

REPORT ON MACHINERY.

No. 6914.

No. in Survey held at *Stockton & Sunderland* Date, first Survey *25th Oct 1887* Last Survey *1st May 1888*
 Reg. Book. on the *Steel Steamer "Leta"* Received at London Office *25 MAY 1888*
 Master *Geo. Sutton* Built at *Sunderland* By whom built *men. J. D. Thompson & Son* When built *1888*
 Engines made at *Stockton* By whom made *men. Blair & Co. Ltd* when made *1888*
 Boilers made at *Stockton* By whom made *men. Blair & Co. Ltd* when made *1888*
 Registered Horse Power *200* Owners *men. Turner, Brightman & Co* Port belonging to *London*
 Tons *1499*
 2334

ENGINES, &c.—

Description of Engines *Inverted, Triple Expansion, 3 Cylinders, & 3 Cranks.*
 Diameter of Cylinders *22, 36, 59* Length of Stroke *39"* No. of Rev. per minute *65* Point of Cut off, High Pressure *1/2 stroke* Low Pressure *1/2 stroke*
 Diameter of Screw shaft *11 1/2"* Diam. of Tunnel shaft *11"* Diam. of Crank shaft journals *11 1/2"* Diam. of Crank pin *12"* size of Crank webs *16 1/4" x 7 3/8"*
 Diameter of screw *15.6"* Pitch of screw *17.0"* No. of blades *4* state whether moveable *no* total surface *600 sq. ft.*
 No. of Feed pumps *2* diameter of ditto *3"* Stroke *28"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* diameter of ditto *4"* Stroke *28"* Can one be overhauled while the other is at work *yes*
 Where do they pump from *Sea, hold, Engine room, after well, sea & all ballast tanks*
 No. of Donkey Engines *2* Size of Pumps *(4 1/2" x 9") (4" x 8")* Where do they pump from *(Ballast tanks, all bilges & 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 *6 dia* 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 *valves & Cocks*
 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 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *new vessel*
 Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *top platform*

OILERS, &c.—

Number of Boilers *Two* Description *Cyl. Mult.: Single Ended* Whether Steel or Iron *Steel*
 Working Pressure *160 lbs.* Tested by hydraulic pressure to *320 lbs.* Date of test *8th February 1888.*
 Description of superheating apparatus or steam chest *none*
 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 *42.5* Description of safety valves *Spring* No. to each boiler *2*
 Area of each valve *7.07* 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 *on woodwork 11"* Diameter of boilers *13.6 1/2"*
 Length of boilers *10.0"* description of riveting of shell long. seams *double butt strap* circum. seams *double riv. lap* Thickness of shell plates *1 1/2"*
 Diameter of rivet holes *1 1/4"* whether punched or drilled *drilled* pitch of rivets *12 in 7 1/2", 2 in 3 3/4"* Lap of plating *8 3/4"*
 Per centage of strength of longitudinal joint *83.3* working pressure of shell by rules *162 lbs.* size of manholes in shell *16" x 12"*
 Size of compensating rings *28 x 24 x 1 1/2"* No. of Furnaces in each boiler *5*
 Outside diameter *3.4"* length, top *6.3"* bottom *6.3"* thickness of plates *9/16"* description of joint *welded* if rings are fitted *no*
 Greatest length between rings *—* working pressure of furnace by the rules *175 lbs.* combustion chamber plating, thickness, sides *9/16"* back *9/16"* top *9/16"*
 Pitch of stays to ditto, sides *7 1/4" x 7/4" back 7 1/4" x 7/8" top 7 1/4" x 7/4"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *162 lbs.*
 Diameter of stays at smallest part *1 5/8"* working pressure of ditto by rules *192 lbs.* end plates in steam space, thickness *1 1/8"*
 Pitch of stays to ditto *16 1/2" x 15"* how stays are secured *double nut & washer* working pressure by rules *166 lbs.* diameter of stays at smallest part *2 3/8"*
 working pressure by rules *161 lbs.* Front plates at bottom, thickness *1"* Back plates, thickness *1"*
 Greatest pitch of stays *12"* working pressure by rules *177 lbs.* Diameter of tubes *3 1/4"* pitch of tubes *4 5/8" x 4 1/2"* thickness of tube plates, front *1"* back *7/8"* how stayed *stay tubes* pitch of stays *9 1/4" x 9"* width of water spaces *1 1/4"*
 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 *Vertical, multitubular, (Cochran's Patent) Steel*
Made at *Birkenhead* by whom made *James Cochran & Co* when made *17. 2. 88* where fixed *In stokehole*
Working pressure *80 lb.* tested by hydraulic pressure to *160 lb.* No. of Certificate *668* fire grate area *23 sq ft* description of safety
valves *direct spring* No. of safety valves *2* area of each *4.04* if fitted with easing gear *yes* if steam from main boilers can
enter the donkey boiler *no* diameter of donkey boiler *6.6* length *13.6* description of riveting *double rivet lap joint*
Thickness of shell plates *7/16* diameter of rivet holes *13/16* whether punched or drilled *drilled* pitch of rivets *2 3/4* lap of plating *4*
per centage of strength of joint *70* thickness of crown plates *13/32* stayed by *Hemispherical*
Diameter of furnace, top *5.4* bottom — length of furnace *2.8* thickness of plates *9/32 x 1/2* description of joint *single rivet lap*
Thickness of furnace crown plates *1/32* stayed by *Hemispherical* working pressure of shell by rules *84 lb.*
Working pressure of furnace by rules *93 lb.* diameter of uptake *24* thickness of plates — thickness of water tubes —

SPARE GEAR. State the articles supplied:— *One crank shaft, One screw shaft, One propeller, One set*
of bolts for the connecting rod, main bearing, and coupling. One set of valves
for the air, circulating, feed, bilge, & donkey pumps. One set of L.P.
piston springs, 120 bolts & nuts ass., 6 bars of iron ass., 10 Boiler tubes.
The foregoing is a correct description,
James Blair & Co Manufacturer. of machinery & main boilers.
J. B. Blair

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

Tested the main steam pipes by hydraulic pressure to 320 lbs.
per square inch and found them tight.
The machinery and boilers of this vessel have been constructed
under Special Survey and of a good quality of workmanship.
The machinery and main boilers have been examined under
steam the safety valves adjusted and found to work well
and will, in my opinion, be eligible to have L.M.C. 5. 88.
added in the Register of this Society when the following
work has been completed to the satisfaction of a Surveyor
of this Society.
Bilge suction-pipe for the after well to be connected at the forward
end of the screw tunnel. Screw tunnel to be fitted with a sluice
door and made water-tight. Sluice valve and donkey boiler
blow off cock on the port side of the stokehole to be made accessible,
suction pipe, for the forward peak, to be connected and protected
in the forward hold and the donkey boiler to be examined under
steam. This vessel has proceeded to Sunderland for completion.
The above mentioned work has now been satisfactorily finished.
Wm. Salmon
Sunderland.

The amount of Entry Fee £ 2 : 0 : 0
Special Certificate £ 30 : 0 : 0
Donkey Boiler Fee £ : :
Certificate (if required) .. £ : : 26/5/88
To be sent as per margin.
(Travelling Expenses, if any, £)

Committee's Minute

FRI 25 MAY 83

+ LMB 5/88

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