

REPORT ON MACHINERY.

No. 20,550

Date of writing Report *Sep. 19 08* When handed in at Local Office *23.9.1908* Port of *Hull* Received at London Office *THUR 24 SEP 1908*

No. in Survey held at *Selby + Hull* Date, First Survey *June 25th* Last Survey *Sep 14th 1908*

Reg. Book. *5* Supp. on the *Steel Sec. "Delta B."* (Number of Visits *19*)

Master *Selby* Built at *Selby* By whom built *Cochrane + Sons* Tons *Gross 219*
Net 107

Engines made at *Hull* By whom made *Earle's S + E. Co. Ld.* When built *1908*

Boilers made at *"* By whom made *do* when made *1908*

Registered Horse Power *71.8-72* Owners *Societe Anonyme Delta* Port belonging to *Ostend*

Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *12 1/2 - 21 - 34* Length of Stroke *24* Revs. per minute *109* Dia. of Screw shaft *as per rule 7.15* Material of *Iron*
as fitted 7.14 screw shaft)

the screw shaft fitted with a continuous liner the whole length of the stern tube *Yes* Is the after end of the liner made water tight

the propeller boss *Yes* If the liner is in more than one length are the joints burned *one length* If the liner does not fit tightly at the part

tween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *—* If two

ers are fitted, is the shaft lapped or protected between the liners *—* Length of stern bush *30 1/2*

Dia. of *plain part* shaft *as per rule 6.37* Dia. of Crank shaft journals *as per rule 6.69* Dia. of Crank pin *6 3/4* Size of Crank webs *13 1/2 x 4 3/8* Dia. of thrust shaft under

Thrust *as fitted 6 3/4* Dia. of screw *8-9* Pitch of Screw *11-6* No. of Blades *4* State whether moveable *No* Total surface *27 sq ft*

No. of Feed pumps *2* Diameter of ditto *2 1/4* Stroke *12* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *2 1/4* Stroke *12* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *1* Sizes of Pumps *5" x 2 1/2" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *One 2", One 2 1/2"* In Holds, &c. *One 2" to Slush Well, one 2" to*

tank, and ejector suction from all parts

No. of Bilge Injections *1* sizes *3 1/2* Connected to condenser, or to circulating pump *pump* Is a separate Donkey Suction fitted in Engine room & size *Yes 2 1/2*

Are all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the sluices on Engine room bulkheads always accessible *None*

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*

Are all pipes carried through the bunkers *Slush Well + tank suction* How are they protected *wood casing*

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *Yes*

Dates of examination of completion of fitting of Sea Connections *1.9.08* of Stern Tube *1.9.08* Screw shaft and Propeller *1.9.08*

Is the Screw Shaft Tunnel watertight *None* Is it fitted with a watertight door *—* worked from *—*

BOILERS, &c.—(Letter for record *8*) Manufacturers of Steel *The Steel Coy of Scotland*

Total Heating Surface of Boilers *1250 sq ft* Is Forced Draft fitted *No* No. and Description of Boilers *1 cyl. Multi*

Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *24.8.08* No. of Certificate *1669*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *32.5 sq ft* No. and Description of Safety Valves to

each boiler *Two Spring* Area of each valve *3.98 sq in* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*

Least distance between boilers or uptakes and bunkers or woodwork *6 1/2* Mean dia. of boilers *12-6* Length *10-0* Material of shell plates *Steel*

Thickness *1 1/16* Range of tensile strength *28-32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *L.D.*

seams *D.S.S.L.C.* Diameter of rivet holes in long. seams *1 1/16* Pitch of rivets *7 1/4* Lap of plates or width of butt straps *15 1/2*

Percentages of strength of longitudinal joint rivets *85.5* Working pressure of shell by rules *190 lbs* Size of manhole in shell *16" x 12"*

of compensating ring *31" x 28" x 1 1/16* No. and Description of Furnaces in each boiler *Two plain* Material *Steel* Outside diameter *44 3/4*

Thickness of plain part top *72* crown *49* bottom *64* Description of longitudinal joint *Welded* No. of strengthening rings *0*

Working pressure of furnace by the rules *188 lbs* Combustion chamber plates: Material *5* Thickness: Sides *1 1/16* Back *5/8* Top *5/8* Bottom *1 1/16*

of stays to ditto: Sides *8" x 8 1/2"* Back *8" x 8 1/2"* Top *8 1/2" x 8 1/2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *186 lbs*

