Rpt. 4.

REPORT ON MACHINERY.

No. 16554

Received at London Office WED. OCT. 22. 1913

Date of writing Report ____ 19 ____ When handed in at Local Office 17/10/1913 Port of Greenock.

No. in Reg. Book. Survey held at Greenock. Date, First Survey 14th Feby 1913 Last Survey 10th Octr. 1913 (Number of Visits 48)

on the SCREW STEAMER Nouv. Cantiere Nav. Triestino 1246 Tons Gross / Net

Master Built at Trieste By whom built Cantiere nav. Triestino 46 When built 1913

Engines made at Greenock By whom made John G. Kincaid & Co. Ltd. 403 when made 1913.

Boilers made at Greenock. By whom made John G. Kincaid & Co. Ltd. 403 when made 1913.

Registered Horse Power Owners Port belonging to

N. Horse Power as per Section 28 520 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

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

Dia. of Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 75. Dia. of Screw shaft as per rule 14·8 / as fitted 15 6/8" Material of screw shaft Steel.

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 at the propeller boss Yes. If the liner is in more than one length are the joints burned Are Caught 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 60½".

Dia. of Tunnel shaft as per rule 13·3" / as fitted 13 3/8" Dia. of Crank shaft journals as per rule 13·99" / as fitted 14 4/8" Dia. of Crank pin 14½" Size of Crank webs 21½" × 9" Dia. of thrust shaft under collars 14½" Dia. of screw 18'0" Pitch of Screw 17'0" No. of Blades 4 State whether moveable No. Total surface 106 Sq. ft.

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2 Diameter of ditto 4½" Stroke 24" Can one be overhauled while the other is at work Yes.

No. of Donkey Engines Two Sizes of Pumps 8"×12"×8". 9"×12"×10". No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room In Holds, &c.

No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump C. P. Is a separate Donkey Suction fitted in Engine room & size Yes: 3½"

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

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

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

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

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Plates: Steel Coy of Scotland. Bars: Lanarkshire Steel Co.

Total Heating Surface of Boilers 7719 ft. Is Forced Draft fitted Yes. No. and Description of Boilers 3: Cylindrical Multitubular Single

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs Date of test 5/9/13. No. of Certificate 1140.

Can each boiler be worked separately Yes. Area of fire grate in each boiler 39 Sq. ft. No. and Description of Safety Valves to each boiler 2: Direct Spring Loaded Area of each valve 9·62 Pressure to which they are adjusted Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 15'0" Length 12'0" Material of shell plates Steel.

Thickness 1 17/32" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap double

long. seams Double Butt Straps Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets now 9". 4½" Lap of plates or width of butt straps 1'7".

Per centages of strength of longitudinal joint rivets 91·7. / plate 85·4. Working pressure of shell by rules 182 lbs: Size of manhole in shell 16"×12"

Size of compensating ring 32½"×28¼"×1 17/32" No. and Description of Furnaces in each boiler 3: Deightons. Material Steel Outside diameter 4'7¼"

Length of plain part top / bottom 8'4 5/8". Thickness of plates crown 9/16" / bottom Description of longitudinal joint Welded. No. of strengthening rings None.

Working pressure of furnace by the rules 186 lbs: Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 41/64" Top 5/8" Bottom 3/4".

Pitch of stays to ditto: Sides 8"×9" Back 9"×8½" Top 8"×9". If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 184 lbs

Material of stays Steel. Diameter at smallest part 1½" Area supported by each stay 77". Working pressure by rules 208 lbs End plates in steam space:

Material Steel. Thickness 1 9/32" Pitch of stays 21"×20½". How are stays secured Dbl Nuts & Washers. Working pressure by rules 180 lbs: Material of stays Steel.

Diameter at smallest part 3 3/32". Area supported by each stay 430". Working pressure by rules 182 lbs Material of Front plates at bottom Steel

Thickness 15/16" Material of Lower back plate Steel Thickness 27/32" Greatest pitch of stays 13½" Working pressure of plate by rules 186 lbs.

Diameter of tubes 2½" Pitch of tubes 3 7/32"×3 3/4" Material of tube plates Steel Thickness: Front 15/16" Back 11/16" Mean pitch of stays 8·68".

