

Rpt. 4.

## REPORT ON MACHINERY.

No. 10959.

Received at London Office

WED. 23 FEB. 1921

Date of writing Report 30 Dec 1920 10:20 When handed in at Local Office 5 January 1921 Port of MIDDLESBROUGH

No. in Survey held at Middlesbrough Date, First Survey 10 Dec 1919 Last Survey 21 Dec 1920

Reg. Book. 48466 on the Ss "Elena Peirce" (Hurness Bldg Co Ltd &amp; Richardson's Westgarth &amp; Co Ltd) (Number of Volls)

Master Built at Middlesbrough By whom built Hurness Shipbuilding Co Ltd Tons Gross 5820 Net 3625 When built 1921

Engines made at Middlesbrough By whom made Richardson's Westgarth &amp; Co Ltd when made 1920

Boilers made at H By whom made H when made 1920

Registered Horse Power Owners Peirce Bros. Port belonging to Naples

Nom. Horse Power as per Section 28 343 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines Inverted Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24" 45" 46" Length of Stroke 51" Revs. per minute 13" Dia. of Screw shaft as per rule 15" Material of screw shaft Iron

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 for length 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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5' - 2"

Dia. of Tunnel shaft as per rule 13 1/4" Dia. of Crank shaft journals as per rule 14 3/8" Dia. of Crank pin 15" Size of Crank webs 20" x 9 3/8" Dia. of thrust shaft under

collars 15 1/4" Dia. of screw 14" - 9" Pitch of Screw 18" - 0" No. of Blades 4 State whether moveable No Total surface 100 sq ft

No. of Feed pumps 2 Hurness Diameter of ditto 8" x 10 1/2" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 8" x 6" x 8" 10" x 12" x 10" 4" x 4" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 of 3 1/2" and 2 of 3 1/2" direct In Holds, &amp;c. 2 of 3 1/2" in each hold and 1 of 2 1/2"

in Tunnel Well.

No. of Bilge Injections 1 size 8" Connected to condenser, or to circulating pump No. pumps a separate Donkey Suction fitted in Engine room &amp; size Yes: 3 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

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

What pipes are carried through the bunkers None How are they protected

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 21. 9. 20 of Stern Tube 10. 11. 20 Screw shaft and Propeller 14. 11. 20

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

BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel John Spencer &amp; Sons Ltd

Total Heating Surface of Boilers 8580 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Multitubular Cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 29. 6. 20 No. of Certificate 6138

Can each boiler be worked separately Yes Area of fire grate in each boiler 62.8 sq ft No. and Description of Safety Valves to

each boiler Two direct spring loaded Area of each valve 12.56 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15' - 6 1/2" Length 12' - 1 1/2" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28 / 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR lap

long. seams DR DR Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 14 1/2"

Per centages of strength of longitudinal joint rivets 86.08 Working pressure of shell by rules 181 lbs Size of manhole in shell 16 1/2" x 13"

Size of compensating ring 30 1/2" x 29" No. and Description of Furnaces in each boiler 3 Reightons Material Steel Outside diameter 49 3/4"

Length of plain part top Thickness of plates crown 19 1/2" Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/32" Back 11/16" Top 19/32" Bottom 23/32"

Pitch of stays to ditto: Sides 1 1/2" x 6 5/8" Back 8 3/8" x 8" Top 1 1/2" x 6 5/8" If stays are fitted with nuts or riveted heads twisted heads Working pressure by rules 180 lbs

Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 49 sq in Working pressure by rules 193 lbs End plates in steam space

Material Steel Thickness 1 1/8" Pitch of stays 19 1/2" x 15 3/4" How are stays secured nuts &amp; washers Working pressure by rules 192 lbs Material of stays Steel

Diameter at smallest part 6.1" Area supported by each stay 31.6 sq in Working pressure by rules 206 lbs Material of Front plates at bottom Steel

Thickness 5/16" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 13 3/4" x 8" Working pressure of plate by rules 181 lbs

