

# REPORT ON MACHINERY.

747

(Received at London Office) MONDAY 12 JAN 1885

No. in Survey held at *Hamburg* Date, first Survey *15 Dec. 84* East Survey *9<sup>th</sup> Jan 1885*  
 Book. (Number of Visits)  
 on the *S.S. Wilhelm* Tons *146, 61.*  
 Master *H. J. Nilsson* Built at *Ljoberg* When built *1884.*  
 Engines made at *Ljoberg* By whom made *G. F. Cavallin* when made *1884*  
 Boilers made at *Ljoberg* By whom made *G. F. Cavallin* when made *1884*  
 Horse Power *25* Owners *G. F. Cavallin* Port belonging to *Sundswall*

## ENGINES, &c.—

Description of Engines *Direct acting compound inverted*  
 Diameter of Cylinders *11<sup>in</sup> and 19<sup>in</sup>* Length of Stroke *18<sup>in</sup>* No. of Rev. per minute *84* Point of Cut off, High Pressure *1/2* Low Pressure *1/2*  
 Diameter of Screw shaft *4<sup>in</sup>* Diameter of Tunnel shaft *4<sup>in</sup>* Diameter of Crank shaft journals *4<sup>in</sup>* Diameter of Crank pin *4<sup>in</sup>* size of Crank webs  
 Diameter of screw Pitch of screw No. of blades *4* state whether moveable *no* total surface  
 of Feed pumps *1* diameter of ditto *2 1/8<sup>in</sup>* Stroke *9<sup>in</sup>* Can one be overhauled while the other is at work  
 of Bilge pumps *1* diameter of ditto *2 1/8<sup>in</sup>* Stroke *9<sup>in</sup>* Can one be overhauled while the other is at work  
 Where do they pump from *Bilge of Engine and hold*  
 of Donkey Engines *1* Size of Pumps *2 1/4<sup>in</sup> & 9<sup>in</sup>* Where do they pump from *Sea and Bilge*  
*on deck overboard and to Boiler*  
 Are all the bilge suction pipes fitted with roses *no* Are the roses always accessible Are the sluices on Engine room bulkheads always accessible  
 of bilge injections and sizes Are they connected to condenser, or to circulating pump  
 Are the pumps worked *by lever*  
 Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *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 *below*  
 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 *no*  
 Are all pipes 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 *December 1884*  
 Is the screw shaft tunnel watertight and fitted with a sluice door worked from

## BOILERS, &c.—

Number of Boilers *1* Description *circular multitubular*  
 Working Pressure *70* Tested by hydraulic pressure to *160* Date of test *Sept 1884.*  
 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  
 Area of square feet of fire grate surface in each boiler *15* Description of safety valves *1 1/8<sup>in</sup> & springs valves*  
 Area to each boiler *2* area of each valve *4 inches* Are they fitted with easing gear *1*  
 Area of safety valves to superheater area of each valve are they fitted with easing gear  
 Smallest distance between boilers and bunkers or woodwork *12 inches*  
 Diameter of boilers *6 feet 7 inches* Length of boilers *8 feet 6 inches* Description of riveting of shell long. seams *chain riveting* circum. seams *chain riveting*  
 Thickness of shell plates *7/16<sup>in</sup>* diameter of rivet holes *3/4<sup>in</sup>* whether punched or drilled *drilled* pitch of rivets *2 1/2 inches*  
 Thickness of plating *4 inches* per centage of strength of longitudinal joint *72* working pressure of shell by rules *68*  
 Area of manholes in shell *15 x 12<sup>in</sup>* size of compensating rings *1 1/4 x 5/8 and 2<sup>in</sup> x 3/4<sup>in</sup>*  
 Number of Furnaces in each boiler *1* outside diameter *3 feet* length, top *6<sup>ft</sup> 3<sup>in</sup>* bottom *6<sup>ft</sup> 3<sup>in</sup>*  
 Thickness of plates *7/16* description of joint *single riveting* if rings are fitted *no* greatest length between rings  
 Working pressure of furnace by the rules *75*  
 Combustion chamber plating, thickness, sides *7/16* back *7/16* top *7/16*  
 Thickness of stays to ditto, sides *8<sup>in</sup>* back *6<sup>in</sup>* top *9<sup>in</sup>*  
 Are stays fitted with nuts or riveted heads *nuts* working pressure of plating by rules *75*  
 Diameter of stays at smallest part *1<sup>in</sup>* working pressure of ditto by rules *45 2/3*  
 Thickness of plates in steam space, thickness *7/16* pitch of stays to ditto *5 1/2 inches* how stays are secured *with nuts*  
 Working pressure by rules diameter of stays at smallest part *1 5/8* also diagonal plates working pressure by rules  
 Bottom plates at bottom, thickness *5/8<sup>in</sup>* Back plates, thickness *5/8<sup>in</sup>* greatest pitch of stays *7 1/2<sup>in</sup>* working pressure by rules



Diameter of tubes *3 inches* pitch of tubes *3 7/8" 4 1/8"* thickness of tube plates, front *5/8"* back *5/8"*  
How stayed *Anore* pitch of stays *12"* width of water spaces *1 1/4 inches*  
Diameter of Superheater or Steam chest \_\_\_\_\_ length \_\_\_\_\_  
Thickness of plates \_\_\_\_\_ description of longitudinal joint \_\_\_\_\_ diameter 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 \_\_\_\_\_

**DONKEY BOILER—**

Description \_\_\_\_\_  
Made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_  
Where fixed \_\_\_\_\_ working pressure \_\_\_\_\_ Tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_  
Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_ No. of safety valves \_\_\_\_\_ area of each \_\_\_\_\_  
If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_  
Diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_  
thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_  
pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_ per centage of strength of joint \_\_\_\_\_  
thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_  
Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_  
thickness of plates \_\_\_\_\_ description of joint \_\_\_\_\_  
thickness of furnace crown plates \_\_\_\_\_ stayed by \_\_\_\_\_  
Working pressure of shell by rules \_\_\_\_\_ working pressure of furnace by rules \_\_\_\_\_  
diameter of uptake \_\_\_\_\_ thickness of plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

The foregoing is a correct description,

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. \_\_\_\_\_)

*The Engine and Boiler being only a few months old are in very good condition and of good material and workmanship. The vessel is intended for River purposes. In my opinion the vessel can be classed L M C 1. 85. in the Register Book.*

The amount of Entry Fee .. £ : : received by me,

Special .. .. £ *3 : 15 : 0*

Certificate (if required) .. £ : : 18  
To be sent as per margin.

(Travelling Expenses, if any, £ \_\_\_\_\_)

Committee's Minute \_\_\_\_\_

**TUESDAY 13 JAN 1885**

18

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



Lloyd's Register  
Foundation