

# REPORT ON MACHINERY.

No. 8863

Received at London Office TUESDAY 7 APRIL 1885

No. in Survey held at Glasgow

Date, first Survey 15<sup>th</sup> Feb<sup>y</sup> 1882 Last Survey 13<sup>th</sup> March 1885

Reg. Book.

(Number of Visits 43) 3739.52

on the

S. S. Kimberley.

Tons 2463.80

Master R. R. Hupbars

Built at Port Glasgow

By whom built

Wm. Hamilton & Co.

When built

1883-84

Engines made at

Glasgow

By whom made

D. Stewart & Co.

when made 1883-5

Boilers made at

"

By whom made

"

when made

"

Registered Horse Power

400.

Owners

Henry Ellis & Son, London

Port belonging to

London

## ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting

Diameter of Cylinders 44" & 82" Length of Stroke 54" No. of Rev. per minute Point of Cut off, High Pressure Var Low Pressure

Diameter of Screw shaft 15" Diam. of Tunnel shaft 4 1/2" Diam. of Crank shaft journals 15" Diam. of Crank pin 15" size of Crank web 11" x 17 1/2"

Diameter of screw 18 ft Pitch of screw 22 ft No. of blades 4 state whether moveable Yes total surface 84 ft<sup>2</sup>

No. of Feed pumps 2 diameter of ditto 5 1/2" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 diameter of ditto 5 1/2" Stroke 27" Can one be overhauled while the other is at work Yes

Where do they pump from All Compartments

No. of Donkey Engines 2

Size of Pumps 5" x 10" donkey

Where do they pump from

Sea, hot well,

tanks 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 One and sizes 5" Are they connected to condenser, or to circulating pump Circulating pump.

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 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 on Stocks 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 Two Description Multitubular Whether Steel or Iron Steel

Working Pressure 90 lbs. Tested by hydraulic pressure to 180 lbs. Date of test 15<sup>th</sup> February 1884.

Description of superheating apparatus or steam chest Steam 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 114. Description of safety valves direct spring No. to each boiler Two

Area of each valve 29" 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 12" Diameter of boilers 14'-0"

Length of boilers 14'-0" description of riveting of shell long. seams treble butt. circum. seams double lap Thickness of shell plates 7/8"

Diameter of rivet holes 1" whether punched or drilled drilled pitch of rivets 5" Lap of plating straps 14 1/2"

Per centage of strength of longitudinal joint 80. working pressure of shell by rules 92 lbs. size of manholes in shell 16" x 13"

Size of compensating rings 3/4" ring double riveted. No. of Furnaces in each boiler 6

Outside diameter 3'-3" length, top 6'-6" bottom through thickness of plates 33/64 description of joint d. butt if rings are fitted Linen

Greatest length between rings 6'-0" working pressure of furnace by the rules 95 1/2 combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"

Pitch of stays to ditto, sides 9" x 9" back top 9" x 7 1/2" If stays are fitted with nuts or riveted heads nuts working pressure of plating by

rules 95 1/2 Diameter of stays at smallest part 1 1/2" working pressure of ditto by rules 130 1/2 end plates in steam space, thickness 3/4"

Pitch of stays to ditto 15" x 15" how stays are secured nuts washers working pressure by rules 90 lbs. diameter of stays at

smallest part 2 3/8" working pressure by rules 118 lbs. Front plates at bottom, thickness 1/16 Back plates, thickness 1/16

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 3/4" back 1/16 how stayed stays pitch of stays 9 1/2" x 14 1/2" width of water spaces 4"

Diameter of Superheater or Steam chest 36" length 16 ft. thickness of plates 1/2" description of longitudinal joint d. riv diam. of rivet holes 3/4"

Pitch of rivets 3 1/4" 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 7/8 how stayed dished and

three gusset stays Superheater or steam chest; how connected to boiler Hanged throat



DONKEY BOILER— Description *Horizontal Multitubular. Steel.*  
Made at *Glasgow* by whom made *D. Stewart & Co* when made *1883* where fixed *Stokehats*  
Working pressure *90 lbs.* tested by hydraulic pressure to *180 lbs.* No. of Certificate *1294* fire grate area *19 sq. ft.* description of safety  
valves *d. spring* No. of safety valves *one* area of each *9 sq. in.* if fitted with easing gear *yes* if steam from main boilers can  
enter the donkey boiler *no* diameter of donkey boiler *8'-6"* length *8'-6 1/2"* description of riveting *double lap*  
Thickness of shell plates *1/2"* diameter of rivet holes *15/16"* whether punched or drilled *rim* pitch of rivets *3 3/8"* lap of plating *5 1/2"*  
per centage of strength of joint *70* thickness of ~~end~~ <sup>end</sup> plates *1/16"* stayed by *2 1/4"* bar stays  
Diameter of furnace, top *3'-3"* bottom *—* length of furnace *6'-0"* thickness of plates *1/2"* description of joint *d. butt.*  
Thickness of furnace <sup>TUBE</sup> ~~end~~ plates *5/8"* stayed by *stay tubes* working pressure of shell by rules *91 lbs.*  
Working pressure of furnace by rules *98 lbs.* diameter of uptake *Com. ch.* thickness of plates *7/16"* <sup>diam</sup> thickness of water tubes *3 1/2"*

SPARE GEAR. State the articles supplied:— *Four propeller blades. Air & circulating pump rod & bucket  
Top and bottom end bolts. One set bottom end brasses. Feed bilge and donkey  
valves. Two main bearing bolts. One set coupling bolts. Bolts nuts  
and iron assorted.*

The foregoing is a correct description,  
*Duncan Stewart & Co* Manufacturer.  
*D. S. & Co.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned Engines  
and Boilers are now completed onboard in a satisfactory  
manner and the machinery is now in our opinion  
in a good and efficient working condition and eligible  
to be noted in the Society's Register Book.*

*+L.M.C. 3. 85.*

*The shafting was examined by us while being rough turned and  
finished and appeared as far as could be seen sound & good.*

The amount of Entry Fee .. £ *3* : v : v received by me,  
Special .. £ *40* : v : v  
Donkey Boiler Fee .. £ : : :  
Certificate (if required) .. £ : : : *26/3/1883*  
To be sent as per margin.  
(Travelling Expenses, if any, £ - *16/-*)

Committee's Minute

TUESDAY 7 APRIL 1885

*John Henderson & L. S. Hindmarsh*  
Engineer Surveyors to Lloyd's Register of British & Foreign Shipping

*Glasgow.* © 2019