

# REPORT ON MACHINERY.

No. 2748

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*Belfast & Liverpool* Date, first Survey *2<sup>nd</sup> Jan'y 1880* Last Survey *16<sup>th</sup> March 1881*

on the

*S.S. "British King"*

2278  
Tons 3559

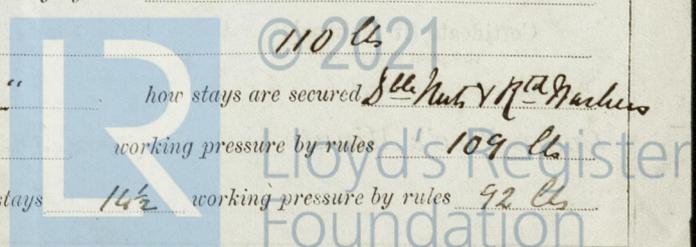
Master *S. Lecky* Built at *Belfast* When built *1881*  
 Engines made at *Liverpool* By whom made *J. Jack & Coy* when made *1881*  
 Boilers made at *- do -* By whom made *- do -* when made *1881*  
 Registered Horse Power *300* Owners *British Ship Owners Coy (Limited)* Port belonging to *Liverpool*

**ENGINES, &c.—**

Description of Engines *Compound Inverted Direct Acting Surface Condensing*  
 Diameter of Cylinders *2 of 28" 2 of 60"* Length of Stroke *54"* No. of Rev. per minute *60* Point of Cut off, High Pressure *5/8<sup>th</sup>* Low Pressure *5/8<sup>th</sup>*  
 Diameter of Screw shaft *15 1/2"* Diameter of Tunnel shaft *14 1/2"* Diameter of Crank shaft journals *15 1/2"* Diameter of Crank pin *15 1/2"* size of Crank webs *9 1/2" x 21"*  
 Diameter of screw *20ft* Pitch of screw *23 1/4 6"* No. of blades *4* state whether moveable *Yes* total surface *100ft*  
 No. of Feed pumps *2* diameter of ditto *4 1/2"* Stroke *27"* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *2* diameter of ditto *4 1/2"* Stroke *27"* Can one be overhauled while the other is at work *Yes*  
 Where do they pump from *Each compartment, Engine room, Stokehold & fore and after peaks*  
 No. of Donkey Engines *1 of 2 Cyl<sup>rs</sup> 7 diam x 10 1/2 dia* Size of Pumps *5" diam 2 of* Where do they pump from *Sea, bilges, Boilers, hot well to Boilers, Condenser, Deck and overboard,*  
 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 *1* and sizes *6"* Are they connected to condenser, or to circulating pump *Circulating pump*  
 How are the pumps worked *Levers and links to cross head of piston rods.*  
 Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Valves & cocks*  
 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 *Suction to fore compartments* How are they protected *Good casings*  
 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 *at this time*  
 Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Upper deck.*

**BOILERS, &c.—**

Number of Boilers *Three* Description *Cylindrical R<sup>th</sup> Tubular fired from both ends.*  
 Working Pressure *90* Tested by hydraulic pressure to *180* Date of test *18<sup>th</sup> Decr 1880*  
 Description of superheating apparatus or steam chest *Cyl<sup>dr</sup> Horizontal steam chest*  
 Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *No*  
 No. of square feet of fire grate surface in each boiler *100ft* Description of safety valves *Spring.*  
 No. to each boiler *2* area of each valve *25-96* 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 *2 1/2 6"*  
 Diameter of boilers *11 1/2 6"* Length of boilers *17 1/2 6"* description of riveting of shell long. seams *D.B.S. D. R<sup>th</sup>* circum. seams *D. R. Laps*  
 Thickness of shell plates *23/32* diameter of rivet holes *1 1/8"* whether punched or drilled *drilled* pitch of rivets *4 1/8"*  
 Lap of plating *6 1/4"* per centage of strength of longitudinal joint *74%* working pressure of shell by rules *96 lbs*  
 Size of manholes in shell *16" x 12"* size of compensating rings *6" x 3 1/4"*  
 No. of Furnaces in each boiler *4* outside diameter *2 1/2 11"* length, top *6' 0"* bottom *8' 0"* *T<sup>h</sup> fitted*  
 Thickness of plates *1/2"* description of joint *Welded* if rings are fitted *No* greatest length between rings *—*  
 Working pressure of furnace by the rules *106 lbs*  
 Combustion chamber plating, thickness, sides *7/8"* back *7/8"* top *1/2"*  
 Pitch of stays to ditto sides *7 3/4"* back *7 3/4"* top *7 3/4"*  
 If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *90 lbs*  
 Diameter of stays at smallest part *1 1/8"* working pressure of ditto by rules *110 lbs*  
 End plates in steam space, thickness *1/8"* pitch of stays to ditto *14" x 14 1/2"* how stays are secured *8 lbs Nuts & R<sup>th</sup> Washers*  
 Working pressure by rules *92 lbs* diameter of stays at smallest part *2 3/8"* working pressure by rules *109 lbs*  
 Front plates at bottom, thickness *1/8"* Back plates, thickness *1/8"* greatest pitch of stays *14 1/2"* working pressure by rules *92 lbs*



