylinders **Three** No. of Cranks **3 3/4**

Diameter of Cylinders **18 1/2" 30" 49"** Length of Stroke **33"** Revolutions per minute **40** Diameter of Screw shaft **9"**

Diameter of Tunnel shaft **8 1/2"** Diameter of Crank shaft journals **9"** Diameter of Crank pin **9"** Size of Crank webs **patent**

Diameter of screw **12' 3"** Pitch of screw **15' 6"** No. of blades **4** State whether moveable **no** Total surface **51 sq ft**

No. of Feed pumps **2** Diameter of ditto **2 3/4"** Stroke **16 1/2"** Can one be overhauled while the other is at work **yes**

No. of Bilge pumps **2** Diameter of ditto **3 1/2"** Stroke **16 1/2"** Can one be overhauled while the other is at work **yes**

No. of Donkey Engines **2** Sizes of Pumps **5 1/4 x 3 1/2 x 5** No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room **centre 2 1/4" Wings 2"** In Holds, &c. **Fore & after holds 2 of 2", after**

Well **3" Tanks centre 4"**

No. of bilge injections **1** size **4"** Connected to condenser, or to circulating pump **C.P.** Is a separate donkey suction fitted in Engine room & size **yes 4"**

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 **yes**

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 **new vessel** Is the screw shaft tunnel watertight **yes**

Is it fitted with a watertight door **yes** worked from **top platform**

BOILERS, &c. — (Letter for record **S**) Total Heating Surface of Boilers **2,350 sq ft** Is forced draft fitted **no**

No. and Description of Boilers **One Single Ended** Working Pressure **160** Tested by hydraulic pressure to **320**

Date of test **6. 6. 96** Can each boiler be worked separately **✓** Area of fire grate in each boiler **68 3/4 sq ft** No. and Description of safety valves to

each boiler **2 direct spring** Area of each valve **9.62 sq ft** Pressure to which they are adjusted **160 lbs** Are they fitted

with easing gear **yes** Smallest distance between boilers or uptakes and bunkers or woodwork **18"** Mean diameter of boilers **15' 6"**

Length **11' 8"** Material of shell plates **S** Thickness **1 1/2"** Description of riveting: circum. seams **D. R. L.** long. seams **S. R. D. B. S.**

Diameter of rivet holes in long. seams **1 1/16"** Pitch of rivets **8 15/16"** Length of plates or width of butt straps **19 1/4"**

Per centages of strength of longitudinal joint rivets **91.8** Working pressure of shell by rules **160 lbs** Size of manhole in shell **16 x 12**

Size of compensating ring **8 5/8 x 1 3/32"** No. and Description of Furnaces in each boiler **4 plain** Material **S** Outside diameter **3' 3"**

Length of plain part top **4' 0"** bottom **4' 0"** Thickness of plates crown **23/32"** Description of longitudinal joint **welded** No. of strengthening rings **none**

Working pressure of furnace by the rules **162 lbs** Combustion chamber plates: Material **S** Thickness: Sides **5/8"** Back **5/8"** Top **5/8"** Bottom **7/8"**

Pitch of stays to ditto: Sides **8 1/2"** Back **9 1/8"** Top **9"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **162 lbs**

Material of stays **S** Diameter at smallest part **1.48** Area supported by each stay **830** Working pressure by rules **140 lbs** End plates in steam space:

Material **S** Thickness **1 1/16"** Pitch of stays **18 x 16** How are stays secured **nuts** Working pressure by rules **165 lbs** Material of stays **S**

Diameter at smallest part **2.6** Area supported by each stay **288** Working pressure by rules **144 lbs** Material of Front plates at bottom **S**

Thickness **3/4"** Material of Lower back plate **S** Thickness **1 1/16"** Greatest pitch of stays **12 5/8"** Working pressure of plate by rules **160 lbs**

Diameter of tubes **3 1/4"** Pitch of tubes **4 1/2"** Material of tube plates **S** Thickness: Front **3/4"** Back **3/4"** Mean pitch of stays **9"**

Pitch across wide water spaces **13 1/4"** Working pressures by rules **160 lbs** Girders to Chamber tops: Material **S** Depth and

thickness of girder at centre **8 x 1 x 2** Length as per rule **32 1/2"** Distance apart **9"** Number and pitch of Stays in each **3 stays 8 1/2"**

Working pressure by rules **180 lbs** 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 **✓**

the title of the ship & c/o whether and when



SLD1004-0005

