

REPORT ON MACHINERY.

4588

No. 4588

Received at London Office

27/8/86

No. in Survey held at Glasgow & Dumbarton

Date, first Survey 25th Dec 1885 Last Survey 21 August 1886

Reg. Book.

on the Screw Steamer "Inland"

(Number of Vats 48)

Tons 1363.40
869.43

Master

Built at Dumbarton

By whom built

A. McMillan & Co. When built 1886

Engines made at

Glasgow

By whom made

Hutton & Corbett

when made

1886

Boilers made at

"

By whom made

"

"

"

when made

1886

Registered Horse Power

114

Owners

Donald Currie & Co.

Port belonging to

London

ENGINES, &c.—

Description of Engines *Triple Expansion (Three Cranks)*

Diameter of Cylinders *18" 30" 48"* Length of Stroke *36"* No. of Rev. per minute *70* Point of Cut off, High Pressure *.68* Low Pressure *.5*

Diameter of Screw shaft *9 1/4"* Diam. of Tunnel shaft *8 3/4"* Diam. of Crank shaft journals *9 1/4"* Diam. of Crank pin *9 1/4"* size of Crank webs *6 1/2" x 10 3/4"*

Diameter of screw *12 1/2"* Pitch of screw *10" 6" mean* No. of blades *four* state whether moveable *yes* total surface *44 sq ft*

No. of Feed pumps *two* diameter of ditto *2 3/4"* Stroke *20"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *two* diameter of ditto *2 3/4"* Stroke *20"* Can one be overhauled while the other is at work *yes*

Where do they pump from *All Compartments*

No. of Donkey Engines *two* Size of Pumps *one 4" x 3" x 8" one 8" x 4" x 10"* Where do they pump from *Sea Bilge & Ballast Tanks*

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 1/2"* Are they connected to condenser, or to circulating pump *to Circulating*

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 *near to lead line*

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 pipes to fore hold* How are they protected *by wood casing*

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 Slip previous to being launched*

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

BOILERS, &c.—

Number of Boilers *one* Description *Round Horizontal* Whether Steel or Iron *Steel*

Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *12th June 1886*

Description of superheating apparatus or steam chest *none*

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

No. of square feet of fire grate surface in each boiler *60 sq ft* Description of safety valves *Direct Spring* No. to each boiler *two*

Area of each valve *4"* 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 *18"* Diameter of boilers *12" 5"*

Length of boilers *15 ft* description of riveting of shell long. seams *Double butt straps with rivets* circum. seams *Double riveted* Thickness of shell plates *1 1/8"*

Diameter of rivet holes *1 1/4"* whether punched or drilled *Drilled* pitch of rivets *4" + 3 1/2"* Lap of plating *Straps 19 1/2"*

Per centage of strength of longitudinal joint *82%* working pressure of shell by rules *160 lbs* size of manholes in shell *16" x 12"*

Size of compensating rings *Doubling piece* No. of Furnaces in each boiler *four*

Outside diameter *3' 4"* length, top *16 ft* bottom thickness of plates *9/16"* description of joint *Corrupted* if rings are fitted

Greatest length between rings working pressure of furnace by the rules *162 lbs* combustion chamber plating, thickness, sides *9/16"* back top *9/16"* full

Pitch of stays to ditto, sides *4" x 4"* back top *4" x 4"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *160 lbs* Diameter of stays at smallest part *1 3/8"* working pressure of ditto by rules *189 lbs* end plates in steam space, thickness *1 1/4"*

Pitch of stays to ditto *1 1/4" x 1 1/4"* how stays are secured *by double nuts* working pressure by rules *160 lbs* diameter of stays at smallest part *2.41* Solid working pressure by rules *14 1/2 lbs* Front plates at bottom, thickness *1 3/16"* Back plates, thickness

Greatest pitch of stays working pressure by rules Diameter of tubes *3 1/2"* pitch of tubes *4 3/4" x 4 1/8"* thickness of tube plates, front *1 1/4"* back *1 3/16"* how stayed *by tubes* pitch of stays *9 1/2" x 9 1/2"* width of water spaces *6"*

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

[Form No. 1, 1900-1915—Transfer Ink.]

1100-507574

DONKEY BOILER— Description *Vertical (Cestus patent) Steel*
 Made at *Gateshead* by whom made *Clark Chapman* *Parent* *when made 1886* where fixed *in Stothold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *21214* *date of test 22/6/86* fire grate area *10 sq ft* description of safety
 valves *Direct Spring* No. of safety valves *one* area of each *4"* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *No* diameter of donkey boiler *4' 9"* length *11'* description of riveting *Double lap*
 Thickness of shell plates *1/16"* diameter of rivet holes *3/4"* whether punched or drilled *unpunched* pitch of rivets *2 3/4"* lap of plating *3 3/8"*
 per centage of strength of joint *42* thickness of crown plates *1/16"* stayed by *uptake + 4 stays*
 Diameter of furnace, top *2' 6"* bottom *4 1/2'* length of furnace *—* thickness of plates *1/16"* description of joint *Single lap*
 Thickness of furnace crown plates *1/16"* stayed by *as above* working pressure of shell by rules *94 lbs*
 Working pressure of furnace by rules *80 lbs* diameter of uptake *3 9"* thickness of plates *1/16"* thickness of water tubes *1/16"*

SPARE GEAR. State the articles supplied:— *2 Piston rod bolts + nuts, 2 Connecting rod bolts + nuts, One set Coupling bolts, 2 Main bearing bolts + nuts, 3 Boiler tubes & Condenser tubes, 1 Feed + 1 Bilge pump valve, 1 Donkey pump valve, Assortment of bolts, nuts, & Iron of various sizes, 2 Propeller blades*
 The foregoing is a correct description,
Wm. Wilson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *These Engines + Boilers are of good workmanship + materials and are now in good order and safe working condition and eligible in my opinion to be noted in the Register Book* Lloyd's M. C. 8/86

The amount of Entry Fee . . . £ *2* : : received by me,
 Special £ *14* : *11* :
 Donkey Boiler Fee £ : :
 Certificate (if required) £ : : *24/8/1886*
 To be sent as per margin.
 (Travelling Expenses, if any, £ - -)

Submitted that this vessel is eligible to have a L.M.C.
27.8.86
MM
James Morrison
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Clyde District

Committee's Minute
 + *MM*
 FRIDAY 27 AUGUST 1886