

REPORT ON MACHINERY

Mdb No. 5044
Sta No 23305

Port of **MIDDLESBROUGH-ON-TEES**

Received at London Office **SAT. 15 JUN 1907**

No. in Survey held at **Stockton & Sunderland** Date, first Survey **3rd Jan'y 07** Last Survey **31st May 1907**

Reg. Book Supplement on the **Steel S.S. Kossuth Ferencz.**

(Number of Visits **5**) (Gross **1803.70**) (Net **5119.43**)

Master **Dobrovich** Built at **Sunderland** By whom built **J. J. Thompson & Son** When built **1907**

Engines made at **Stockton** By whom made **Polain & Co. Ltd** when made **1907**

Boilers made at **Stockton** By whom made **Polain & Co. Ltd** when made **1907**

Registered Horse Power _____ Owners **Atlantica Sea Navigation Ltd** Port belonging to **Lucerne**

Nom. Horse Power as per Section 28 **392** Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted **Yes**

ENGINES, &c.—Description of Engines **Direct acting Trip expansion** No. of Cylinders **3** No. of Cranks **3**

Dia. of Cylinders **26-42-68** Length of Stroke **48** Revs. per minute **56** Dia. of Screw shaft **14 1/2** Material of screw shaft **W 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 _____ 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 **5-4**

Dia. of Tunnel shaft **12.9** as per rule **13.6** Dia. of Crank shaft journals **14** as fitted **14** Dia. of Crank pin **14 1/2** Size of Crank webs **22 3/4 x 9 1/4** Dia. of thrust shaft under collars **14 1/2**

Dia. of screw **17-6** Pitch of Screw **17 1/2 feet** No. of Blades **4** State whether moveable **No** Total surface **92 sq ft**

No. of Feed pumps **2** Diameter of ditto **3 1/4** Stroke **34** Can one be overhauled while the other is at work **Yes**

No. of Bilge pumps **2** Diameter of ditto **4 3/4** Stroke **34** Can one be overhauled while the other is at work **Yes**

No. of Donkey Engines **Five** Sizes of Pumps **4 x 8, 4 x 10, 4 x 10** No. and size of Suctions connected to both Bilge and Donkey pumps **2 of 3 1/2" to each & 1 of 1 1/2" to after well**

In Engine Room **Three 3 1/2" diameter** In Holds, &c. **2 of 3 1/2" to each & 1 of 1 1/2" to after well**

No. of Bilge Injections **1** sizes **6 1/4"** Connected to condenser, or to circulating pump **C.P.** 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 _____

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 _____ 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 **17-4-07** of Stern Tube **11-4-07** Screw shaft and Propeller **23-5-07**

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

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **John Spencer & Son Ltd**

Total Heating Surface of Boilers **6650 sq ft** Is Forced Draft fitted **No** No. and Description of Boilers **Two Cyl. Tubular**

Working Pressure **180 lb** Tested by hydraulic pressure to **360 lb** Date of test **18-4-07** No. of Certificate **3896**

Can each boiler be worked separately **Yes** Area of fire grate in each boiler **71 1/2 sq ft** No. and Description of Safety Valves to each boiler **Two Spring**

Area of each valve **8.29 sq in** Pressure to which they are adjusted **185 lb** Are they fitted with easing gear **Yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **10"** Crown dia. of boilers **17-6** Length **11-6** Material of shell plates **Steel**

Thickness **7/16 1/32** Range of tensile strength **28/52** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **1.2 Riv**

long. seams **2 Bar Shop** Diameter of rivet holes in long. seams **1 1/2** Pitch of rivets **5** Lap of plates or width of butt straps **1-9 3/8**

Per centages of strength of longitudinal joint rivets **89.15** Working pressure of shell by rules **184 lb** Size of manhole in shell **17 x 13**

plate **85** Size of compensating ring **31 x 27 x 1 3/4 1/2** No. and Description of Furnaces in each boiler **4 Soap Trunk** Material **Steel** Outside diameter **3-2**

Length of plain part top **7-0** bottom **6-10 1/2** Thickness of plates crown **1/2** bottom **1/2** Description of longitudinal joint **Welded** No. of strengthening rings _____

Working pressure of furnace by the rules **190 lb** Combustion chamber plates: Material **Steel** Thickness: Sides **5/8 1/32** Back **5/8 1/32** Top **5/8 1/32** Bottom **3/4**

