

# REPORT ON MACHINERY.

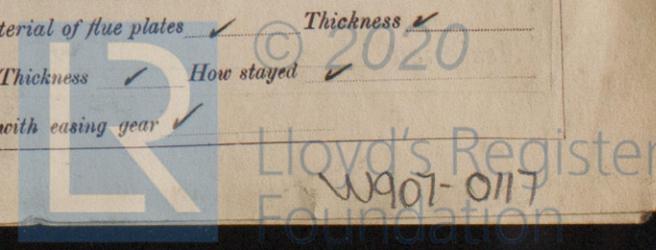
Received at London Office FRI. AUG. 14. 1914

Date of writing Report 19 When handed in at Local Office 16-8-14 Port of Hull

No. in Survey held at Hull Date, First Survey 18-8-13 Last Survey 16-7-1914  
 Reg. Book. 308 on the steel screw steamer *Flaminian* (Number of Visits 80) Tons } Gross 3440  
 } Net 2218  
 Master Built at Hull By whom built *Carlisle Co Ltd* When built 1914-7  
 Engines made at Hull By whom made *Carlisle Co Ltd* when made 1914-7  
 Boilers made at Hull By whom made *Carlisle Co Ltd* when made 1914-7  
 Registered Horse Power Owners *Ellerman Lines Ltd* Port belonging to  
 Nom. Horse Power as per Section 28 362 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 *3*  
 Dia. of Cylinders *20 1/2" - 35 1/2" - 61"* Length of Stroke *42"* Revs. per minute *70* Dia. of Screw shaft *13.05"* Material of screw shaft *Steel*  
 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 *✓* If two liners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *5-8 1/2"*  
 Dia. of Tunnel shaft *11.56"* Dia. of Crank shaft journals *12.14"* Dia. of Crank pin *12.5 1/8"* Size of Crank webs *19" x 8"* Dia. of thrust shaft under collars *12 5/8"* Dia. of screw *16'-0"* Pitch of Screw *16'-0"* No. of Blades *4* State whether moveable *no* Total surface *85-#*  
 No. of Feed pumps *two indep* Diameter of ditto *7"* Stroke *18"* Can one be overhauled while the other is at work *yes*  
 No. of Bilge pumps *two* Diameter of ditto *4"* Stroke *2.5"* Can one be overhauled while the other is at work *yes*  
 No. of Donkey Engines *Four duplex* Sizes of Pumps *Sanitary 7 1/2" x 6" Ballast 6 1/4" x 6" General service 7 1/2" x 8"* No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room *Three 3" diam one 2 1/2" in tunnel well* In Holds, &c. *Two 3" diam in each compartment*  
 No. of Bilge Injections *one* sizes *7"* Connected to condenser, or to circulating pump *pump* Is a separate Donkey Suction fitted in Engine room & size *yes 3"*  
 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 *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 *Forward suction* How are they protected *strong wooden casings*  
 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 *3-6-14* of Stern Tube *6-6-14* Screw shaft and Propeller *12-6-14*  
 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 *A. Colville Sons*  
 Total Heating Surface of Boilers *5146 #* Is Forced Draft fitted *yes* No. and Description of Boilers *Three single ended*  
 Working Pressure *220 lbs* Tested by hydraulic pressure to *440 lbs* Date of test *5-6-14* No. of Certificate *2094*  
 Can each boiler be worked separately *yes* Area of fire grate in each boiler *16 1/4" x 36 8" 16 1/4" x 40 3"* No. and Description of Safety Valves to each boiler *two spring loaded* Area of each valve *4.9 #* Pressure to which they are adjusted *222 lbs* Are they fitted with easing gear *yes*  
 Smallest distance between boiler or uptakes and bunkers *10" air casing* dia. of boilers *14 1/2" 16"* Length *12'-4"* Material of shell plates *Steel*  
 Thickness *5/16"* Range of tensile strength *28-32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *double* long. seams *J. R. A. B. 1* Diameter of rivet holes in long. seams *1 5/16"* Pitch of rivets *9/4"* Lap of plates or width of butt straps *1'-7 3/8"*  
 Per centages of strength of longitudinal joint rivets *82.7* Working pressure of shell by rules *242* Size of manhole in shell *12" x 16"* plate *85.8* Total *6 cf.*  
 Size of compensating ring *8 1/2" x 1 5/16"* No. and Description of Furnaces in each boiler *Two Brighton* Material *S* Outside diameter *43 1/2"*  
 Length of plain part *top 2 1/2"* Thickness of plates *bottom 2 1/32"* Description of longitudinal joint *welded* No. of strengthening rings *✓*  
 Working pressure of furnace by the rules *246* Combustion chamber plates: Material *S* Thickness: Sides *3/4"* Back *23/32"* Top *23/32"* Bottom *1/32"*  
 Pitch of stays to ditto: Sides *9 3/8" x 8 7/8"* Back *8 1/2" x 8 1/2"* Top *8 3/4" x 8 1/2"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *240*  
 Material of stays *S* Diameter at smallest part *2.40 #* Area supported by each stay *98 #* Working pressure by rules *221* End plates in steam space: Material *S* Thickness *1 5/32"* Pitch of stays *16 1/2" x 15"* How are stays secured *A. N.* Working pressure by rules *241* Material of stays *S* Diameter at smallest part *6.23 #* Area supported by each stay *248 #* Working pressure by rules *261* Material of Front plates at bottom *S*  
 Thickness *31/32"* Material of Lower back plate *S* Thickness *31/32"* Greatest pitch of stays *14 1/2" x 8 1/2"* Working pressure of plate by rules *230*  
 Diameter of tubes *2 1/2"* Pitch of tubes *3 7/8" x 3 7/8"* Material of tube plates *S* Thickness: Front *31/32"* Back *7/8"* Mean pitch of stays *7 3/4"*  
 Pitch across wide water spaces *13"* Working pressures by rules *242* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *10 5/8" x 1 3/4"* Length as per rule *36 13/32"* Distance apart *8 3/4"* Number and pitch of stays in each *Three 8 1/2"*  
 Working pressure by rules *237* 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 *✓*



IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, 3 junk ring bolts, 1/2 set air pump valves, one set bridge pump valves, two donkey pump valves, fuel check valves one set of Ramsbottom rings for each piston, one air pump bucket rod, one air pump head valve, seat & guards, one circulating pump impeller shaft, one set of Wiers pump (Fuel) suction & delivery valves seats & guards, two safety valve springs, one spare propeller, one escape valve spring each size, & a quantity of bolts & nuts & nuts of various sizes*

The foregoing is a correct description. *E'S*  
**SHIPBUILDING & ENGINEERING CO. LIMITED**  
*Sheffield* Manufacturer.

Dates of Survey while building: During progress of work in shops - - 1913 - Aug 18, Oct 16, 22, 25, 29, Nov 3, 6, 7, 11, 14, 20, 27, Dec 1, 3, 10, 12, 17, 24, 1914 - Jan 6, 9, 12, 14, 16, 21, 23, 27, Feb 5, 10, 12, 13, 16, 18, 23, 26, Mar 3, 4, 6, 9, 16, 23, 27, 31, Apr 3, 6, 7, 20, 22, 28, 30, May 1, 7, 12, 13, 15, 18, 20, 26, 29, Jun 3, 5, 6, 8, 10, 11, 12, 13, 16, 17, 18, 22, 24, 25, 29, 30, Jul 1, 2, 3, 6, 10, 16, Total No. of visits *80*

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *6-4-14* Slides *20-4-14* Covers *6-4-14* Pistons *20-4-14* Rods *20-4-14*  
 Connecting rods *13-5-14* Crank shaft *7-4-14* Thrust shaft *15-5-14* Tunnel shafts *17-6-14* Screw shaft *10-6-14* Propeller *10-6-14*  
 Stern tube *18-5-14* Steam pipes tested *25-6-14* Engine and boiler seatings *25-5-14* Engines holding down bolts *25-6-14*  
 Completion of pumping arrangements *22-6-14* Boilers fixed *25-6-14* Engines tried under steam *3-7-14*  
 Main boiler safety valves adjusted *3-7-14* Thickness of adjusting washers *1/16 S 7/16, 6/16 P 1/32 S 7/16, P 1/16 S 1/32*  
 Material of Crank shaft *Steel* Identification Mark on Do. *5532 AB* Material of Thrust shaft *steel* Identification Mark on Do. *179 AL*  
 Material of Tunnel shafts *steel* Identification Marks on Do. *see below* Material of Screw shafts *S* Identification Marks on Do. *178 AL*  
 Material of Steam Pipes *solid drawn steel* Test pressure *660 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 *no* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *marks on int-shafts. 234 AL, 3800 TB, 235 AL, 3801 MB, 5374 HK.*)

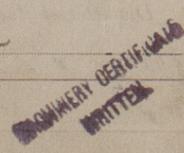
The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this society, the materials & workmanship are good. The Boilers & steam pipes have been tested as above by hydraulic pressure & found sound & tight. The machinery has been properly fitted & secured on board & on completion was tried under steam & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation, which did not exceed 227 lbs. In my opinion the vessel is eligible for the next & L. T. C. 7. 14 F. A. Blue Light G. 1. 114 H. 1. 5146

It is submitted that this vessel is eligible for THE RECORD. + L.T.C. 7. 14. F.D. 14. 8. 14

*Frank A. Sturgeon*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ 3 : 0 :  
 Special ... £ 38 : 2 :  
 Donkey Boiler Fee ... £ ✓ : :  
 Travelling Expenses (if any) £ ✓ : :  
 When applied for, 13/8/1914  
 When received, 22/9/14

Committee's Minute TUE. AUG. 18. 1914  
 Assigned + L.T.C. 7. 14 F.D.



Rpt. 5a.  
 Date of writing Report  
 No. in Survey Reg. Book. 308 on the  
 Master  
 Engines made at  
 Boilers made at  
 Registered Horse  
 MULTITUBULAR  
 (Letter for record)  
 Boilers Three  
 No. of Certificate  
 safety valves to each boiler  
 Are they fitted with  
 Smallest distance between  
 Material of shell plates  
 Descrip. of riveting  
 Thickness of plates on upper  
 rules 254  
 boiler Two  
 Description of longitudinal  
 plates: Material & thickness  
 Top 9/16 x 8 1/2" If staggered  
 smallest part 2 1/4"  
 Pitch of stays 18 1/2"  
 Area supported by each stay  
 Lower back plate 4"  
 Pitch of tubes 3 1/2"  
 water spaces 13"  
 girder at centre 10"  
 Working pressure by test  
 separately ✓  
 holes ✓ Pitch of  
 If stiffened with rings  
 Working pressure of  
 Dates of Survey while building: During progress of work in shops - -  
 while building During erection on board vessel  
 GENERAL REMARKS  
 constructed under special survey  
 plan ruled & stamped  
 on completion  
 Survey Fee ...  
 Travelling Expenses

Certificate (if required) to be sent to Hull

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