

REPORT ON MACHINERY.

No. 5502

No. in Survey held at *Reynoe & Glasgow* Date, first Survey *July 29th* Last Survey *Sept 26th* 1881
 Reg. Book. *594* on the *Screw Steam Ship "Gorm"* Tons *1133*
 Master *Carl* Built at *Reynoe* When built *1871*
 Engines made at *Reynoe* By whom made *Henderson & Co. Ltd.* when made *"*
 Boilers made at *do.* By whom made *Robnity & Co.* when made *12th Dec 78*
 Registered Horse Power *150* Owners *Steamship Coy. Gorm.* Port belonging to *Copenhagen*

ENGINES, &c.—

Description of Engines *Compound surface Condensing. R. P. Cylinder Vertical. H. P. Cylinder Diagonal*
 Diameter of Cylinders *30" & 60"* Length of Stroke *36"* No. of Rev. per minute *56* Point of Cut off, High Pressure *18"* Low Pressure *20"*
 Diameter of Screw shaft *9 1/4"* Diameter of Tunnel shaft *8 1/2"* Diameter of Crank shaft journals *9"* Diameter of Crank pin *9"* size of Crank webs *9 1/2" x 8"*
 Diameter of screw *13" 0* Pitch of screw *16" 0"* No. of blades *4* state whether moveable *Yes* total surface *51.5 sq ft.*
 No. of Feed pumps *2* diameter of ditto *4"* Stroke *9"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *1* diameter of ditto *6"* Stroke *12"* Can one be overhauled while the other is at work *—*
 Where do they pump from *Engine Room, Bilge, Fore Hold, after Hold, & after Well.*
 No. of Donkey Engines *Two* Size of Pumps *4" x 8" x 9" x 9"* Where do they pump from *Sea, Tank, bottoms of holds, Engine Room, Bilge and all Compartments of Vessel.*
 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 *13"* Are they connected to condenser, or to circulating pump *Circulating*
 How are the pumps worked *By hand Attached to Low Pressure Cross head*
 Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Stop 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 *Yes*
 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 *Tank & Hold. Suction* How are they protected *Wood Casing*
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *Yes except in Tanks & Holds*
 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 *20/9/81.*
 Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Keel* worked from *Engine Room.*

BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical & Multitubular*
 Working Pressure *65 lb* Tested by hydraulic pressure to *140 lb* Date of test *20/12/78*
 Description of superheating apparatus or steam chest *Horizontal some between boilers*
 Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *Yes*
 No. of square feet of fire grate surface in each boiler *39 sq ft.* Description of safety valves *Direct Spring by Robnity & Co.*
 No. to each boiler *Two* area of each valve *9.62 sq in* Are they fitted with easing gear *Yes*
 No. of safety valves to superheater *one* area of each valve *7.5 sq in* are they fitted with easing gear *No*
 Smallest distance between boilers and bunkers or woodwork *No side members about 5 feet to each*
 Diameter of boilers *12" 0* Length of boilers *8' 9"* description of riveting of shell long. seams *Double Butt* circum. seams *Double Lap*
 Thickness of shell plates *3/4"* diameter of rivet holes *1 1/8"* whether punched or drilled *drilled* pitch of rivets *4 1/2"*
 Lap of plating *14 3/4" Staps* per centage of strength of longitudinal joint *Plate 45% Riv 94%* working pressure of shell by rules *40 lb*
 Size of manholes in shell *14" x 13"* size of compensating rings *18" x 3/4"*
 No. of Furnaces in each boiler *Two* outside diameter *3' 4"* length, top *6' 8"* bottom *4' 9"*
 Thickness of plates *1/2"* description of joint *Double Butt Staps* if rings are fitted *No* greatest length between rings *—*
 Working pressure of furnace by the rules *40 lb*
 Combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*
 Pitch of stays to ditto sides *9" x 9"* back *9" x 9"* top *Circular 18" radius*
 If stays are fitted with nuts or riveted heads *Riveted* working pressure of plating by rules *49 lb*
 Diameter of stays at smallest part *1 1/8"* working pressure of ditto by rules *44 "*
 End plates in steam space, thickness *1 1/16"* pitch of stays to ditto *16" x 16"* how stays are secured *Double Nuts*
 Working pressure by rules *66 lb* diameter of stays at smallest part *1 7/8"* working pressure by rules *69 lb*
 Front plates at bottom, thickness *1 1/16"* Back plates, thickness *1 1/16"* greatest pitch of stays *15" x 9"* working pressure by rules *66 lb*

