

REPORT ON MACHINERY.

No. 74010A

Received at London Office THU. JAN. 13 1921

Date of writing Report 12th Jan 1921 When handed in at Local Office 12th Jan 21 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Date, First Survey 2nd Dec. 1920 Last Survey 12th Jan 1921

Reg. Book.

(Number of Visits 14)

Gross 5129

Net 3164

Master

Built at

By whom built

When built

Engines made at

By whom made

when made

Boilers made at

By whom made

when made

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28 500

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders 28 1/8, 45 1/4 & 7 1/2 Length of Stroke 53 1/2 Revs. per minute 66 Dia. of Screw shaft as per rule 16 1/2 as fitted 16 1/4 Material of screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight in the propeller boss

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

Dia. of Tunnel shaft as per rule 14 1/2 as fitted 14 1/2 Dia. of Crank shaft journals as per rule 15 1/2 as fitted 15 1/2 Dia. of Crank pin 15 1/8 Size of Crank webs 30 x 9 1/2 Dia. of thrust shaft under collars 15 1/8 Dia. of screw 15-0 Pitch of Screw No. of Blades 4 State whether moveable Total surface

No. of Feed pumps 2 Diameter of ditto 3 7/8 Stroke 27 Can one be overhauled while the other is at work

No. of Bilge pumps 2 Diameter of ditto 4 1/4 Stroke 27 Can one be overhauled while the other is at work

No. of Donkey Engines 5 Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room No 3 1/2 diameter In Holds, &c. No 3 1/2 in each hold, one 3 1/2

No. of Bilge Injections 1 sizes 7 7/8 Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size

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 Both

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 Both

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 Bilge to nos 1 & 2 holds How are they protected Hood boxing

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

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from E.R. top platform

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Krupp, Essen

Total Heating Surface of Boilers 6681 sq ft Is Forced Draft fitted No. and Description of Boilers 3 Single Cored

Working Pressure 195 lb per sq in Tested by hydraulic pressure to Not Date of test No. of Certificate tested

Can each boiler be worked separately Area of fire grate in each boiler 49 sq ft No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 11.8 sq in Pressure to which they are adjusted 200 lb Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork 24 in diam. of boilers 13.5 in Length 11.1 1/2 Material of shell plates Steel

Thickness 1 9/16 Range of tensile strength 25 1/2 to 33 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. Lap

long. seams 11 rivets Diameter of rivet holes in long. seams 1 27/64 Pitch of rivets 19 1/16 Lap of plates or width of butt straps 28 3/4

Per centages of strength of longitudinal joint rivets 11.6 plate 92.5 Working pressure of shell by rules 205 lb Size of manhole in shell 15 1/4 x 11 1/6

Size of compensating ring 1 9/16 No. and Description of Furnaces in each boiler 3 Monom Material Steel Outside diameter 39 3/8

Length of plain part top Thickness of plates crown 3 9/16 Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 224 Combustion chamber plates: Material Steel Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 2 9/32

Pitch of stays to ditto: Sides 7 1/2 x 7 1/2 Back 7 3/4 x 8 3/8 Top 7 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 264

Material of stays Steel Area at smallest part 2.35 sq in Area supported by each stay 5.9 sq in Working pressure by rules 200 End plates in steam space:

Material Steel Thickness 1 1/16 Pitch of stays 6 1/2 x 6 3/4 How are stays secured Double nuts Working pressure by rules 220 Material of stays Steel

Area at smallest part 6.6 sq in Area supported by each stay 27.6 sq in Working pressure by rules 248 Material of Front plates at bottom Steel

Thickness 1 1/16 Material of Lower back plate Steel Thickness 2 9/32 Greatest pitch of stays 6 1/8, 7 1/16 Working pressure of plate by rules 200

Diameter of tubes 3 Pitch of tubes 4 1/8 x 4 Material of tube plates Steel Thickness: Front 1 1/16 Back 2 9/32 Mean pitch of stays 10 3/16

Pitch across wide water spaces 13 15/16 Working pressures by rules 207 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 1/16 x 1 1/4 Length as per rule 32 3/32 Distance apart 7 1/2 Number and pitch of stays in each Three 7 7/8

Working pressure by rules 200 lb Steam dome: description of joint to shell None % of strength of joint

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

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Schmidt

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve 1 9/16 Pressure to which each is adjusted 202 lb per sq in Is Easing Gear fitted

W1258-0160

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR.

