

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office NO 22 JULY 1889

Date, first Survey February 1889 Last Survey July 11th 1889

Number of Visits 23 Tons 1276.33

Tons 820.24

Survey held at S. land

on the S.S. "Ova"

Built at S. land By whom built Shand Slip Co. Ld When built 1889

Made at S. land By whom made The N. & M. Eng Co. when made 1889

Made at S. land By whom made The N. & M. Eng Co. Ld when made 1889

Registered Horse Power 130 Owners Charles Frederick Henric Port belonging to London

ENGINES, &c.—

Number of Engines Tri compound 3 cranks

Diameter of Cylinders 18 1/2" 30" 49" Length of Stroke 33" No. of Rev. per minute 65 Point of Cut off, High Pressure 6 P. Low Pressure 6

Diameter of Screw shaft 9 1/2" Diam. of Tunnel shaft 8 3/4" Diam. of Crank shaft journals 9 1/2" Diam. of Crank pin 9 1/2" size of Crank webs 15 x 5 1/2"

Diameter of screw 12" 4" Pitch of screw 13 mean No. of blades 4 state whether moveable f. total surface 42 f.

Number of Feed pumps 2 diameter of ditto 2 1/2" Stroke 33" Can one be overhauled while the other is at work yes

Number of Bilge pumps 2 diameter of ditto 3 1/2" Stroke 33" Can one be overhauled while the other is at work yes

Where do they pump from Bilges of all compartments, engine room, aft well.

Number of Donkey Engines 2 Size of Pumps (8 x 9") + (3 x 4 1/2") Where do they pump from Fore & Aft Tanks, sea bilges

Where well, F.D. hotwell sea, tanks, 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 4" dia Are they connected to condenser, or to circulating pump C.P.

Are the pumps worked direct from crossheads

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 they protected ✓

Are all pipes carried through the bunkers none

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 when building

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

BOILERS, &c.—

Number of Boilers 1 Description Cyl. multitubular Whether Steel or Iron steel

Working Pressure 150 lbs Tested by hydraulic pressure to 300 lbs Date of test 6/4/89

Description of superheating apparatus or steam chest ✓

Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately ✓

Area of square feet of fire grate surface in each boiler 62 f. Description of safety valves Spring No. to each boiler 2

Area of each valve 8.3 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 9" Diameter of boilers 14 ft

Length of boilers 10' 3" description of riveting of shell long. seams t. r. butt. circum. seams d. r. lap. Thickness of shell plates 18 3/16"

Diameter of rivet holes 1 1/2" whether punched or drilled d. pitch of rivets 4" x 3 1/2" Lap of plating 16 1/2 Straps

Percentage of strength of longitudinal joint 83.92% working pressure of shell by rules 152.3 size of manholes in shell 16" x 12"

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

Outside diameter 3' 3" length, top 5' 9" bottom 6' 0" thickness of plates 3" description of joint ✓ if rings are fitted ✓

Greatest length between rings ✓ working pressure of furnace by the rules 15 1/4 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"

Are stays to ditto, sides 8" x 1 1/2" back 8" x 1 1/2" top 1 1/2" x 1 1/2" If stays are fitted with nuts or riveted heads nuts working pressure of plating by

151 Diameter of stays at smallest part 1.330 in. working pressure of ditto by rules 17 1/4 lbs end plates in steam space, thickness 1"

Are stays to ditto 15 3/8" x 15 1/16" how stays are secured nuts working pressure by rules 150 diameter of stays at

Smallest part 2 3/8" working pressure by rules 150 lbs Front plates at bottom, thickness 3" Back plates, thickness 1 1/16"

Pitch of stays 11 1/2" working pressure by rules 150 Diameter of tubes 3 1/2" pitch of tubes 4 1/2" x thickness of tube

Front 1 3/16" back 3/4" how stayed stay tubes pitch of stays 9" width of water spaces 1 1/2"

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

Are rivets — working pressure of shell by rules — diameter of flue — thickness of plates — If stiffened with rings —

Are end plates of superheater, or steam chest; thickness — how stayed —

Are Superheater or steam chest; how connected to boiler —

Description of furnaces Yes
Sealing surface in ✓ by Rule 2078

DONKEY BOILER— Description *Vertical 3 cross tubes*
 Made at *Galshead* by whom made *Clark Chapman, Pt. No. 1* when made *6/89*, where fixed *St. Peter*
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *2873* fire grate area *19.5 sq* description
 valves *Spring* No. of safety valves *1* area of each *12.56 sq in* fitted with easing gear *Yes* if steam from main boiler
 enter the donkey boiler *720*, diameter of donkey boiler *6" 3"* length *12' 6"* description of riveting *lap double*
 Thickness of shell plates *9/16"* diameter of rivet holes *13/16"* whether punched or drilled *same* pitch of rivets *3 3/8"* lap of plating
 per centage of strength of joint *72.2%* thickness of crown plates *5/8"* stayed by *6 stays 1 5/8" dia.*
 Diameter of furnace, top *4' 11"* bottom *5' 3"* length of furnace *5' 3"* thickness of plates *9/16"* description of joint *lap. S*
 Thickness of furnace crown plates *9/16"* stayed by *Same as crown* working pressure of shell by rule
 Working pressure of furnace by rules *80 lbs.* diameter of uptake *15"* thickness of plates *3/8"* thickness of water tubes

SPARE GEAR. State the articles supplied:— *1 set of coupling bolts & nuts, 1 set of top and bottom end connecting rod bolts & nuts, 2 main bearing bolts & nuts, 1 set of feed and helge pump valves, Spare propellers, nut bolts assorted and iron of various sizes.*

The foregoing is a correct description,

J. H. Drwin Manufacturer. *Main engine & boiler*
The North Eastern Marine Engineering Co. Ltd.
Underland.

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

The machinery and boilers of this vessel have been constructed under special survey. The materials and workmanship are good and efficient. The main steam pipes were tested to twice working pressure and found sound; the machinery and engine were tried under steam and in my opinion are in good and safe working condition, eligible for the notification in the Register Book of L.M.C. 7. 89.

Let it be submitted that this vessel is in compliance with the rules of L.M.C. 7. 89 recorded
22. 7. 89

Clark

The amount of Entry Fee . . . £ *2 : 0 : 0* received by me,
 Special £ *19 : 10 : 0*
 Donkey Boiler Fee £
 Certificate (if required) . . . £ *19 July 1889*
 To be sent as per margin.

(Travelling Expenses, if any, £)
 Committee's Minute *TUES 23 JULY 1889*

+ dm 6/7/89

J. D. F. M. Clary
 Engineer Surveyor to Lloyd's Register of British & Foreign S

