

Rpt. 4.

REPORT ON MACHINERY.

No. 23474

Port of *Liverpool*

Received at London Office WED. 16 OCT 1907

No. in Survey held at *Liverpool* Date, first Survey *6 June 1907* Last Survey *8 October 1907*
Reg. Book. on the *Steel Screw Steamer "Ladywood"* (Number of Visits *30*)
Master *David Jones* Built at *Liverpool* By whom built *Stewart Graham & Co.*
Engines made at *Liverpool* By whom made *G. Clark & Co.* when made *do*
Boilers made at *do* By whom made *do* when made *do*
Registered Horse Power Owners *W. France Fenwick & Co.* Port belonging to *London*
Nom. Horse Power as per Section 28 *198* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Vertical triple fitted amidships* No. of Cylinders *Three* No. of Cranks *Three*
Dia. of Cylinders *20 1/2 33 54* Length of Stroke *39* Revs. per minute *65* Dia. of Screw shaft *as per rule 12 1/4* Material of *steel*
Is the screw shaft fitted with a continuous liner the whole length of the stern tube *no* 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 *no* 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 *no* If two
liners are fitted, is the shaft lapped or protected between the liners *no* Length of stern bush *4' 2 1/2*
Dia. of Tunnel shaft *as per rule 10 3/4* Dia. of Crank shaft journals *as per rule 10 3/4* Dia. of Crank pin *11* Size of Crank webs *7 1/2 x 16 1/2* Dia. of thrust shaft under
collars *11 1/2* Dia. of screw *11-10 1/2* Pitch of Screw *16-3* No. of Blades *4* State whether moveable *no* Total surface *66 sq.*
No. of Feed pumps *2* Diameter of ditto *2 1/2* Stroke *22* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *2* Diameter of ditto *3 1/2* Stroke *22* Can one be overhauled while the other is at work *yes*
No. of Donkey Engines *2* Sizes of Pumps *BALLAST FEED 7 1/2 x 8 1/2 x 10 6 x 4 x 6* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *Four 3' dia.* In Holds, &c. *Fore hold 2 x 3 dia After hold 2 x 2 1/2*
Fore peak 2 1/2' Tunnel 2 1/2' (1 x 3)
No. of Bilge Injections *1* sizes *4 dia* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *yes 4 dia*
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 *no*
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 *none* How are they protected *no*
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 *5.9.07* of Stern Tube *27.8.07* Screw shaft and Propeller *18.9.07*
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 *James & Son & Co. Newburn Steel Works.*
Total Heating Surface of Boilers *3038* Is Forced Draft fitted *no* No. and Description of Boilers *Two single ended multitubular*
Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *23.8.07* No. of Certificate *2646*
Can each boiler be worked separately *yes* Area of fire grate in each boiler *45 sq.* No. and Description of Safety Valves to
each boiler *Two direct spring* Area of each valve *6.49 sq.* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *yes*
Smallest distance between boilers or uptakes and bunkers or woodwork *12* Mean dia. of boilers *22.9 3/4* Length *10-0* Material of shell plates *steel*
Thickness *1 1/4* Range of tensile strength *28 1/2 to 32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *lap & R.*
long. seams *lap & R.* Diameter of rivet holes in long. seams *1 1/8* Pitch of rivets *7 1/2* Lap of plates or width of butt straps *16 3/4*
Per centages of strength of longitudinal joint *95* Working pressure of shell by rules *183* Size of manhole in shell *End 16 x 13*
Size of compensating ring *Sidled End* No. and Description of Furnaces in each boiler *3 plain* Material *steel* Outside diameter *37.5*
Length of plain part *top 70 1/4* Thickness of plates *bottom 1 1/4* Description of longitudinal joint *bold* No. of strengthening rings *no*
Working pressure of furnace by the rules *180.6* Combustion chamber plates: Material *steel* Thickness: Sides *1 1/4* Back *1 1/4* Top *1 1/4* Bottom *1 1/4*
Pitch of stays to ditto: Sides *10 x 8 1/4* Back *7 1/2 x 9 1/2* Top *10 x 9* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *180.6*
Material of stay *steel* Diameter at smallest part *1 1/2* Area supported by each stay *90 sq.* Working pressure by rules *203* End plates in steam space:
Material *steel* Thickness *1 1/4* Pitch of stays *2 1/2 x 8 1/4* How are stays secured *nuts* Working pressure by rules *180 lbs* Material of stays *steel*
Diameter at smallest part *2 1/8* Area supported by each stay *340 sq.* Working pressure by rules *191* Material of Front plates at bottom *steel*
Thickness *1 1/4* Material of Lower back plate *steel* Thickness *1 1/4* Greatest pitch of stays *14 1/2* Working pressure of plate by rules *180.5*
Diameter of tubes *2 1/4* Pitch of tubes *4 1/2 x 4 1/2* Material of tube plates *steel* Thickness: Front *3/16* Back *1/4* Mean pitch of stays *10*
Pitch across wide water spaces *14 1/4* Working pressures by rules *262* Girders to Chamber tops: Material *steel* Depth and
thickness of girder at centre *7 1/2 x 1 1/4* Length as per rule *21* Distance apart *9* Number and pitch of stays in each *2. 10*
Working pressure by rules *185* 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