State the articles supplied:

Two top & 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, 1 set coupling bolts and nuts, one set feed & 1 set bilge pump valves, a few bars of iron and a quantity of assorted bolts & nuts, one set each of HP, IP & LP piston rings & springs, 2 bronze propeller blades and 16 studs and nuts for same, one air pump rod and nut, one set of crank pin brasses, 1 eccentric pulley & straps, 15 Kinghorn valves, 20 condenser tubes, one set each HP & IP piston valve rings & air pump links, 1 circulating pump rod & nut, one propeller shaft, 1 HP & 1 IP cylinder cover, 1 set crosshead brasses, 3 safety valves & one set of springs for same. One dynamo armature, 8 valve springs & 4 valve spindles, 1 piston rod and 1 bucket rod for ballast pump, Cylinder cover, piston, rods, crosshead brasses for fan engine etc.

The foregoing is a correct description,

Dates of Survey while building

During progress of work in shops --
During erection on board vessel --
Total No. of visits

The machinery and boilers have not been constructed under special survey.

Is the approved plan of main boiler forwarded herewith

No

The approved plan is in the vessel. German certificate boiler book and the book was handed to Messrs. Levent & Proctor's representative " " donkey " " " Done

Dates of Examination of principal parts - Cylinders 8/12/20 Slides 8/12/20 Covers 8/12/20 Pistons 8/12/20 Rods 8/12/20

Connecting rods 8/12/20 Crank shaft 8/12/20 Thrust shaft 8/12/20 Tunnel shafts 8/12/20 Screw shaft 8/12/20 Propeller 8/12/20

Stern tube 8/12/20 Steam pipes tested 11th Jan/21 Engine and boiler seatings 8/12/20 Engines holding down bolts 8/12/20

Completion of pumping arrangements 11th Jan/21 Boilers fixed 8/12/20 Engines tried under steam 20/12/20

Completion of fitting sea connection 20/12/20 Stern tub 20/12/20 Screw shaft and propeller 20/12/20

Main boiler safety valves adjusted 20/12/20 Thickness of adjusting washers P.B. 1/4 x 5/16 C.B. 1/4 x 1/2 S.B. 3/8 x 15/32

Material of Crank shaft 1st steel Identification Mark on Do. ✓ Material of Thrust shaft 1st steel Identification Mark on Do. ✓

Material of Tunnel shafts 1st steel Identification Marks on Do. ✓ Material of Screw shafts 1st steel Identification Marks on Do. ✓

Material of Steam Pipes 1st steel or Lath Test pressure not now tested

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

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

The machinery of this vessel has not been constructed under special survey, the scantlings of the boilers have been compared with the approved plans and are practically in accordance with them for a working pressure of 14 Kilogrammes per square centimetre, the shafting was examined and gauged and found to be on the small side for that pressure and the safety valves of the main boilers are now adjusted for a working pressure of 195 pounds per square inch and this pressure was agreed to by the Owners representative.

So far as can be judged from the thorough examination of the several parts now opened out for survey, the main engines, boilers and auxiliaries are in a condition practically as good as when new and the workmanship and materials appear to be of good quality.

In my opinion the machinery of this vessel is now eligible for record L.M.C. 1-21, tail shaft 1-21, 3 Brs. 195 lb, H.S. 665 lb, G.S. 147 lb.

The amount of Entry Fee ... £ : : When applied for,

Special ... £ 30 : : 19

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 10-2-21

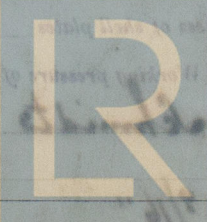
Committee's Minute

Assigned

FRI. 11 FEB. 1921

George Murdoch

Engineer Surveyor to Lloyd's Register of Shipping.



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