

REPORT ON MACHINERY.

15428

Port of Sunderland

Received at London Office 24 MARCH 1890

No. 15428

No. in Survey held at S'land

Date, first Survey August 2/89 Last Survey March 3rd 1890

Book.

(Number of Visits 28)

3764.25

Tons 3443.47

on the S.S. "Mary Bevis"

Master G. N. Hamlyn Built at S'land By whom built W. Douford & Sons

When built 1890

Engines made at S'land By whom made W. Douford & Sons when made 1890

Motors made at " By whom made " " when made 1890

Registered Horse Power 450 Owners The Bombay London S.S. Co. Ltd Port belonging to London

Engines, &c. — Triple expansion
Description of Engines The compound, 3 cranks

Diameter of Cylinders 27.44" 42" Length of Stroke 48" No. of Rev. per minute 40 Point of Cut off, High Pressure 6 Low Pressure 6

Diameter of Screw shaft 13.5" Diam. of Tunnel shaft 12.5" Diam. of Crank shaft journals 13.5" Diam. of Crank pin 13.5" size of Crank webs 9.5" x 18"

Diameter of screw 17" 9" Pitch of screw 18" 9" No. of blades 4 state whether moveable lose total surface 85 sq

No. of Feed pumps 2 diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes

Where do they pump from Bilges of all compartments, tanks, holds, aft well

No. of Donkey Engines 2 Size of Pumps 6" x 4" x 6" & 9" x 10" Where do they pump from Tanks, bilges of all compartments, sea, hotwell, tanks, sea, bilges

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 1 and sizes 5" dia Are they connected to condenser, or to circulating pump C. P.

How are the pumps worked by levers from L. P. engine

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 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 while building

Is the screw shaft tunnel watertight ✓ and fitted with a sluice door yes worked from top platform

Number of Boilers 2 Description Cyl. double ended Whether Steel or Iron steel

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 14-1-90

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. of square feet of fire grate surface in each boiler 103 sq Description of safety valves Spring No. to each boiler 2

Area of each valve 14-19 sq 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 or woodwork 15" Diameter of boilers 14' 0"

Length of boilers 16' 0" description of riveting of shell long. seams t. r. butt circum. seams d. t. r. lap Thickness of shell plates 1 1/2"

Diameter of rivet holes 1 5/8" whether punched or drilled d. pitch of rivets 8 1/2" & 4 1/2" Lap of plating 18" shaps

Percentage of strength of longitudinal joint 85.04% working pressure of shell by rules 160 lbs size of manholes in shell 16" x 12"

Size of compensating rings 6" x 1 3/8" No. of Furnaces in each boiler 63

Outside diameter 3' 5 1/2" length, top 6' 4" bottom 6' 8" thickness of plates 7/8" description of joint corrugated if rings are fitted ✓

Greatest length between rings ✓ working pressure of furnace by the rules 16 8/10 lbs combustion chamber plating, thickness, sides 7/8" back ✓ top 7/8"

Pitch of stays to ditto, sides 7 3/4" x 7/8" back ✓ top 7 3/4" x 7/8" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 16 8/10 lbs Diameter of stays at smallest part 1.22" dia working pressure of ditto by rules 16 8/10 lbs end plates in steam space, thickness 1"

Pitch of stays to ditto 16" x 1 1/2" how stays are secured d. nuts & washers working pressure by rules 160 lbs diameter of stays at smallest part 3 1/2" working pressure by rules 148 lbs Front plates at bottom, thickness 3/4" Back plates, thickness 3/4"

Greatest pitch of stays 9 1/2" working pressure by rules 160 lbs Diameter of tubes 3 1/2" pitch of tubes 9 1/2" thickness of tube plates, front 3/4" back 5/8" how stayed stay tubes pitch of stays 9 1/2" width of water spaces 1 1/2"

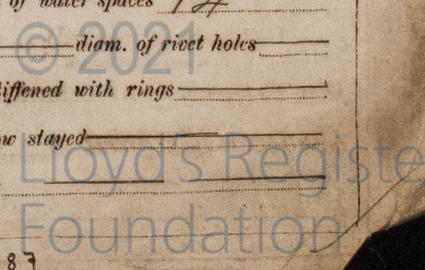
Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —

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 —
total heating surface in sq ft 308
SLD 968-0187

Description of furnaces for yes.



DONKEY BOILER— Description *Circular Vertical Cochran Patent*
 Made at *Birkenhead* by whom made *Cochran & Co* when made *1889* where fixed *stoke hole*
 Working pressure *80 Ws* tested by hydraulic pressure to *160 Ws* No. of Certificate *784* fire grate area *25.5 sq.* description of safety valves *spring*
 enter the donkey boiler *no* No. of safety valves *2* area of each *7.07* if fitted with easing gear *yes* if steam from main boilers can (conf.) (circ)
 Thickness of shell plates *15/32* diameter of rivet holes *7/8* whether punched or drilled *d.* pitch of rivets *2* lap of plating *4*
 per centage of strength of joint *70.8* thickness of crown plates *13/32* stayed by *Hemispherical*
 Diameter of furnace, top *3' 1" red* bottom *6" 2"* length of furnace *—* thickness of plates *17/32* description of joint *Sing welded lap*
 Thickness of furnace crown plates *13/32* stayed by *Hemispherical* working pressure of shell by rules *87 Ws*
 Working pressure of furnace by rules *80 Ws* diameter of uptake *2' 4"* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *1 set of propeller blades, 12 boiler tubes, 1 set of connecting rod top & bottom end bolts & nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed and bilge pump valves, nuts & bolts for on aboard.*

The foregoing is a correct description,
William Doxford & Son Manufacturer. *Main engines & boilers*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery and boilers of this vessel have been constructed of good materials and workmanship under special survey; the safety valves on main boilers were adjusted to 165 Ws & the main steam pipes tested by hydraulic to twice the working pressure; when tried under steam the machinery worked in a satisfactory manner. In my opinion this vessel is eligible to have a notification in the Register Book of L.M.C. 3.90.*

W. A. Doxford

It is submitted that this vessel is eligible to have + L.M.C. 3.90 recorded.

W. A. Doxford
 24-3-90

The amount of Entry Fee .. £ *3:0:0* received by me,
 Special .. £ *42:10:0*
 Donkey Boiler Fee .. £ *-: -: -*
 Certificate (if required) .. £ *-: -: -* 21 March 1890.
 (Travelling Expenses, if any, £ *—*)

J. Y. Hindle
 Engineer/Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES 25 MARCH 1890

+ L.M.C. 3/90

