

# REPORT ON MACHINERY.

No. 16946.

Received at London Office

WED.-1 DEC. 1915

Date of writing Report 22 Jan 1915 When handed in at Local Office

19 Port of Greenock.

No. in Survey held at Greenock Reg. Book.

Date, First Survey 125 Nov 1915 Last Survey 25 Jan 1915

(Number of Visits 55)

on the SCREW STEAMER Lepanto

Tons { Gross Net

When built 1915

Master Built at Port Glasgow By whom built Russell & Co (Incl) when made 1915

Engines made at Greenock By whom made John G. Kincaid & Co Ltd when made 1915

Boilers made at Greenock By whom made John G. Kincaid & Co Ltd when made 1915

Registered Horse Power Owners J Wilson & Co Port belonging to Hull.

Nom. Horse Power as per Section 28 495 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 75 Dia. of Screw shaft as per rule 14.8" Material of screw shaft Steel as fitted 15.8"

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 the 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 If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 6' 0 1/2"

Dia. of Tunnel shaft as per rule 13.33" Dia. of Crank shaft journals as per rule 13.99" Dia. of Crank pin 1 1/4" Size of Crank webs 2 1/2" x 9" Dia. of thrust shaft under collars 1 1/4" Dia. of screw 1 5/8" Pitch of Screw 17' 0" No. of Blades 4 State whether moveable No Total surface 106 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work Yes

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

No. of Donkey Engines Sizes of Pumps 8x5x8 9x13x10 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3 1/2 In Holds, &c. Two 3 1/2 Tunnel 2 1/2

No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 5 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 Yes

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 31/8/14 of Stern Tube 31/8/14 Screw shaft and Propeller 9/9/15

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

## BOILERS, &c.—(Letter for record S.) Manufacturers of Steel D Colville Sons & J Dunlop & Co

Total Heating Surface of Boiler 7152 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 3: Cylindrical mult Single

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 4/8/14 No. of Certificate 1184

Can each boiler be worked separately Yes Area of fire grate in each boiler 59 sq. ft. No. and Description of Safety Valves to each boiler 2: Direct Spring Area of each valve 9.62 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 24 Mean dia. of boilers 15' 0" Length 12' 0" Material of shell plates Steel

Thickness 1 3/8" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Double long. seams Double Butt Straps Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 9" 4 1/2" Lap of plates or width of butt straps 1' 7"

Per centages of strength of longitudinal joint rivets 91.7 plate 85.4 Working pressure of shell by rules 182 lb Size of manhole in shell 16" x 12"

Size of compensating ring 22 1/2" x 28 1/2" x 1 3/8" No. and Description of Furnaces in each boiler 3: Deighton's Material Steel Outside diameter 47 1/4"

Length of plain part top 8' 4" bottom 8' 4" Thickness of plates crown 9 bottom 7 1/2 Description of longitudinal joint Weld No. of strengthening rings None

Working pressure of furnace by the rules 186 lb Combustion chamber plates: Material Steel Thickness: Sides 5" Back 4 1/4" Top 5" Bottom 4"

Pitch of stays to ditto: Sides 8" x 9" Back 9" x 8 1/2" Top 8" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 184 lb

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 77 sq. in. Working pressure by rules 208 lb End plates in steam space: Material Steel Thickness 1 3/8" Pitch of stays 21" x 20 1/2" How are stays secured Double Nut Washers Working pressure by rules 180 lb

Diameter at smallest part 3 3/8" Area supported by each stay 430 sq. in. Working pressure by rules 182 lb Material of Front plates at bottom Steel Thickness 1 5/8" Material of Lower back plate Steel Thickness 2 3/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 186 lb

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

Pitch across wide water spaces 13" Working pressures by rules 18 1/4 lb 23 1/2 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/4" x 1 1/2" Length as per rule 31.68" Distance apart 9" Number and pitch of stays in each 3' 8"

Working pressure by rules 182 lb Superheater or Steam chest; how connected to boiler Steel 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

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

Kincaid & Co

W159-0096

Lloyd's Register Foundation

**VERTICAL DONKEY BOILER—** Manufacturers of Steel *Iron*

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	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

**SPARE GEAR.** State the articles supplied:— *Two top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set feed pump valves. One set bilge pump valves. One set check valves. One set of 3 cylinder escape valve springs. One spring for each safety valve. Bolts nuts &c.*

The foregoing is a correct description,

*John G. Kincaid & Co Ltd* Manufacturer.

Dates of Survey while building: During progress of work in shops -- (1915) July 28, Aug. 11, 17, 20, 26, 31, Sept. 1, 3, 9, 16, Oct. 6, 13, 15, 25, 27, Nov. 1, 3, 5, 10, 15, 16, 22, 25.  
 During erection on board vessel -- (As No 405) (1913) Nov. 1, 29, Dec. 3, (1914) Feb. 10, 14, Mar. 17, Apr. 14, 21, 24, 28, May 1, 4, 9, 18, 20, 26, June 2, 5, 8, 12, 16, 19, 23, 26, 30.  
 Total No. of visits *55* Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders *23/6/14* Slides *12/6/14* Covers *23/6/14* Pistons *7/8/14* Rods *7/8/14*  
 Connecting rods *12/6/14* Crank shaft *See Report* Thrust shaft *See Report* Tunnel shafts *See Report* Screw shaft *16/6/14* Propeller *5/6/14*  
 Stern tube *20/8/15* Steam pipes tested *27/10/15* Engine and boiler seatings *16/9/15* Engines holding down bolts *25/10/15*  
 Completion of pumping arrangements *25/10/15* Boilers fixed *25/10/15* Engines tried under steam *25/11/15*  
 Main boiler safety valves adjusted *22/11/15* Thickness of adjusting washers *Substant P 3/16 C 7/16 S 7/16 P 7/16 S 27/64 P 27/64 S 18/32*  
 Material of Crank shaft *Steel* Identification Mark on Do. *3375* Material of Thrust shaft *Steel* Identification Mark on Do. *3439*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *See Report* Material of Screw shafts *Steel* Identification Marks on Do. *4397*  
 Material of Steam Pipes *Steel* Test pressure *600 lbs*

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

*This boiler is fitted with chemical recuperator. One set to each boiler, and is arranged that recuperated steam, saturated steam, or a mixture of both can be used. One 2 1/4" diameter safety valve is fitted to each, and adjusted to blow at 190 lbs per square inch.*

*The machinery and boilers of this steamer have been constructed under special survey, and placed on board in accordance with the Society's Rules. They are now in our opinion in safe working condition and the case is respectfully submitted for the ratification, + LMC 11-15 in the Register Book.*

**Note**  
*The various advice notes &c in connection with this case are*

*marked No 405 which number was altered to Kincaid No 425*  
 The amount of Entry Fee .. £ 3 : 0 :  
 Special .. .. £ 44.15 :  
 Donkey Boiler Fee .. .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, *29 Nov. 1915*  
 When received, *1/12/15*

*It is submitted that this vessel is eligible for THE RECORD + LMC 11-15.*

*Wm. Austin, James Jones*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **GLASGOW**

**30 NOV. 1915**

Assigned *+ L.M.C. 11, 15*



**MACHINERY CERTIFICATE**  
 WRITTEN 1-12-15

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)

J.M.A. 30/11/15.