

# REPORT ON MACHINERY.

5520

No. 5520.

No. in Survey held at *Whitby - Stockton*

Date, first Survey *26 Feb*

Last Survey *16 June 1884*

Reg. Book.

(Number of Visits *13*)

Tons

*1148.7*

*952*

on the

Master

Built at

By whom built

When built

Engines made at

By whom made

when made

Boilers made at

By whom made

when made

Registered Horse Power

Owners

Port belonging to

Engines, &c.—

Description of Engines

*Compound. Inverted. Surface Condensing*

Diameter of Cylinders

*32-60*

Length of Stroke

*39*

No. of Rev. per min.

*66.65*

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

*10 5/8*

Diam. of Crank shaft journals

*11 3/4*

Diam. of Crank pin

*11 3/4*

size of Crank webs

*16 x 1/5/8*

Diameter of screw

*14-6*

Pitch of screw

*16-16-0*

No. of blades

*four*

state whether moveable

*No*

total surface

*not ascertained*

No. of Feed pumps

*two*

diameter of ditto

*4"*

Stroke

*28"*

Can one be overhauled while the other is at work

*Yes*

No. of Bilge pumps

*two*

diameter of ditto

*4"*

Stroke

*28"*

Can one be overhauled while the other is at work

*Yes*

Where do they pump from

*Fore pump from fore hold, engine room & after well & tanks. Aft pump engine room*

No. of Donkey Engines

*two*

Size of Pumps

*1/2 dia x 9 3/4 stroke*

Where do they pump from

*Large pump from fore hold*

*engine room after well & tanks. Small pump from sea, hotwell & 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"*

