

MUN. MAR 24 1902

No. 692.

REPORT ON MACHINERY.

Port of Trieste

Received at London Office

18

No. in Survey held at Trieste Date, first Survey 10th Sept. 1901 Last Survey 19th March 1902
 reg. Book. (Number of Visits 23)

— on the Single Screw Steamer "Bucovina"

Laster — Built at Trieste By whom built Lloyd Arsenal When built 1902. 1

Engines made at Dumbarton By whom made Denny & C° when made 1901
 partly Dumbarton

Boilers made at Trieste By whom made Denny & C° Lloyd Arsenal when made 1902. 1

Registered Horse Power Owners Lloyd Austriaco Port belonging to Trieste

Com. Horse Power as per Section 28 348 Is Refrigerating Machinery fitted — Is Electric Light fitted Yes.

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

Dia. of Cylinders 23⁷/8 - 38⁷/8 - 63⁷/8 Length of Stroke 48" Recs. per minute 78 Dia. of Screw shaft as per rule 14⁹/₁₆ Dia. of stern bush 48

Dia. of Tunnel shaft as per rule 12¹¹/₁₆ Dia. of Crank shaft journals as per rule 13¹/₈ Dia. of Crank pin 13¹/₈ Size of Crank webs 16⁷/₁₆ 18¹/₈ Dia. of thrust shaft under
 allars 13¹/₈ Dia. of screw 15⁷/₈ 1¹/₂ Pitch of screw 18⁷/₈ No. of blades 4 State whether moveable yes Total surface 74⁷/₈

No. of Feed pumps 2 Diameter of ditto 3³/₄" Stroke 23⁷/₈" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 1 Diameter of ditto 5¹/₂" Stroke 23⁷/₈" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps see remarks next page and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three of 4" diameter In Holds, &c. 10. 3 inches in dia. to bilges
4 1/2 of 4" to double bottom.

No. of bilge injections 1 sizes 11" Connected to condenser, to circulating pump yes Is a separate donkey suction fitted in Engine room of size yes one 25"

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

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 yes

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 ✓ Is the screw shaft tunnel watertight yes

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

OILERS, &c.— (Letter for record R) Total Heating Surface of Boilers 4634⁷/₈ feet. Is forced draft fitted yes

No. and Description of Boilers 2: Cylind. Mull Single ended Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs

Date of test 30th Dec. Can each boiler be worked separately yes Area of fire grate in each boiler 56.4 ft² No. and Description of safety valves to
 each boiler 1 double spring Area of each valve 7.66 ft² Pressure to which they are adjusted 205 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 13" Mean dia. of boilers 14⁹/₁₆" Length 11⁷/₈" Material of shell plates Steel

Thickness 1¹/₁₆" Range of tensile strength 29-32 tons Are they welded or flanged no Descrip. of riveting: cir. seams ENDS. double MIDDLE single long. seams D.B.S.

Diameter of rivet holes in long. seams 1¹/₁₆" Pitch of rivets 1¹/₂" Lap of plate 1¹/₂" width of butt straps 21¹/₄"

Per centages of strength of longitudinal joint rivets 93 plate 84.2 Working pressure of shell by rules 227 lbs Size of manhole in shell 16 112⁷/₈"

Size of compensating ring 3 3/4" x 1 1/16" No. and Description of Furnaces in each boiler 9 Heights Material steel Outside diameter 47 1/4"

Length of plain part top 8.5" bottom 3 1/2" Thickness of plates crown 3 1/2" Description of longitudinal joint weld No. of strengthening rings none

Working pressure of furnace by the rules 213 Combustion chamber plates: Material steel Thickness: Sides 7/8" Back 7/8" Top 11/16" Bottom 7/8" Working pressure by rules 218

Material of stays Iron Diameter at smallest part 1 1/4" x 1 1/8" Area supported by each stay 63 ft² Working pressure by rules 244 lbs End plates in steam space:

Material steel Thickness 1 1/2" Pitch of stays 15 1/2 ft x 15 1/2 ft How are stays secured D.N. & W. Working pressure by rules 203 lbs Material of stays steel

Diameter at smallest part 2 1/2" Area supported by each stay 241 ft² Working pressure by rules 253 lbs Material of Front plates at bottom Steel

Thickness 15/16" Material of Lower back plate steel Thickness 15/16" Greatest pitch of stays 19 1/2" Working pressure of plate by rules 254 lbs

Diameter of tubes 2 1/2" Pitch of tubes 5 1/16" x 13 1/8" Material of tube plates steel Thickness: Front 31/32" Back 31/4" Mean pitch of stays 2 1/4"

Pitch across wide water spaces 13 1/2" Working pressures by rules 244 lbs. 336 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/2" x 1 1/4" Length as per rule 32 1/2" Distance apart 7 1/8" Number and pitch of Stays in each 3: 2 1/2"

Working pressure by rules 227 lbs Superheater or Steam chest; not connected to boiler none Can the superheater be shut off and the boiler worked separately none

Diameter Length Thickness of shell plates Material Description of longitudinal joint Dia. of flue

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 Flange stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



