

REPORT ON MACHINERY.

7720

Port of *West Hartlepool*

FRIDAY 25 OCT 1889

No. *4420*

No. in Survey held at *Stockton & W. Hartlepool*

Date, first Survey *26th April* Last Survey *19th Oct 1889*

g. Book.

on the *Screw Steamer "Blackheath"*

(Number of Visits *21*)

Tons *1674.77*
2570.85

ster *Holl*

Built at *W. Hartlepool* By whom built *Messrs. H. Gray & Co. Ltd.* When built *1889*

gines made at *Stockton*

By whom made *Messrs. Blair & Co. Ltd.* when made *1889*

ilers made at *Stockton*

By whom made *Messrs. Blair & Co. Ltd.* when made *1889*

Registered Horse Power 234

Registered Horse Power 250

Factories " " 190

Owners *British Steamship Co. Ltd.* Port belonging to *London.*

GINES, &c.—

Description of Engines

Inverted, Triple Expansion, 3 Cylinders & 3 Cranks.

Diameter of Cylinders

23, 37 1/2 x 61 1/2 Length of Stroke *39* No. of Rev. per minute *62* Point of Cut off, High Pressure *2 strokes* Low Pressure *2 strokes*

Diameter of Screw shaft

12 Diam. of Tunnel shaft *11 1/4* Diam. of Crank shaft journals *11 1/4* Diam. of Crank pin *12 1/4* size of Crank webs *19 1/4 x 8 3/8*

Diameter of screw

16.0 Pitch of screw *17.0* No. of blades *4* state whether moveable *no* total surface *71 sq. ft*

No. of Feed pumps

2 diameter of ditto *3 1/4* Stroke *28* Can one be overhauled while the other is at work *yes.*

No. of Bilge pumps

2 diameter of ditto *4 1/2* Stroke *28* Can one be overhauled while the other is at work *yes.*

Where do they pump from

For hold, engine room, after well, sea, & ballast tanks.

No. of Donkey Engines

2 Size of Pumps *(4 1/2 x 9) (4 x 8)* Where do they pump from *(Sea, ballast tanks, & bilges)*

No. of bilges

(Sea, ballast tanks, & tanks.)

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.*

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 *3 above 1 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*

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

Were stern tube, propeller, screw shaft, and all connections examined in dry dock

yes worked from *Top platform of engine room.*

Is screw shaft tunnel watertight

yes and fitted with a sluice door *yes*

Boilers, &c.—

No. of Boilers

Two Description *Cyl. horizontal single ended* Whether Steel or Iron *Steel.*

Working Pressure

160 lb. Tested by hydraulic pressure to *220 lb.* Date of test *28th August 1889.*

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*

Net square feet of fire grate surface in each boiler

49.5 Description of safety valves *Spring* No. to each boiler *2*

Weight of each valve

7.07 Are they fitted with easing gear *yes* No. of safety valves to superheater

Are they fitted with easing gear

yes Smallest distance between boilers and bunkers or woodwork *8"* Diameter of boilers *14.0 1/2"*

No. of boilers

Two description of riveting of shell long. seams *double butt strap* circum. seams *double lap* Thickness of shell plates *1 1/4"*

Diameter of rivet holes

1 1/4" whether punched or drilled *drilled* pitch of rivets *12w8, 2w4* Lap of plating *9 1/8"*

Stage of strength of longitudinal joint

84.3 working pressure of shell by rules *162 lb.* size of manholes in shell *16 x 12"*

No. of compensating rings

28 x 24 x 1 1/4" No. of Furnaces in each boiler *3*

Diameter

3.6" length, top *6.3"* bottom *6.3"* thickness of plates *9/16"* description of joint *welded* if rings are fitted *no*

Length between rings

working pressure of furnace by the rules 166 lb. combustion chamber plating, thickness, sides *9/16"* back *9/16"* top *9/16"*

Stays to ditto, sides

1/2 x 1/4" back *1/2 x 1/4"* top *1/2 x 1/4"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by

172 lb. Diameter of stays at smallest part

1 1/8" working pressure of ditto by rules *172 lb.* end plates in steam space, thickness *1 1/8"*

Stays to ditto

16 1/4 x 15" how stays are secured *double nut & wash.* working pressure by rules *171 lb.* diameter of stays at

Best part

2 1/2" working pressure by rules *181 lb.* Front plates at bottom, thickness *1"* Back plates, thickness *1"*

Pitch of stays

11 1/4" working pressure by rules *185 lb.* Diameter of tubes *3 1/4"* pitch of tubes *4 1/8 x 4 1/2"* thickness of tube

Stays, front

1" back *1 1/8"* how stayed *stay lutes* pitch of stays *9 1/4 x 9"* width of water spaces *1 1/4"*

No. of Superheater or Steam chest

1 length *11 1/2"* thickness of plates *1 1/2"* description of longitudinal joint *if stiffened with rings*

Rivets

working pressure of shell by rules diameter of flue *thickness of plates* *How stayed*

Between rings

working pressure by rules end plates of superheater, or steam chest; thickness *how stayed*

Superheater or steam chest; how connected to boiler

Superheater or steam chest; how connected to boiler

574922-0130

Lloyd's Register Foundation

2 DONKEY BOILER—S Description *Vertical, Cylindrical, 3 Cross tubes*
 Made at *W. Handford* by whom made *W. Gray & Co. Ltd.* when made *11.9.89* where fixed *In stockhole*
 Working pressure *65 lb.* tested by hydraulic pressure to *130 lb.* No. of Certificate *1929* fire grate area *16 sq. ft.* description of safety
 valves *Spring* No. of safety valves *one* area of each *4.66* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *no* diameter of donkey boiler *5.6* length *11.0* description of riveting *double riv. lap*
 Thickness of shell plates *$\frac{13}{32}$* diameter of rivet holes *$\frac{3}{4}$* whether punched or drilled *punched* pitch of rivets *$2\frac{3}{4}$* lap of plating *$4\frac{1}{4}$*
 per centage of strength of joint *72.72* thickness of crown plates *$\frac{13}{32}$* stayed by *6 stays 1 1/2" dia*
 Diameter of furnace, top *4.3* bottom *4.9* length of furnace *5.5* thickness of plates *$\frac{15}{32}$* description of joint *single riv. lap*
 Thickness of furnace crown plates *$\frac{15}{32}$* stayed by *6 stays 1 1/2" dia* working pressure of shell by rules *69 lb.*
 Working pressure of furnace by rules *65 lb.* diameter of uptake *14* thickness of plates *$\frac{7}{16}$* thickness of water tubes *$\frac{7}{16}$*

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 a feed
 pump, bilge pump & circulating pump. One set of L.P. piston springs.
 100 Bolts & nuts ass. 6 Bars of iron ass.*

The foregoing is a correct description,

Pro Blair & Co. Ltd.
W. Blair

Manufacturer. of Engines & main boilers.

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 adjust
 and found to work well and are now in safe and efficient
 working condition and eligible, in my opinion, to have
 ✠ L.M.C. 10.89. recorded in the Register of this Society.*

*It is submitted that this
 vessel is eligible to have
 + LMC 10.89*

M.H.
25.10.89

The amount of Entry Fee . £ 2 : 0 : 0 received by me,

Special . £ 31 : 14 : 0

Donkey Boiler Fee . £ 2 : 2 :

Certificate (if required) . £ : : 24.10.18 89.

To be sent as per margin.

(Travelling Expenses, if any, £ .)

Committee's Minute

TUES 29 OCT 1889

+ LMC 10/89

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



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