Are they connected to condense, or to circulating pump

*circulating pump*

How are the pumps worked

*By lines worked from crosshead on low pressure piston rod*

Are all connections with the sea direct on the skin of the ship

*Yes*

Are they Valves or Cocks

*Stop 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

*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

*Yes*

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

*New*

Is the screw shaft tunnel watertight

*Said to be*

and fitted with a sluice door

*Yes*

worked from

*Top platform in engine room*

BOILERS, &c.—

Number of Boilers

*two*

Description

*Cylindrical. Multitubular*

Whether Steel or Iron

*Partly of steel*

Working Pressure

*80 lbs*

Tested by hydraulic pressure to

*160 lbs*

Date of test

*2.5.84. Certificate 1144*

Description of superheating apparatus or steam chest

*Vertical. Contracted at neck*

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

*39 sq ft*

Description of safety valves

*Spring*

No. to each boiler

*two*

Area of each valve

*12.56 sq ft*

Are they fitted with easing gear

*Yes*

No. of safety valves to superheater

*Yes*

area of each valve

*Yes*

Are they fitted with easing gear

*Yes*

Smallest distance between boilers and bunkers or woodwork

*16"*

Diameter of boilers

*13.2 1/8*

Length of boilers

*10-2*

description of riveting of shell long. seams

*Double*

Thickness of shell plates

*1 1/2*

Diameter of rivet holes

*1 1/8*

whether punched or drilled

*Drilled*

pitch of rivets

*4 1/16*

Lap of plating

*Shops 10 1/4 broad*

Per centage of strength of longitudinal joint

*66.3*

working pressure of shell by rules

*89.9 lbs*

size of manholes in shell

*16 x 12*

Size of compensating rings

*Rectangular plate 28 x 24 x 1 1/8*

No. of Furnaces in each boiler

*three*

Outside diameter

*3-4*

length, top

*6-3*

bottom

*8-11*

thickness of plate

*9/16 x 5/8*

description of joint

*Welded & 5/16" if rings are fitted*

Greatest length between rings

*Yes*

working pressure of furnace by the rules

*113 lbs*

combustion chamber plating, thickness, sides

*1/2*

back

*1/2*

top

*1/2*

Pitch of stays to ditto, sides

*8 x 8*

back

*8 x 8*

to

*turned*

If stays are fitted with nuts or riveted heads

*Partly riveted*

working pressure of plating by

*rules*

rules

*88.5*

Diameter of stays at smallest part

*1 5/16*

working pressure of ditto by rules

*119 lbs*

plates in steam space, thickness

*7/8*

Pitch of stays to ditto

*16 1/2 x 16*

how stays are secured

*Nuts & washers*

working pressure by rules

*84.5 lbs*

Diameter of stays at

*7/8*

smallest part

*2 1/4*

working pressure by rules

*112 lbs*

Front plates at bottom, thickness

*7/8*

Back plates, thickness

*7/8*

Greatest pitch of stays

*11 1/2 x 9 1/2*

working pressure by rules

*14 1/6*

Diameter of tubes

*3 1/2*

pitch of tubes

*4 3/4 x 4 3/4*

thickness of tube

*1 1/4*

Least dia

*1 5/16*

back

*7 1/2*

how stayed

*Stay tubes*

pitch of stays

*14 1/4 x 9 1/2*

width of water spaces

*1 1/4 between tubes*

Diameter of Superheater or Steam chest

*3-4*

length

*4-9*

thickness of plates

*4*

description of longitudinal joint

*as above*

Pitch of rivets

*3 1/8*

working pressure of shell by rules

*126*

diameter of flue

*Yes*

thickness of plates

*4/6*

how stayed

*Stay*

Distance between rings

*Yes*

working pressure by rules

*Yes*

end plates of superheater, or steam



DONKEY BOILER— Description *Vertical. Water tubes in furnace*  
 Made at *Stockton* by whom made *Henry Pers* when made *Vald 30. 5. 84* where fixed *Stokehole*  
 Working pressure *40 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *1154* fire grate area *30. 4. 91* description of safety  
 valves *Spring* No. of safety valves *Two* area of each *8. 3. 04* if fitted with easing gear *Yes* if steam from main boilers can  
 enter the donkey boiler *No* diameter of donkey boiler *4. 0* length *13. 6* description of riveting *Long seams lap double*  
 Thickness of shell plates *1/32* diameter of rivet holes *13/16* whether punched or drilled *Punched* pitch of rivets *3 3/4* lap of plating *4 1/4*  
 per centage of strength of joint *40. 4* thickness of crown plates *9/16* stayed by *Hex stays 1 1/2 dia*  
 Diameter of furnace, top *5. 6* bottom *6. 5* length of furnace *5. 2* thickness of plates *5/8* description of joint *Lap single*  
 Thickness of furnace crown plates *9/16* stayed by *Hex stays 1 1/2 dia* working pressure of shell by rules *40 lbs*  
 Working pressure of furnace by rules *40 lbs* diameter of uptake *18* thickness of plates *7/16* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied: *Propeller, two connecting rod top end bolts & nuts, two connecting rod bottom end bolts & nuts, two main bearing bolts, one set coupling bolts, one set feed & bidge pump valves, one set piston springs a quantity of assorted bolts & nuts iron of various sizes*  
 The foregoing is a correct description,  
*Robt Blair & Co* Manufacturer of engines & steam boilers only  
*5/14 Blair*

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

*Material & workmanship good*  
*Furnace crown plates, back tube plates, Combustion chamber plating, dome ends & all joints in main boiler are of Steel.*  
*The Machinery & Boilers have been constructed under Special Survey & are in good order & safe working condition & in my opinion eligible for the notification *⌘ L.M.C. 6. 84* in the Register Book.*

*It is submitted that this vessel is eligible to have the notification + £m 6. 6. 84 recorded*

*23 6 84*

The amount of Entry Fee *£ 2* : : : received by me,  
 Special .. *£ 23* : : :  
 Donkey Boiler Fee .. *£* : : :  
 Certificate (if required) .. *£* : : : *21. 6. 1884*  
 To be sent as per margin.

(Travelling Expenses, if any, £ / )

Committee's Minute

TUESDAY 24 JUNE 1884

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