Diameter of tubes *3 1/4"* pitch of tubes *4 1/2"* thickness of tube plates, front *5/8"* back *5/8"*  
 How stayed *Lake stays* pitch of stays *13 1/2" x 9"* width of water spaces *1 1/4"*  
 Diameter of ~~Superheater~~ Steam chest *3' 6"* length *17' 6"*  
 Thickness of plates *3/8"* description of longitudinal joint *J. Rtd Laps* diameter of rivet holes *3/4"* pitch of rivets *3"*  
 Working pressure of shell by rules *125 lbs* Diameter of flue *—* thickness of plates *—*  
 If stiffened with rings *—* distance between rings *—* Working pressure by rules *—*  
 End plates of ~~superheater~~ steam chest; thickness *1/2"* How stayed *4 Quilt stays*  
~~Superheater~~ on steam chest; how connected to boiler *2 Malleable iron branches*

DONKEY BOILER— Description *Cylindrical Retn tubular*  
 Made at *Belfast* By whom made *Harland & Wolff* when made *1881*  
 Where fixed *Household use* working pressure *50* Tested by hydraulic pressure to *100* No. of Certificate *101*  
 Fire grate area *24.3* Description of safety valves *Spring* No. of safety valves *2* area of each *7.06*  
 If fitted with casing gear *Yes* If steam from main boilers can enter the donkey boiler *No*  
 Diameter of donkey boiler *10' 2"* length *8' 9"* description of riveting *Lake Rtd Laps*  
 thickness of shell plates *1/2"* diameter of rivet holes *7/8"* whether punched or drilled *drilled*  
 pitch of rivets *3 3/4"* lap of plating *7"* per centage of strength of joint *76%*  
 thickness of crown plates *—* stayed by *—*  
 Diameter of furnace, top *2' 8 1/2"* bottom *—* length of furnace *5' 10"* *2' 7" between rings*  
 thickness of plates *7/8"* description of joint *Bull strips*  
 thickness of furnace crown plates *7/8"* stayed by *—*  
 Working pressure of shell by rules *66* working pressure of furnace by rules *99"*  
 diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

The foregoing is a correct description,  
*James Sica Co* Manufacturers for Marine Boilers & Engines.

General Remarks (State quality of workmanship, opinions as to class, &c. *The material and workmanship is of good quality and in accordance with the requirements of the Rules. They have been surveyed during the whole course of construction and while being fitted on board of the vessel, and are now in my opinion eligible for the Notification Lloyd's M.C. and to be marked from this date. 3<sup>rd</sup> month 1881.*

*It is submitted that this vessel is eligible to have the notification Lloyd's M.C. 3, 81 recorded in the Register Book.*

The amount of Entry Fee .. £ 3 : : received by me, *J. G. Wigham*  
 Special .. .. £ 35 : :  
 Certificate (if required) .. £ : : *2<sup>nd</sup> April 1881*  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ 6 - 6 - ..)

Committee's Minute *Tuesday April, 5<sup>th</sup> 1881*  
*Lloyd's Register*

*J. G. Wigham*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