Material of stays *Steel* Diameter at smallest part *1 1/2* Area supported by each stay *72.25 sq in* Working pressure by rules *182 lbs* End plates in steam space:

Material *Steel* Thickness *1 1/16* Pitch of stays *17" x 17"* How are stays secured *O.7 washers* Working pressure by rules *185 lbs* Material of stays *Steel*

Diameter at smallest part *2 1/16* Area supported by each stay *229 sq in* Working pressure by rules *224 lbs* Material of Front plates at bottom *Steel*

Thickness *1 1/16* Material of Lower back plate *Steel* Thickness *7/8* Greatest pitch of stays *14 1/2" x 8 1/2"* Working pressure of plate by rules *187 lbs*

Diameter of tubes *3 1/2* Pitch of tubes *4 1/8" x 4 3/4"* Material of tube plates *Steel* Thickness: Front *5/16* Back *1/8* Mean pitch of stays *9 5/8*

Working pressures across wide water spaces *14 1/2* Working pressures by rules *181 lbs* Girders to Chamber tops: Material *Steel* Depth and

Weight of girder at centre *9" x 13 1/4"* Length as per rule *2-11 1/2* Distance apart *8 1/2* Number and pitch of stays in each *3 - 8 1/2*

Working pressure by rules *185 lbs* Superheater or Steam chest; how connected to boiler *Can the superheater be shut off and the boiler worked*

Material *Steel* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivet

Pitch of rivets *—* Working pressure of shell by rules *—* Diameter of flue *—* Material of flue plates *—* Thickness *—*

Are they lined with rings *—* Distance between rings *—* Working pressure by rules *—* End plates: Thickness *—* How stayed *—*

Working pressure of end plates *—* Area of safety valves to superheater *—* Are they fitted with easing gear *—*



VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description			
Made at	By whom made		When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Description of Safety
If fitted with easing gear	If steam from main boilers can enter the donkey boiler		Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams	
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint
Working pressure of furnace by rules	Thickness of furnace crown plates		Stayed by	
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey	

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air, feed and bilge pump valves, and a quantity of assorted bolts nuts etc.

The foregoing is a correct description,
F. J. Falthrop Manufacturer.

Dates of Survey while building: During progress of work in shops - - - SECRETARY: 1908 - Jun 25, Jul 9, 10, 16, 20, 25, 30, 31, Aug 21, 24, 27, 28, 31, Sep 1, 2, 3.
 During erection on board vessel - - - Sep. 8, 9, 14.
 Total No. of visits 19.

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 20.7.08 Slides 28.8.08 Covers 10.9.08 Pistons 25.7.08 Rods 16.7.08
 Connecting rods 16.7.08 Crank shaft 28.8.08 Thrust shaft 31.8.08 Tunnel shafts Screw shaft 31.8.08 Propeller 31.8.08
 Stern tube 31.8.08 Steam pipes tested 3.9.08 Engine and boiler seatings 27.8.08 Engines holding down bolts 8.9.08
 Completion of pumping arrangements 14.9.08 Boilers fixed 8.9.08 Engines tried under steam 8.9.08
 Main boiler safety valves adjusted 8.9.08 Thickness of adjusting washers $\frac{1}{32}$ ~ $\frac{1}{8}$
 Material of Crank shaft *Steel* Identification Mark on Do. *142. GAH* Material of Thrust shaft *Steel* Identification Mark on Do. *57. GAH*
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Iron* Identification Marks on Do. *57. GAH*
 Material of Steam Pipes *Solid drawn Copper* Test pressure *400 lbs* □

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines boiler of this vessel have been constructed under special survey in accordance with the Rules, the materials workmanship are good. The boiler tested by hydraulic pressure, and with the engines fitted and secured on board, they are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of $\frac{1}{2}$ L.M.C. 9.08 in the Register Book*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.08.

J.W.D. 24/9/08.
James Barclay
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 1 : : : When applied for.
 Special .. £ 10 . 16 : : : 23.9.19.08
 Donkey Boiler Fee .. £ : : : When received.
 Travelling Expenses (if any) £ : 4 : 1 : : 15/10/08
 £ 12 : 0 : 1

Committee's Minute **FRI. 25 SEP 1908**
 Assigned + L.M.C. 9.08



Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

MACHINED
 WRITTEN