W1549-0205

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DONKEY BOILER - No. One Description Cylindrical Hull. with one Dighton's Furnace
 partly made at Dumbarton & finished by whom made Penney & Co. Lloyd's Arsenal When made 1901. Where fixed On deck. Boiler
 Working pressure 165 tested by hydraulic pressure to 330 No. of Certificate 28 Fire grate area 20.4" Description of safety valves Spring
 No. of safety valves 1 double area of each 5.41 Pressure to which they are adjusted 165 If fitted with easing gear yes If steam from main boiler
 enter the donkey boiler no Dia. of donkey boiler 8⁷ 11¹/₂" Length 8⁷ 6⁵/₈" Material of shell plates Steel Thickness 39/₃₂" Range of t.
 strength 28-32 Descrip. of riveting long. seams Double B. S - T.R. Dia. of rivet holes 1 Whether punched or drilled Drillers Pitch of rivets 5/₃₂"
 D.B.S. Lap of plates 13¹/₈" Per centage of strength of joint Rivets 116 over edge Plates 81.8 Thickness of shell plates 31/₃₂" Radius of do. plate 1.0. of Stays to do. 14
 Dia. of stays 2¹/₂" Diameter of furnace tube 48¹/₄" Bottom Length of furnace 6 feet pitches 3 Top Working pressure of shell by rules 20.8 m
 joint walls cont. clamps Thickness of furnace plates 9/₁₆" Stayed by 1¹/₂" Stay iron 3¹/₂" x 3¹/₂" x 3¹/₂" Working pressure of shell by rules 20.8 m
 Working pressure of furnace by rules 183 lbs Diameter of tube 3¹/<sub>4" Thickness of tube plates 17/₁₆" 5/8" Thicknes of water tubes 5/8" Thickness of water tubes 11/₁₆"
 SPARE GEAR. State the articles supplied: - 2 connecting rod top end bolts & nuts, 2 connecting rod bed bolts & nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of fast & bilge pump rods, 1 set of piston spring for each piston, A full set of propeller blades (bronze) 1 IN. of connecting rod braces, 1 pair of cross bear braces, 1 set of link braces 2 tie straps complete, 1 air pump rod, one HP. one L & JP. valve splines & cores of boiler tubes, 1 set of safety valves springs. Quantity of bolts nuts & various other parts of iron, plates &c.</sub>

The foregoing is a correct description,

Manufacturer.

G. Miller

Dates of Survey while building	During progress of work in shops -	1901. Sep. 10. 18. 27. Oct. 10. 18. 25. 30	Nov. 5. 11. 22. 27. Dec. 6. 11. 30
	During erection on board vessel	1902. Jan. 18. 24. Feb. 3. 12. 19. 25	Mar. 4. 11. 19.
Total No. of visits	28.		

Is the approved plan of main boiler forwarded herewith

donkey

Yes

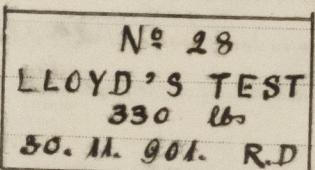
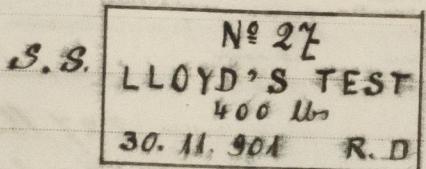
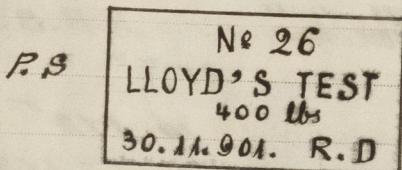
General Remarks (State quality of workmanship, opinions as to class, &c. According to the Glasgow first entry Reg. No 19318 The machinery & Boilers of this vessel have been partly constructed and tester at Messrs Penney & Co. of Dumbarton. The Boilers have been riveted up, caulked, tested & finished under special Survey at the Lloyd's Arsenal in Trieste. Eng. & Boilers were afterwards fitted on board and satisfactory worked under all conditions of opinion it is eligible to have record of. **LMC 3.02 F.D. noted in the R. Register**

The tunnel & propeller shafts they are made of Steel (Siemen Maier) forged at the Steel Works of Wilmowitz, tested & examined before & when finished and all stamped at the fangiers.

The Boilers are stamped as below.

Main Boiler

Donkey Boiler



- Pumps **Nº 1.** Centrifugal pump for circulating water into the Condenser working p.
2. Weir Vertical duplex piston for feeding Boilers 4⁷ 9¹/₂" fch of st.
3. Black duplex piston pump 9⁷ 16" x 10" for ballast & fire water material o.
4. " " " " " 8¹/₂ x 3¹/₄" for feeding Donkey diamater
(The Report on Electric Lighting will be sent later on)

It is submitted that this vessel is eligible for THE RECORD. **LMC** 2020

Rodmick

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

The amount of Entry Fee.. £ 3 : - : When applied for,
 Special .. £ 37 : 8 : 19th March 1902
 Donkey Boiler Fee .. £ 2 : 2 : When received,
 Travelling Expenses (if any) £ : 8 : 18

Committee's Minute

TUES. MAY 25 1902

Assigned

+ LMC 3.02 FD



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