

REPORT ON MACHINERY.

No. 6430

Port of *Delft*

Received at London Office

MAR 3 1908

No. in Survey held at *Delft*
Reg. Book. *S.S. Ancona*

Date, first Survey *Aug 23 1907* Last Survey *2 March 1908*
(Number of Visits *50*)

Master

Built at *Delft*

By whom built *Werkman Clark & Co*

Gross *8885*
Net *6020*
When built *1908*

Engines made at *Delft*

By whom made

When made *1908*

Boilers made at

By whom made

When made

Registered Horse Power *✓*

Owners *Sigs. La Societa di Navigazione* Port belonging to *Genoa*

Nom. Horse Power as per Section 28 *1221*

Is Refrigerating Machinery fitted for cargo purposes *No*

Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Twin Screw Triple Expansion* of Cylinders *6* No. of Cranks *6*

Dia. of Cylinders *26"-43"-71"* Length of Stroke *48* Revs. per minute *80* Dia. of Screw shaft as per rule *14.4* Material of *Steel*
as fitted *15.0* screw shaft

Is 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

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

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

liners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *6'-3"*

Dia. of Tunnel shaft as per rule *13.5* Dia. of Crank shaft journals as per rule *14.17* Dia. of Crank pin *14 1/2* Size of Crank web *26 1/2 x 9 1/4* Dia. of thrust shaft under

collars *14 1/2* Dia. of screw *16'-3"* Pitch of Screw *20'-6"* No. of Blades *3* State whether moveable *Yes* Total surface *70 sq ft.*

No. of Feed pumps *one* Diameter of ditto *4"* Stroke *27"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *one* Diameter of ditto *6 1/2"* Stroke *27"* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *6* Sizes of Pumps *2 Meco 10 1/2 x 14 x 26* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *4-3 1/2* } *1 - General 10 x 9 x 18*
} *1 - Water 4 1/2 x 4 x 18*
} *1 - (Double) Ballast 11 x 10 x 24* } *4-4"*
} *9-3 1/2"*
} *1-2 1/2"*

No. of Bilge Injections *2* sizes *9"* Connected to condenser, or to circulating pump *Pump* Is a separate Donkey Suction fitted in Engine room & size *Yes - 4"*

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 *Both*

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 *Two hold suction* How are they protected *Wood casings*

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 *12-12-07* of Stern Tube *12-12-07* Screw shaft and Propeller *19-12-07*

Is the Screw Shaft Tunnel watertight *Stated to be* Is it fitted with a watertight door *Yes* worked from *Upper deck.*

OILERS, &c.—(Letter for record *5*) Manufacturers of Steel *Bendmare Bay, Glasgow*

Total Heating Surface of Boilers *17493 sq ft* Draft fitted *Yes* No. and Description of Boilers *2 - Double Ended Cylinders*

Working Pressure *200 lbs* Tested by hydraulic pressure to *400 lbs* Date of test *20-12-07* No. of Certificate *409*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *146 5/8 sq ft* No. and Description of Safety Valves to

each boiler *3 - Direct Springs* Area of each valve *14.19 sq* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *Just 6 ft* Mean dia. of boilers *16'-3"* Length *20'-6"* Material of shell plates *Steel*

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

long. seams *Butt Weld* Diameter of rivet holes in long. seams *1 1/16"* Pitch of rivets *9 3/8"* Lap of plates on width of butt straps *20%*

Per centages of strength of longitudinal joint rivets *88%* plate *85%* Working pressure of shell by rules *201 lbs* Size of manhole in shell *16" x 12"*

Size of compensating ring *2 - Keils* No. and Description of Furnaces in each boiler *1 - Rectangular* Material *Steel* Outside diameter *44 1/4"*

Length of plain part top *5"* bottom *10"* Thickness of plates crown *3 5/8"* Description of longitudinal joint *Weld* No. of strengthening rings *2 to an*

Working pressure of furnace by the rules *224 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *5/8"* Top *5/8"* Bottom *1 1/8"*

Pitch of stays to ditto: Sides *8 1/2 x 8 1/2"* Back *8 1/2 x 8 1/2"* Top *8 1/2 x 8 1/2"* Are stays fitted with nuts or riveted heads *Nuts* Working pressure by rules *204 lbs*

