

REPORT ON MACHINERY.

9926

MON 30 JUNE 1890

No. 9926

Port of Glasgow

Received at London Office

No. in Survey held at Paisley

Date, first Survey 25th August 1889 Last Survey 28th June 1890

Reg. Book.

(Number of Visits 35)

on the Iron Screw Steamer "Duckenfield"

Tons { Gross 912 Net 552

Master M. Witherpoon Built at Paisley

By whom built Fleming & Ferguson

When built 1890.

Engines made at Paisley

By whom made Fleming & Ferguson

when made 1890.

Boilers made at Glasgow

By whom made Anderson & Lyall

when made 1890.

Registered Horse Power 150.

Owners J. & A. Brown

Port belonging to Newcastle N.S.W.

ENGINES, &c.—

Description of Engines Quadruple Expansion. Two Sets. No. of Cylinders 4 each set.

Diam. of Cylinders 13", 18", 25" & 36" Length of Stroke 29" Rev. per minute 90 Point of Cut off, High Pressure — Low Pressure —

Diameter of Screw shaft 7" Diam. of Tunnel shaft 6 1/2" Diam. of Crank shaft journals 7 1/2" Diam. of Crank pin 7 1/2" size of Crank webs 5" x 8 1/2"

Diameter of screws 9" - 6" Pitch of screws 15" - 0" No. of blades 4 state whether moveable Sol. total surface 25.5 sq ft

No. of Feed pumps One diameter of ditto 3" Stroke 14" Can one be overhauled while the other is at work —

No. of Bilge pumps One diameter of ditto 3" Stroke 14" Can one be overhauled while the other is at work —

Where do they pump from All Compartments No. of Donkey Engines 2 Feed. Size of Pumps 4 1/2" x 3" x 7" 12" x 10 1/2" x 12" Where do they pump from Holdwell, 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

No. of bilge injections One and sizes 3" Are they connected to condenser, or to circulating pump Yes

How are the pumps worked by levers.

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 on stocks before launching

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from upper platform.

BOILERS, &c.—

No. of Boilers Two Description Multitubular Material Steel. Letter (for record) S.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 16th April 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 —

No. of square feet of fire grate surface in each boiler 46. Description of safety valves d. spring No. to each boiler two

Area of each valve 7" 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 accommodation 18" Diameter of boilers 12' 6"

Length of boilers 10' 0" description of riveting of shell long. seams d. butt straps 3 rows circum. seams Lap joint 2 rows Thickness of shell plates 1 3/8"

Diameter of rivet holes 1 3/8" whether punched or drilled drilled pitch of rivets 8 7/8" x 3 1/2" Lap of plating 1' 10 1/4" x 6 1/2"

Percentage of strength of longitudinal joint 84% working pressure of shell by rules 200 lbs. size of manholes in shell 16" x 12"

No. of compensating rings McNeill's No. of Furnaces in each boiler Three Description of Furnaces Ribbed (Purvis)

Inside diameter 2' 11 1/8" length 6' 10" thickness of plates 9/16" description of joint Welded if rings are fitted —

Greatest length between rings — working pressure of furnace by the rules 231 lbs combustion chamber plating, thickness, sides 5/8" back 19/32 top 5/8"

Thickness of stays to ditto, sides 7 1/2" x 7 1/2" back 7" x 6 3/4" top 7 1/2" x 7 1/2" stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 220 lbs

Diameter of stays at smallest part 1 3/8" x 1 1/8" working pressure of ditto by rules 241 lbs plates in steam space, thickness 7/8" + 3/4"

Thickness of stays to ditto 15 1/2" x 14" how stays are secured Double & double working pressure by rules 220 lbs diameter of stays at smallest part 2 5/8"

working pressure by rules 200 lbs. Front plates at bottom, thickness 3/4" Back plates, thickness 3/4"

Greatest pitch of stays 7" x 7" working pressure by rules — Diameter of tubes 3 1/2" pitch of tubes 4 3/4" x 4 3/4" thickness of tube plates, front 13/16" back 13/16" how stayed S. Tubes pitch of stays 9 1/2" x 9 1/2" width of water spaces 6" to 9"

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 —

9926 gls.

DONKEY BOILER— Description *Vertical with Cornstubs.*
Made at *Gateshead* by whom made *Clark, Chapman & Co* when made *1890* where fixed *Stokehold*
Working pressure *80 lbs*, tested by hydraulic pressure to *160 lbs* No. of Certificate *3155* fire grate area *15 ft²* description of safety valves *A. Spring* No. of safety valves *One* area of each *7"* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *5'-6"* length *10'-0"* description of riveting *Single & double*
Thickness of shell plates *13/32* diameter of rivet holes *13/16* whether punched or drilled *drilled* pitch of rivets *3"* lap of plating *4"*
per centage of strength of joint *72%* thickness of crown plates *9/16* stayed by *5 stays 1 3/8" dia*
Diameter of furnace, top *4'-2"* bottom *4'-7"* length of furnace *4'-0"* thickness of plates *9/16* description of joint *Single rivet lap*
Thickness of furnace crown plates *5/8"* stayed by *as shell crown* working pressure of shell by rules *96 lbs*
Working pressure of furnace by rules *90 lbs* diameter of uptake *14"* thickness of plates *2/8"* thickness of water tubes *3/8" iron*

SPARE GEAR. State the articles supplied:— *Top and bottom end bolts. Main bearing bolts Coupling bolts. Bottom end branes— Bilge, feed and donkey pump valves— One propeller shaft and two propellers—*
The foregoing is a correct description,
Flaming & Ferguson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned engines and boilers have been built under special survey and are now completed in a satisfactory manner and the machinery is now in opinion eligible to the notation: + L.M.C. 6.90.—*

This vessel is fitted with the electric light the dynamo and engine for same can be placed in the engine room. The double wires are well insulated and carried along in a proper casing. The arrangement is in my opinion good and efficient &c.

It is submitted that this vessel is eligible to have + L.M.C. 6.90 recorded. The vessel is fitted with the electric light

3.6.90

The amount of Entry Fee .. £ *2* : : : received by me,
Special £ *22* : *10* : :
Donkey Boiler Fee £ : : : :
Certificate (if required) .. £ : : : : *2.7.1890*
To be sent as per margin.
(Travelling Expenses, if any, £).

Committee's Minute

7003 1 Jan 1890

+ L.M.C. 6.90

Wm Sanderson & J. Stewart
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Glasgow

Lloyd's Register Foundation