

REPORT ON MACHINERY.

13938

FRIDAY 7 MAY 1886

Received at London Office

No. 6042

No. in Survey held at West Hartlepool & Sunderland Date, first Survey 30th May 1885 Last Survey 14th April 1886

Reg. Book.

(Number of Vists 41)

2833.53

on the Screw Steamer "Hubbucke" Tons 1833.50

Master Albery Built at Sunderland By whom built J. & S. Thompson & Sons When built 1886

Engines made at Hartlepool By whom made Mrs. Richardson & Sons when made 1886

Boilers made at Hartlepool By whom made Mrs. Richardson & Sons when made 1886

Registered Horse Power 400 Owners W. Lund Port belonging to London.

ENGINES, &c.—

Description of Engines Inverted, Triple Expansion, 3 Cylinders & 3 Cranks.

Diameter of Cylinders 27.42, 69 Length of Stroke 43 No. of Rev. per minute 65 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke

Diameter of Screw shaft 12 1/2 Diam. of Tunnel shaft 12 Diam. of Crank shaft journals 12 1/2 Diam. of Crank pin 12 1/2 size of Crank webs 19 x 8

Diameter of screw 17.0 Pitch of screw 17.6 No. of blades 4 state whether moveable no total surface 101 sq. ft

No. of Feed pumps 2 diameter of ditto 3 3/4 Stroke 27 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 3 3/4 Stroke 27 Can one be overhauled while the other is at work yes

Where do they pump from Forward, main, and after holds. After well, and engine room

No. of Donkey Engines 3 Size of Pumps (1/2 x 9) (3/2 x 7) (3 x 7) Where do they pump from (All ballast tanks and bilge injection) (Sea, hotwell, all bilges & all tanks) (Sea to donkey boiler)

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 2 and sizes 3 1/2 dia Are they connected to condenser, or to circulating pump Circulating pump.

How are the pumps worked By levers from the low pressure 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 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 bilge suction to sea holds How are they protected By ceiling.

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 23rd December 1885.

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from upper platform of engine room.

BOILERS, &c.—

Number of Boilers Two Description Cylindrical built double ended Whether Steel or Iron Steel

Working Pressure 150 lbs. Tested by hydraulic pressure to 300 lbs. Date of test 23rd December 1885.

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 84 Description of safety valves Spring No. to each boiler 2

Area of each valve 11.04 Are they fitted with casing gear yes No. of safety valves to superheater — area of each valve —

Are they fitted with casing gear — Smallest distance between boilers and bunkers on woodwork 14" Diameter of boilers 13.3"

Length of boilers 15.9" description of riveting of shell long. seams double butt steel circum. seams double riv lap Thickness of shell plates 1/8"

Diameter of rivet holes 1 9/64" whether punched or drilled drilled pitch of rivets rows 7 5/8, 2 rows 3 1/2 Lap of plating 9"

Percentage of strength of longitudinal joint 85.04 working pressure of shell by rules 150 lbs. size of manholes in shell 16 3/4 x 13"

Size of compensating rings 30" x 27" x 1 1/8" No. of Furnaces in each boiler 11

Outside diameter 3.10 length, top 6.4 bottom 6.4 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 152 lbs. combustion chamber plating, thickness, sides 7/32" back — top 7/32"

Pitch of stays to ditto, sides 7/4 x 7 back — top 7/2 x 7 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 154 lbs.

Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 169 lbs. end plates in steam space, thickness 1"

Pitch of stays to ditto 15 1/4" x 15" how stays are secured double nuts & washers working pressure by rules 154 lbs. diameter of stays at smallest part 2 1/2"

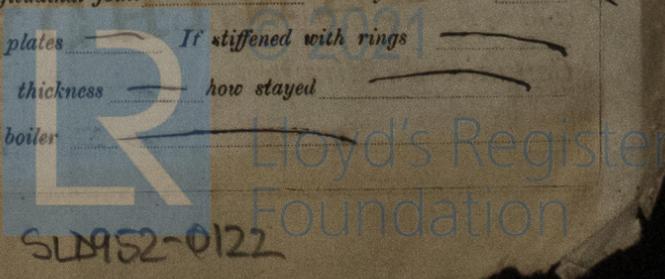
Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 1/4" pitch of tubes 4 1/2 x 4 3/8" thickness of tube plates, front 3/4 clipped by plate back 13/16" how stayed stay tubes pitch of stays 9 x 8 3/4" width of water spaces 1 1/4"

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 *Cylindrical, multitubular, single ended*
 Made at *Gateshead* by whom made *Clark, Chapman & Co.* when made *11.1.86* where fixed *In stokehole*
 Working pressure *90 lbs.* tested by hydraulic pressure to *180 lbs.* No. of Certificate *2048* fire grate area *25 sq. ft.* description of safety valves *Spring* No. of safety valves *2* area of each *7.07* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *9.0* length *9.0* description of riveting *double butt straps*
 Thickness of shell plates *9/16* diameter of rivet holes *3/4* whether punched or drilled *drilled* pitch of rivets *3* lap of plating *9 3/8 x 4 3/4*
 per centage of strength of joint *75* thickness of crown plates *1/2* stayed by *—*
 Diameter of furnace, top *2.6* bottom *—* length of furnace *5.3* thickness of plates *1/2* description of joint *lap joint*
 Thickness of furnace crown plates *1/2* stayed by *—* working pressure of shell by rules *90 lbs.*
 Working pressure of furnace by rules *133 lbs.* diameter of uptake *—* thickness of plates *—* thickness of water tubes *ordinary*
as Reported by J.F. Walker

SPARE GEAR. State the articles supplied:— *2 main bearing bolts & nuts, 1 set of bolts for connecting rod, 1 set of coupling bolts, 1 set of valves for feed-pumps, 1 set of valves for bilge-pumps, 1 set of piston springs, 3 plates & 6 bars of iron assorted, 1 Propeller, 1 set of bushes for connecting rod, 1 air pump bucket & rod, 1 circulating pump bucket & rod &c*

The foregoing is a correct description,
J. Richardson & Sons Manufacturer. of Engines & Steam Boilers.
J. M. C.

General Remarks (State quality of workmanship, opinions as to class, &c.)
*The machinery and boilers of this vessel have been constructed under Special Survey and of a good quality of workmanship they have been tried under steam, and found to work well, and are now in safe and efficient working condition and eligible, in my opinion, to have the notification *L.M.C. 4.86* recorded in the Register of this Society.*

It is submitted that this vessel is eligible to have the notification L.M.C. 4.86 recorded R.P. 6/15/86

[Large blue ink signature]

The amount of Entry Fee .. £ 3 : 0 : 0 received by me,
 Special £ 40 : 0 : 0
 Donkey Boiler Fee £ : : :
 Certificate (if required) .. £ : : : *6.5.1886*
 To be sent as per margin.
 (Travelling Expenses, *any* £ 4 : 7 : 6)

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

Committee's Minute TUESDAY 11 MAY 1886

[Handwritten signature]