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 5/8" Material of tube plates Steel Thickness: Front 15/16" Back 13/16" Mean pitch of stays 10 3/8"

Pitch across wide water spaces 13 1/2" Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8 3/4" x 1 1/2" Length as per rule 32 3/4" Distance apart 4 1/2" Number and pitch of stays in each 3 - 6 3/8"

Working pressure by rules 198 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

Lloyd's Register

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Propeller and screw shaft. 2 Top end bolts & nuts. 2 Bottom end bolts & nuts. 2 Main bearing bolts & nuts. 1 set of Coupling bolts & nuts. Centrifugal pump impeller shaft. 16 Condenser tubes. 1 set of Feed pump valves. 1/2 set of Air pump valves. 1 set of valves & seats for Bilge pumps. 1 Main and 1 Auxiliary check valve. 1 Litter basket. 3 Safety valve springs. 1 pair of bottom end bushes. 2 pair of Top end bushes. Assorted bolts & nuts. Rod & sheet steel.

The foregoing is a correct description,

For and on behalf of

RICHARDSONS, WESTGARTH & Co., Ltd.

Manufacturer.

GENERAL MANAGER,

(MIDDLESBROUGH WORKS.)

Dates of Survey while building: During progress of work in shops: 1919. Dec 1. 9. 17. 24. 1920. Jan 8. 12. 14. 16. 19. 21. 26. 30. Feb 4. 16. 19. 23. 27. Mar 1. 8. 13. 17. 22. April 1. 16. 20. 26. 28. 30. May 5. 11. 13. 14. 18. 28. June 2. 8. 11. 18. 22. 29. July 2. 6. 13. 19. 24. 29. Aug 4. 11. 24. 31. Sep 2. 8. 16. 21. 22. 24. 27. 30. Oct 5. 13. 15. 19. 20. 22. 26. Nov 1. 3. 4. 10. 15. 17. 23. 29. Dec 1. 6. 9. 10. 15. 16. 17. 20. 21. Total No. of visits: 86.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 12. 10. 20. Slides 22. 10. 20. Covers 22. 10. 20. Pistons 24. 9. 20. Rods 24. 9. 20. Connecting rods 24. 9. 20. Crank shaft 20. 4. 20. Thrust shaft 11. 8. 20. Tunnel shafts 11. 8. 20. Screw shaft 19. 3. 20. Propeller 12. 10. 20. Stern tube 24. 9. 20. Steam pipes tested 1. 12. 20. 4. 12. 20. Engine and boiler seatings 29. 9. 20. Engines holding down bolts 10. 12. 20. Completion of pumping arrangements 21. 12. 20. Boilers fixed 10. 12. 20. Engines tried under steam 21. 12. 20. Main boiler safety valves adjusted 21. 12. 20. Thickness of adjusting washers P.H. 1/4. P.V. 1/4. S.V. 1/4. Cent. H. 1/2. P.V. 1/2. S.V. 1/2. S.H. 1/2. P.H. 1/2. S.V. 1/2.

Material of Crank shaft Steel Identification Mark on Do. 6162 AB Material of Thrust shaft Steel Identification Mark on Do. 4862 N

Material of Tunnel shafts Steel Identification Marks on Do. 4862 N Material of Screw shafts Iron Identification Marks on Do. 6162 AB

Material of Steam Pipes Steel (lapwelded) Test pressure 240 lbs

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 Yes If so, state name of vessel 1/2 "Pitta di Messina"

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

The machinery of this vessel has been built under Special Survey: the workmanship and materials are good. It has been efficiently fitted on board and proved satisfactory under working conditions.

The vessel is eligible in my opinion to have the notation of L.M.C. 12.20 made in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.20 FI

Roll

ARSL

26/2/21

The amount of Entry Fee ... £ 3 : 0 : When applied for, Special ... £ 48 : 13 : 22/2/21. Donkey Boiler Fee ... £ Travelling Expenses (if any) £ 4. 3. 1921 Feb.

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

Committee's Minute Assigned + L.M.C. 12.20

F.D.

CERTIFICATE WRITTEN



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