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description *Appended*
 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:— *1 Propeller & coupling bolts, 2 each bolt & nuts for top & bottom ends & main bearings, valves for all pumps, piston & pump bolts, nuts, iron & sundries*

The foregoing is a correct description,

FOR GEORGE CLARK, LIMITED

James C. Clark Manufacturers of main Engines & boilers only

Dates of Survey while building { During progress of work in shops— *07 June 6.10.20, July 2.11.21, 15.18.22, 25.29. Aug 1.7.12, 15.19.23, 27.29. Sept 4.5.10, 12.15.*
 { During erection on board vessel — *20.21.23.26. Oct 2.8.*
 Total No. of visits *30* Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders *27.07* Slides *12.8.07* Covers *25.4.07* Pistons *4.9.07* Rods *4.9.07*
 Connecting rods *10.9.07* Crank shaft *29.4.07* Thrust shaft _____ Tunnel shafts _____ Screw shaft *12.8.07* Propeller *7.8.07*
 Stern tube *7.8.07* Steam pipes tested *21.9.07* Engine and boiler seatings *27.8.07* Engines holding down bolts *20.9.07*
 Completion of pumping arrangements *2.10.07* Boilers fixed *2.10.07* Engines tried under steam *2.10.07*
 Main boiler safety valves adjusted *2.10.07* Thickness of adjusting washers *P 5/8 S 3/4* *P 5/8 S 3/4*
 Material of Crank shaft *Subst* Identification Mark on Do. *5725 3355 E.S.* Material of Thrust shaft *Subst* Identification Mark on Do. *2078 P.A.*
 Material of Tunnel shafts *do* Identification Marks on Do. *12.133.134 H.K.* Material of Screw shafts *Subst* Identification Marks on Do. *3355 E.S.*
 Material of Steam Pipes *Length solid drawn deprim Copper 4 1/2 dia 5ms* Test pressure *400 lbs*

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

The machinery of this vessel has been constructed under special survey, the materials & workmanship found good and efficient, fitted & tested in accordance with the rules & eligible in my opinion for classification with record of + L.M.C. 10.07

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 10.07.*

J.C. 16.10.07
R.S. 16.10.07

The amount of Entry Fee... £ *2* : : When applied for, *15.10.1907*
 Special ... £ *29* : *14* : : *18/10/07*
 Donkey Boiler Fee ... £ : : :
 Travelling Expenses (if any) £ : : :
 When received, *17/10/07*

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

Committee's Minute

FRI, 18 OCT 1907

Assigned

+ L.M.C. 10.07

MACHINE WRITTEN



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