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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $5" \times 4\frac{1}{4}"$ thickness of tube plates, front $11/16"$ back $5/8"$
How stayed Rod stays pitch of stays $18" \times 15"$ width of water spaces $1\frac{1}{2} + 1\frac{1}{4}"$
Diameter of Superheater or Steam chest $4' 0"$ length $12' 6"$
Thickness of plates $1/2"$ description of longitudinal joint Lap. d. v. diameter of rivet holes $13/16"$ pitch of rivets $2\frac{3}{4}"$
Working pressure of shell by rules 113 lb 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 $11/16"$ How stayed *Drilled to $4' 0"$ Radius*
Superheater or steam chest; how connected to boiler *Stop Valve + Copper Pipes*

DONKEY BOILER—

Description *Circular Vertical*
Made at *Reims* By whom made *Lobnitz & Co* when made *1879*
Where fixed *Eleonhold* working pressure *55 lb* Tested by hydraulic pressure to *130 lb* No. of Certificate ---
Fire grate area *12 sq ft* Description of safety valves *down spray* No. of safety valves *one* area of each *4 sq in*
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
Diameter of donkey boiler $4' 9"$ length $11' 6"$ description of riveting *Rough double Circle Single*
thickness of shell plates $3/8"$ diameter of rivet holes $3/4"$ whether punched or drilled *punched*
pitch of rivets $2\frac{3}{4}"$ lap of plating $4"$ per centage of strength of joint *Plate $1/2$ Riv 84*
thickness of crown plates $7/16"$ stayed by *Uptake*
Diameter of furnace, top $3' 11"$ bottom $4' 1"$ length of furnace $4' 6"$
thickness of plates $3/8"$ description of joint *Lap Single*
thickness of furnace crown plates $7/16"$ stayed by *Uptake*
Working pressure of shell by rules *40 lb* working pressure of furnace by rules *40 lb* *General Stay in Furnace*
diameter of uptake $14\frac{1}{2} \times 9"$ thickness of plates $7/16"$ thickness of water tubes $3/8"$

The foregoing is a correct description,

Lobnitz & Co. Manufacturer.

Checked *LD*

General Remarks (State quality of workmanship, opinions as to class, &c. *New Main Boilers supplied*

and fitted on board with new mountings complete.

The whole of the machinery opened out and examined and the undismounted parts removed and repaired as required. viz. High and Low pressure pistons. Low pressure slide. Piston rods. Crosshead. Top masses. Guide blocks and connecting rod bolts have been removed. Piston rod neck rings removed and glands rebushed. Thrust block collars removed. Surface Condenser cleaned and tubes removed. Expansion Valve spindle removed. High pressure Cylinder Jacket repaired.

Crank and Lunnel shafting examined and found good. All sea cocks on flat of ship's bottom removed to the upper turn of bilge. Air circulating feed and bilge pumps overhauled and put in good condition.

The Machinery of this vessel is now in good order and safe working condition and eligible in my opinion for the notification. Lloyds M. C. N. B. 9. 01 in the Register Book.

The amount of Entry Fee .. £ 1 : 10 : received by me,

Special .. £ 3 : 3 :

Certificate (if required) .. £ .. 5 : 28/9 1881

To be sent as per margin.

(Travelling Expenses, if any, £ 2 : 2 : 0)

Committee's Minute

18

This submission that this vessel is eligible for the notification should be made to the Registrar.
M. C. N. B. 9. 01
3/10/81
3/10/81
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Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Lloyd's Register
Foundation