

REPORT ON MACHINERY.

No. 6510

No. in Survey held at *Glasgow*

Date, first Survey *June 20th 1883* Last Survey *3rd May 1884*

Reg. Book.

Received at London Office *Rec'd 6th May 1884*

on the *Screw Steamer "Vancouver"*

Number of Visits *44* Tons *5058*

When built *1882*

Master *E. J. Lindall* Built at *Glasgow* By whom built *C. Connell & Coy*

Engines made at *Glasgow* By whom made *John & James Thomson* when made *1882*

Boilers made at *do* By whom made *do* when made *do*

Registered Horse Power *1000.* Owners *Mississippi & Dominion Steam Ship Co* by Port belonging to *Liverpool*

ENGINES, &c.—

Description of Engines *Compound Inverted Direct Acting*

Diameter of Cylinders *58" 80x80"* Length of Stroke *66"* No. of Rev. per minute *60.* Point of Cut off, High Pressure *Var* Low Pressure *—*

Diameter of Screw shaft *19 1/8"* Diam. of Tunnel shaft *18 3/4"* Diam. of Crank shaft journals *20"* Diam. of Crank pin *20"* size of Crank webs *14 1/2"* Built *—*

Diameter of screw *20-6"* Pitch of screw *29-0"* No. of blades *4* state whether moveable *yes* total surface *132 sq ft*

No. of Feed pumps *Two* diameter of ditto *4"* Stroke *30"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *Two* diameter of ditto *4"* Stroke *30"* 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 *5 1/2" x 11" stroke* Where do they pump from *Sea, Hotwell and 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 *Two* and sizes *6"* Are they connected to condenser, or to circulating pump *Air pump.*

How are the pumps worked *by levers (Circulating pumps by separate Engines)*

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 *for bilge suction* How are they protected *wood flooring*

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 *before launching*

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

BOILERS, &c.—

Number of Boilers *Six* Description *Single & double ended* Whether Steel or Iron *Steel*

Working Pressure *90 lbs.* Tested by hydraulic pressure to *180 lbs.* Date of test *14th January 1884*

Description of superheating apparatus or steam chest *Horizontal dome*

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 *S.E. 129.34 ft D.E. 64.12 ft* Description of safety valves *direct spring* No. to each boiler *S.E. 2. D.E. 3.*

Area of each valve *S.E. 17.7" D.E. 21.5"* 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 *15'-0"*

Length of boilers *S.E. 10'-0" D.E. 17'-9"* description of riveting of shell long. seams *double butt* circum. seams *double lap.* Thickness of shell plates *15/16"*

Diameter of rivet holes *9/16"* whether punched or drilled *drilled* pitch of rivets *5"* Lap of plating *14" straps*

Per centage of strength of longitudinal joint *75* working pressure of shell by rules *100 lbs.* size of manholes in shell *16" x 12 1/2"*

Size of compensating rings *Angle Iron 3 1/2" x 3 1/2" x 5/8"* No. of Furnaces in each boiler *S.E. 3. D.E. 6.*

Outside diameter *48"* length, top *7'-0"* bottom *5'9"-6"* thickness of plates *3/16"* description of joint *welded* if rings are fitted *—*

Greatest length between rings *corrugated* working pressure of furnace by the rules *104* combustion chamber plating, thickness, sides *15"* back *15"* top *19"*

Pitch of stays to ditto, sides *7/2" x 8"* back *8" x 8"* top *11"* If stays are fitted with nuts or riveted heads *Nuts.* working pressure of plating by rules *105.* Diameter of stays at smallest part *1 1/4"* working pressure of ditto by rules *115.* end plates in steam space, thickness *15" x 13"*

Pitch of stays to ditto *16" x 16" x 16 1/2"* how stays are secured *nut wash.* working pressure by rules *104 lbs.* diameter of stays at smallest part *S.E. 2 1/2" D.E. 2 5/8"* working pressure by rules *114 lbs.* Front plates at bottom, thickness *1 1/16"* Back plates, thickness *3/4"*

Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *3 1/2"* pitch of tubes *4 3/4"* thickness of tube plates, front *15/16"* back *3/16"*

Diameter of Superheater or Steam chest *3'-9"* length *S.E. 9'-0" x 3'-0" dia D.E. 17'-0"* thickness of plates *9/16" x 5/8"* description of longitudinal joint *lap* diam. of rivet holes *13/16"*

Pitch of rivets *2 5/8"* working pressure of shell by rules *320* 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 *5/8"* how stayed *One Rod Stay*

2 3/4" dia through centre of dishes Superheater or steam chest; how connected to boiler *by welded*

GLS149-0135

Lloyd's Register Foundation

Copy
 2. DONKEY BOILERS Description *Cochran's Patent* 6510 g/s
 Made at *Birkenhead* by whom made *Cochran & Co* when made *1884* where fixed *on deck*
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *416* fire grate area *13 ft* description of safety
 valves *Direct 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 boilers *5'-3"* length *11'-9"* description of riveting *Single & double*
 Thickness of shell plates *3/8"* diameter of rivet holes *3/4"* whether punched or drilled *punched* pitch of rivets *2 1/2"* lap of plating *4 1/2"*
 per centage of strength of joint *70* thickness of crown plates *3/8"* stayed by *hemispherical*
 Radius of furnace, top *2'-0"* bottom *4'-0" dia* length of furnace *4'* thickness of plates *3/8"* description of joint *Single riv. lap.*
 Thickness of furnace crown plates *3/8"* stayed by *hemispherical* working pressure of shell by rules *64.36*
 Working pressure of furnace by rules *93 lbs* diameter of uptake *14"* thickness of plates *3/8"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Top and Bottom End Bolts. Main Bearing Bolts. One set Coupling Bolts. Feed, Bilge and Donkey Valves Valve Spindle. Bolts, Nuts and Iron assorted.*

The foregoing is a correct description,
John + James Thomson Manufacturers

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 onboard in a satisfactory manner. The Machinery is now in my opinion in a safe and good working condition and eligible to be noted in the Register Book.*)

*L.M.C. 5. 84.

This submitted that this vessel is eligible to have the notification of L.M.C. recorded J.M. 6/5/84

John Sanderson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
 Glasgow.

The amount of Entry Fee ... £ *3* : 0 : 0 received by me,
 Special ... £ *40* : 0 : 0
 Donkey Boiler Fee ... £ - : - : -
 Certificate (if required) ... £ *gratis* *3/5/1884*
 (Travelling Expenses, if any, £ - *8/-* -)

Committee's Minute *TUESDAY 6 MAY 1884*