Pitch across wide water spaces 13". Working pressures by rules Front 184 lbs Back 224 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8½"×1½" Length as per rule 31 11/16". Distance apart 9" Number and pitch of stays in each 3: 8".

Working pressure by rules 182 lbs. Superheater or Steam chest; how connected to boiler None. 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

W220-0045

VERTICAL DONKEY BOILER— *Manufacturers of Steel*

No. None *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 Safety 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* *Radius of do.* *Stayed by*

Diameter of uptake *Thickness of uptake plates* *Thickness of water tubes* *Dates of survey*

SPARE GEAR. *State the articles supplied :—* 1 Propeller, 1 Propeller shaft, 2 Main Bearing Bolts, 2 Conn Rod bottom End Bolts, 2 Conn. Rod top End Bolts, 1 Set Coupling Bolts, 1 Set Feed & Bilge pump valves, 1 Set L & C Springs for Each Piston, 3 Main Feed check valves, 1 Donkey Feed check valve, 12 Funk Ring Bolts, 4 Boiler tubes 12 Condenser tubes & 120 ferrules, 1 Escape valve spring of Each size, 2 Safety valve springs, 1 Feed Pump discharge valve, 1 Bilge Pump discharge valve, 50 Bolts & nuts assorted, 5 Bars of Iron Round, 3 Bars of Iron Flat, Tie Bars, Baffle plates etc.

The foregoing is a correct description,

Thos. G. Kincaid & Co Ltd *Manufacturer.*

Dates of Survey while building — *During progress of work in shops* — 1913. Feb. 14. 18. 25. 28. Mar. 4. 6. 12. 18. 20. 26. Apr. 1. 10. 14. 17. 22. May 2. 6. 8. 14. 20. 23. June 3. 5. 9. 18. 20. July 28. 29. 31. Augt 5. 7. 11. 14. 19. 21. 25. Sept. 2. 3. 5. 10. 15. 17. 23. 24. 29. 30. Oct 7. 10.

During erection on board vessel —

Total No. of visits 48.

Is the approved plan of main boiler forwarded herewith Yes. Returned 27/10/13

" " " *donkey* " " "

Dates of Examination of principal parts—*Cylinders* 7/8/13. *Slides* 31/7/13. *Covers* 7/8/13 *Pistons* 19/8/13 *Rods* 19/8/13.

Connecting rods 3/6/13. *Crank shaft* See Reports *Thrust shaft* See Reports *Tunnel shafts* See Reports *Screw shaft* 30/9/13 *Propeller* 30/9/13.

Stern tube 30/9/13. *Steam pipes tested* *Engine and boiler seatings* *Engines holding down bolts*

Completion of pumping arrangements *Boilers fixed* *Engines tried under steam*

Main boiler safety valves adjusted *Thickness of adjusting washers*

Material of Crank shaft Steel *Identification Mark on Do.* 3028 *Material of Thrust shaft* Steel *Identification Mark on Do.* 3057

Material of Tunnel shafts Steel *Identification Marks on Do.* 3095 & 3097 3103 & 3105 *Material of Screw shafts* Steel. *Identification Marks on Do.* 3058. 3072

Material of Steam Pipes *Test pressure*

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

The Engines and Boilers of this vessel were built under Special Survey and the materials and workmanship are good. They have now been shipped to Trieste where they will be fitted on board of the Vessel. When this has been done to the Satisfaction of the Societys Surveyors, the Machinery tested under full steam, the Spare Gear checked and the requirements of the Rules in all other respects duly carried out; the Vessel will in my opinion be eligible to have the record of ✠LMC (with date of completion) marked in the Society's Register Book.

Certificate (if required) to be sent to Greenock

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

The amount of Entry Fee .. £ 3 : : — When applied for, 17/10/1913

Special £30.13.4 + £6.2.8 .. £ 46 : : — When received, 24.10.13

Donkey Boiler Fee .. £ 9 : 4 :

Travelling Expenses (if any) £ : :

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

Committee's Minute GLASGOW 21 OCT. 1913 TUE. APR. 21. 1914

Assigned Deferred for compln