Pitch of stays to ditto: Sides **9 3/8 x 8 5/8** Back **9 3/8 x 8 5/8** Top **9 3/4 x 8 5/8** If stays are fitted with nuts or riveted heads **No** Working pressure by rules **185 lb**

Material of stays **Steel** Diameter at smallest part **1 9/16** Area supported by each stay **80.6 sq in** Working pressure by rules **215 lb** End plates in steam space: _____

Material **Steel** Thickness **1 7/16 1/2** Pitch of stays **24 x 23** How are stays secured **2 x W** Working pressure by rules **185 lb** Material of stays **Steel**

Diameter at smallest part **3 5/8** Area supported by each stay **552 sq in** Working pressure by rules **187 lb** Material of Front plates at bottom **Steel**

Thickness **1 1/2** Material of Lower back plate **Steel** Thickness **1 3/8** Greatest pitch of stays **19 3/4 x 8 13/16** Working pressure of plate by rules **184 lb**

Diameter of tubes **3 3/4** Pitch of tubes **5 x 5 1/8** Material of tube plates **Steel** Thickness: Front **1 1/4 1/32** Back **1 3/16 1/32** Mean pitch of stays **11 1/2**

Pitch across wide water spaces **14 3/4** Working pressures by rules **187 lb** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **8 5/8 x 7** Length as per rule **33** Distance apart **9 3/4** Number and pitch of stays in each **Three 8 5/8**

Working pressure by rules **184 lb** 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 _____

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 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 _____ Stayed by _____

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

SPARE GEAR. State the articles supplied:— *Top & bottom end connecting rods bolts & nuts
Two main bearing bolts & nuts. Set of coupling bolts. Set of feed & bilge
Jump valves H & M. Piston rings for piston springs Propeller & propeller
Shaft bolts & nuts assorted etc*

FOR BLAIR & CO. LTD. The foregoing is a correct description,

Geo. Hettusky Manufacturer of main engine & boiler.

ASSISTANT SECRETARY.

Dates of Survey while building	During progress of work in shops - -	1907. Jan. 5. 8. 10. 19. 27. 28. Feb. 14. 6. 8. 12. 15. 18. 20. 25. 28. Mar. 4. 6. 11. 25. April 3. 4. 10. 11. 16. 18.
	During erection on board vessel - -	May 12. 23. 24. 27. 28. 29. 30. 31.
	Total No. of visits	34 (1) (sed) 12 June, 07

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

Dates of Examination of principal parts—Cylinders 10-1-07 Slides 28-1-07 Covers 15-2-07 Pistons 6-3-07 Rods 6-3-07
Connecting rods 6-3-07 Crank shaft 4-4-07 Thrust shaft 18-2-07 Tunnel shafts 4-2-07 Screw shaft 11-4-07 Propeller 25-7-07
Stern tube 11-4-07 Steam pipes tested 27-5-07 Engine and boiler seatings 15-2-07 Engines holding down bolts 29-5-07
Completion of pumping arrangements 31-5-07 Boilers fixed 29-5-07 Engines tried under steam 31-5-07
Main boiler safety valves adjusted 31-5-07 Thickness of adjusting washers *Star B. 5/16 r 5/16 Port B. 5/16 r 7/16*

Material of Crank shaft *W iron* Identification Mark on Do. *6176* Material of Thrust shaft *W iron* Identification Mark on Do. *6172*
Material of Tunnel shafts *W iron* Identification Marks on Do. *6192 6179 6124 6127 6123 6121 6128* Material of Screw shafts *W iron* Identification Marks on Do. *6196*
Material of Steam Pipes *Copper solid drawn* Test pressure *360 lbs* *Span 27-4-6197*

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

*The engines and boilers of this vessel have been constructed under special survey, the materials and workmanship are good and efficient and when tested under steam were found satisfactory. In our opinion the machinery is now eligible for the notation **L.M.C. 6.07** in the Register Book.*

It is submitted that this vessel is eligible for **THE RECORD.** **L.M.C. 6.07**
Elec light

15/6/07

The amount of Entry Fee..	£ 3 : 0 : 0	When applied for,
Special	£ 29 : 12 : 0 19.07
Donkey Boiler Fee .. .	£ 2 : 2 : 0	When received,
Travelling Expenses (if any) £	: : : 19.07

Geo. R. Milner R.N. Coomber
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 18 JUN 1907

Assigned

*+ L.M.C. 6.07
Elec. light.*

MACHINERY CERTIFICATE WRITTEN.



Lloyd's Register Foundation

Certificate (if required) to be sent to Underland

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

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

[L.M. 4.7—Copyright Ink.]