

REPORT ON MACHINERY.

15478

Port of Sunderland

Received at London Office 12 MAY 1890

Date, first Survey October 1/89 Last Survey April 20th 1890

(Number of Visits 24)

Survey held at Sunderland

Tons Gross 3808.05
Net 2460.04

on the S.S. "Seaking"

When built 1890

H. Peace Built at S'land

By whom built W. Doyford Sons

made at S'land

By whom made W. Doyford Sons

when made 1890

made at "

By whom made "

when made 1890

Indicated Horse Power 450

Owners W. Ross & Co.

Port belonging to London

ENGINES, &c.—

Position of Engines Tri compound, 3 cranks No. of Cylinders 3

Number of Cylinders 37" 44" 42" Length of Stroke 48" Rev. per minute 70" Point of Cut off, High Pressure 6 Low Pressure 6

Diameter of Screw shaft 1 3/4" Diam. of Tunnel shaft 1 3/4" Diam. of Crank shaft journals 1 3/4" Diam. of Crank pin 1 3/4" size of Crank webs 9 3/4" x 18"

Diameter of screw 1 7/8" Pitch of screw 18" 9" No. of blades 4 state whether moveable M. total surface 85 sq

Number of Feed pumps 2 diameter of ditto 4" Stroke 22 Can one be overhauled while the other is at work yes

Number 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, after well.

Number of Donkey Engines 2 Size of Pumps 6" x 4" x 6" x 9" x 10" Where do they pump from highest bilges, Sea.

W. Russell, 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.

Number of bilge injections 1 and sizes 5" Are they connected to condenser, or to circulating pump C.P.

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

How 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.

When were stern tube, propeller, screw shaft, and all connections examined in dry dock while building

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

BOILERS, &c.—

Number of Boilers 2 Description Cy. double ended Material steel except tubes Letter (for record)

Working Pressure 160 lbs. Tested by hydraulic pressure to 330 lbs. Date of test April 10th 1890

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 X

Number 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 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 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 2+t.r. lap Thickness of shell plates 1 3/8"

Diameter of rivet holes 1 5/16" whether punched or drilled 2 pitch of rivets 8 1/2" + 4 1/2" Lap of plating 18" Straps

Percentage of strength of longitudinal joint 85.04 working pressure of shell by rules 160 lbs. size of manholes in shell 16" x 13"

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

Outside diameter 3' 5 3/8" length 6' 6" thickness of plates 9/16" description of joint comp. joint if rings are fitted ✓

Greatest length between rings ✓ working pressure of furnace by the rules 168 combustion chamber plating, thickness, sides 9/16" back ✓ top 9/16"

Pitch of stays to ditto, sides 7 3/4" x 7 3/8" back 7 3/4" x 7 3/8" top 7 3/4" x 7 3/8" If stays are fitted with nuts or riveted heads nuts. working pressure of plating by rules 162

Diameter of stays at smallest part 1.33 in. working pressure of ditto by rules 168 end plates in steam space, thickness 1" doubling plates

Pitch of stays to ditto 16" x 15 1/2" how stays are secured 2 nuts & washers working pressure by rules 163 lbs. diameter of stays at smallest part 3 3/8" working pressure by rules 178 lbs. Front plates at bottom, thickness 3/4" Back-plates, thickness 3/4"

Greatest pitch of stays 9 3/8" working pressure by rules 160 lbs. Diameter of tubes 3 3/8" pitch of tubes 9 3/8" thickness of tube plates, front 3/4" back 3/8" how stayed stay tubes pitch of stays 9 3/8" width of water spaces 12"

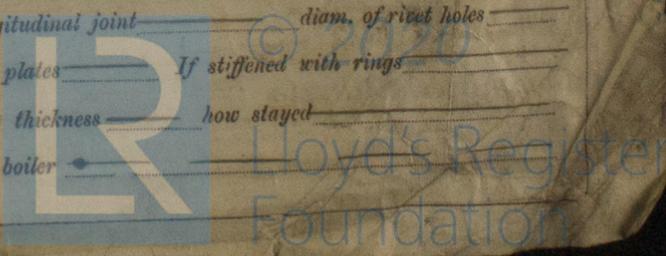
Diameter of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. of rivet holes

Working pressure of shell by rules diameter of flue thickness of plates If stiffened with rings

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

Superheater or steam chest; how connected to boiler

2700-696475



DONKEY BOILER— Description *Vertical "Cochran's patent"*
 Made at *Birkenhead*, by whom made *Cochran & Co.* when made *1890* where fixed *Stokehole*
 Working pressure *60* U.S. tested by hydraulic pressure to *120* U.S. No. of Certificate *871* fire grate area *25* sq. feet
 valves *spring* No. of safety valves *2* area of each *7.07* if fitted with easing gear *yes*, if steam from main boiler
 enter the donkey boiler *no*. diameter of donkey boiler *4.6*" length *15.6*" description of riveting *A. R. Temp. R.*
 Thickness of shell plates *7/16*" diameter of rivet holes *13/16*" whether punched or drilled *A*, pitch of rivets *3 1/4*" lap of plating *4*"
 per centage of strength of joint *70.4*% thickness of crown plates *3/32*" stayed by *hemispherical*
 Diameter of furnace, top *2*" rad bottom *—* length of furnace *6.3*" thickness of plates *3*" description of joint *Sm. r. lap.*
 Thickness of furnace crown plates *3*" stayed by *Hemispherical* working pressure of shell by rules *70*
 Working pressure of furnace by rules *80* U.S. diameter of uptake *18 x 20*" thickness of plates *3*" thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *2 propeller blades, boiler tubes, 1 set of Cornish
 rod top & bottom end bolts & nuts, 2 main bearing bolts, 1 set of coupling
 bolts, 1 set of feed helge pump valves, nut bolts & more assorted.*

The foregoing is a correct description,

William Douglas Somers 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 under special survey of good
 materials & workmanship. The main steam pipes were tested to two
 the working pressure; when tried under steam the machinery
 boilers were satisfactory. In my opinion this vessel is eligible for
 notification in the Register Book of + L.M.C. 5/90*

*It is submitted that this
 vessel is eligible to have
 + L.M.C. 4.90 accorded
 to it*

*J. L. Findlay
 12.5.90*

The amount of Entry Fee .. £ *3* : : *received by me*

Special .. £ *42* : *10* :

Donkey Boiler Fee .. £ - : - :

Certificate (if required) .. £ - : - : *12.5.1890*

(Travelling Expenses, if any, £ - : - :)

TUES 13 MAY 1890

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

Committee's Minute

+ L.M.C. 5/90