Material of stays *Steel* Diameter at smallest part *1 1/2"* Area supported by each stay *66 sq* Working pressure by rules *240 lbs* End plates in steam space:

Material *Steel* Thickness *1 3/16"* Pitch of stays *20 1/2 x 15 1/2"* How are stays secured *Nuts* Working pressure by rules *201 lbs* Material of stays *Steel*

Diameter at smallest part *1 1/16"* Area supported by each stay *31 1/4 sq* Working pressure by rules *236 lbs* Material of Front plates at bottom *Steel*

Thickness *1"* Material of Lower back plate *✓* Thickness *✓* Greatest pitch of stays *✓* Working pressure of plate by rules *✓*

Diameter of tubes *2 1/2"* Pitch of tubes *3 1/2 x 3 1/2"* Material of tube plate *Steel* Thickness: Front *63/64"* Back *1/16"* Mean pitch of stays *10 1/2 x 7 1/2"*

Pitch across wide water spaces *13 1/2"* Working pressures by rules *203 lbs* Girders to Chamber tops: Material *Steel* Depth and

thickness of girder at centre *8" (3/4 x 2)* Length as per rule *52 3/8"* Distance apart *8"* Number and pitch of stays in each *6 - 6 1/4 x 8 1/4"*

Working pressure by rules *208 lbs* Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

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

If stiffened 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 _____ Description of Safe _____
 Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 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 _____ Rivets _____ Plates _____
 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:— *Purpeller Shaft; 2 Halls; 2 boxes; 2 pair of pin bushes; 2 pair Crosshead bushes; 2 Thrust rollers; sets packing rings for H.P. & I.P. piston rods; set H.P. & I.P. piston rings; boiler & condenser tubes; safety valves & pumps; set piston valves (H.P. & I.P.) rings; air pump valve*
 The foregoing is a correct description, etc. all plan to Lloyd's Rules etc.
 M. H. Kelly Manufacturer.

Dates of Survey while building: During progress of work in shops— 1904: Aug 23, Sept 9, 12, 26, Oct 4, 8, 14, 18, 25, 31, Nov 4, 7, 8, 12, 13
 During erection on board vessel— 15, 18, 20, 22, Dec 2, 3, 4, 10, 12, 17, 17, 19, 19, 20, 23, Jan 3, 7, 10
 Total No. of visits 50
 Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders 9 - 8/12/04 Covers Pistons Rods
 Connecting rods 4 - 12/04 Crank shaft 4 - 12/04 Tunnel shafts to Screw shaft Propeller 4 - 12/04
 Stern tube 2 - 12/04 Steam pipes tested 20 - 1 - 08 Engine and boiler seatings 2 - 12 - 07 Engines holding down bolts 23 - 1 - 08
 Completion of pumping arrangements 12 - 2 - 08 Boilers fixed 10 - 1 - 08 Engines tried under steam 25 - 2 - 08
 Main boiler safety valves adjusted 12 - 2 - 08 Thickness of adjusting washers 6/8"
 Material of Crank shaft *S. Steel* Identification Mark on Do. *220YDS F.J.B. 10-12-04* Material of Thrust shaft *No* Identification Mark on Do. *No*
 Material of Tunnel shafts *No* Identification Marks on Do. *No* Material of Screw shafts *No* Identification Marks on Do. *LLOYDS F.J.B. 4-12-04*
 Material of Steam Pipes *H. I. Iron* Test pressure 600 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The materials and the workmanship are of good description, and on trial at Belfast Lough, the machinery worked satisfactorily. In my opinion it is eligible to have record + L.M.C. 3-08 with notation "Fuel Receipts & Electric Light"

It is submitted that this vessel is eligible for THE RECORD, L.M.C. 3.08 ELEC. LIGHT. F. D. *J.C. 4.3.08*
 Note T.H.S. = 19965 £.
Note Boiler plans to be returned for duplicate. *J.S. 4.3.08*

The amount of Entry Fee.. £ 3 : 0 :
 Special £ 81 : 1 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 25-2-08
 When received, 29-2-08

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

Committee's Minute
 Assigned
 FRI. 6 MAR 1908
 + L.M.C. 3.08
 F.D. Elec. Light.

FRI. 20 MAR 1908
 Lloyd's Register Foundation
 MACHINERY CERTIFICATE WRITTEN

Certificate (if required) to be sent to the Surveyors (if requested) to be sent to the Committee's Minute.