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REPORT ON MACHINERY.

No. 19568.
TUES. JAN 26 1902

Port of Glasgow Received at London Office 19

No. in Survey held at Glasgow Date, first Survey 1901 13th Aug Last Survey 22nd Jan 1902

Reg. Book. S. S. "KOSTRENA." (Number of Visits 18) Tons { Gross 2538.52
Net 1628.56

on the S. S. "KOSTRENA."

Master D. Sodich Built at Glasgow By whom built Napier & Miller When built 1902

Engines made at Glasgow By whom made D. Rowan & Co. when made 1902

Boilers made at Glasgow By whom made D. Rowan & Co. when made 1902

Registered Horse Power 261 Owners G. A. Sodich Port belonging to Finme.

Nom. Horse Power as per Section 28 261 Is Refrigerating Machinery fitted No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion, screw. No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 23", 34", 61" Length of Stroke 42" Revs. per minute 11.53 Dia. of Screw shaft 12 3/4" Lgth. of stern bush 4" 3 3/4"

Dia. of Tunnel shaft 10 9/8" Dia. of Crank shaft journals 11 1/4" Dia. of Crank pin 12" Size of Crank webs 7 3/4" Dia. of thrust shaft under collars 12" Dia. of screw 16" 0" Pitch of screw 16" 0" No. of blades 4 State whether moveable no Total surface 74.4 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 21" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work yes.

No. of Donkey Engines 3 Sizes of Pumps 8" x 5" x 8" - 5 1/4" x 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 3" dia. in Stokehold two 3" dia In Holds, &c. In Nos 1, 2, & 3 holds Two 3" dia. in each, one 3 1/2" aft hold & tunnel well.

No. of bilge injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & 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 none

Are all connections with the sea direct on the skin of the ship yes. Are they Valves or Cocks valves & cocks.

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.

When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launch Is the screw shaft tunnel watertight yes.

Is it fitted with a watertight door yes. worked from top platform.

BOILERS, &c.— (Letter for record (5) Total Heating Surface of Boilers 4212 sq. ft. Is forced draft fitted no

No. and Description of Boilers Two single ended Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs

Date of test 23/12/01 Can each boiler be worked separately yes Area of fire grate in each boiler 58.8 sq. ft. No. and Description of safety valves to each boiler 2 Patent spring Area of each valve 7.07" Pressure to which they are adjusted 165 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6" Mean dia. of boilers 15" 0" Length 10" 6" Material of shell plates steel

Thickness 1 1/8" Range of tensile strength 28 to 32 Are they welded or flanged no Descrip. of riveting: cir. seams double long. seams treble

Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 1/4" Lap of plates or width of butt straps 17 5/8"

Per centages of strength of longitudinal joint: rivets 88.2 Working pressure of shell by rules 165 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 27 x 21 x 1 1/8" No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3" 8 1/4"

Length of plain part: top 6" 6" bottom 6" 5" Thickness of plates: crown 3/4" bottom 3/4" Description of longitudinal joint welded No. of strengthening rings 1 partial

Working pressure of furnace by the rules 166 lbs Combustion chamber plates: Material steel Thickness: Sides 9/16" Back 5/8" Top 9/16" Bottom 13/16"

Pitch of stays to ditto: Sides 7 1/2" x 8" Back 8 1/8" x 8 1/8" Top 7 1/2" x 8 1/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 162 lbs

Material of stays steel Area at smallest part 1.48 Area supported by each stay 66.5" Working pressure by rules 177 lbs End plates in steam space: Material steel Thickness 1 1/16" Pitch of stays 18" x 14 1/2" How are stays secured nuts Working pressure by rules 169 lbs Material of stays steel

Area at smallest part 5.27 Area supported by each stay 315" Working pressure by rules 167 1/2 lbs Material of Front plates at bottom steel

Thickness 13/16" Material of Lower back plate steel Thickness 1 1/16" Greatest pitch of stays 13 1/2" x 8 1/8" Working pressure of plate by rules 250 lbs

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

Pitch across wide water spaces 14 1/2" Working pressures by rules 140 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7 1/4" x 2" - 1" Length as per rule 2" 6 3/4" Distance apart 8 7/8" Number and pitch of Stays in each 3 - 7 1/2"

Working pressure by rules 163 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 ✓

DONKEY BOILER— No. *One* Description *Horizontal, Single Ended.*
 Made at *Glasgow* By whom made *D. Rowan & Co.* When made *1902* Where fixed *on deck.*
 Working pressure *90 lbs* tested by hydraulic pressure to *180 lbs* No. of Certificate *6117* Fire grate area *27.5* Description of safety valves *Paknet Spring*
 No. of safety valves *2* Area of each *4.9* Pressure to which they are adjusted *95 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *9" 0"* Length *9" 0"* Material of shell plates *steel* Thickness *9/16"* Range of tensile strength *28-32* Descrip. of riveting long. seams *Treble (lap)* Dia. of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *3.4"*
 Lap of plating *6 3/8"* Per centage of strength of joint *92* Rivets *92* Thickness of shell plates *5/8"* *end* *Guiders* *1 1/4" x 2 1/8"* *Stay* *14" x 14 1/2"*
 Area of stays. *2.08* Diameter of furnace *2 1/4"* *Bottom* *Plain* Length of furnace *4" 9"* Thickness of furnace plates *15/32"* Description of joint *welded* Thickness of furnace crown plates *15/32"* *Top* *1 1/16"* Stayed by *steel screwed stay* *98* *1 1/8" x 1 1/4"* Working pressure of shell by rules *91 lbs.*
 Working pressure of furnace by rules *100 lbs* Diameter of *update* *3"* Thickness of *update* plates *5/8"* Thickness of *stay* tubes *1/4"*

SPARE GEAR. State the articles supplied:— *Two top end & two bottom end connecting rod bolts, two main bearing bolts, one set coupling bolts, and one set of feed & bilge pump valves. Etc.*

The foregoing is a correct description,
D. Rowan & Co. Manufacturer.

Dates { During progress of work in shops - 1901. Aug 13. Oct 2. 28 Nov 7. 12. 19. 26. Dec 2. 17. 20. 21. 23. 30 1902 Jan 9. 11. 13. 15. 22
 { During erection on board vessel - - -
 while building { Total No. of visits *18* Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *yes.*

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

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 ✓
 The machinery of this vessel has been constructed under Special Survey, the material & workmanship are of good quality, it has been securely fitted on board tried under steam & found in good working order.
 In my opinion it is eligible to be classed in the Register Book with the record of **+LMC 1.02.**

It is submitted that
 this vessel is eligible for
THE RECORD - LMC 1.02

The amount of Entry Fee. £ *2* : : :
 Special £ *33* : : :
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :
 When applied for, *15th Jan. 02.*
 When received, *23/1/02*

Committee's Minute *Glasgow. 27 JAN. 1902*

Assigned

+ L.M.C. 1.02

J.W. Dimmock.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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