

# REPORT ON MACHINERY.

No. 25591.

SAT. NOV. - 2. 1912

Received at London Office

Date of writing Report 19 When handed in at Local Office 30.10.12 Port of Hull

No. in Survey held at Hull Date, First Survey Jun. 27<sup>th</sup> Last Survey Oct. 22<sup>nd</sup> 1912

Reg. Book. (Number of Visits 23

Tons } Gross 286  
 Net 114

Comp. on the S.S. K. "VELIA"

Master Built at Selby By whom built Cochrane & Sons When built 1912

Engines made at } By whom made } when made 1912

Boilers made at } Hull By whom made } Messrs. Charles R. Holmes & Co. Ltd. when made 1912

Registered Horse Power Owners J. Mann & Son Ltd. Port belonging to Hull

Nom. Horse Power as per Section 28 80 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

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

Dia. of Cylinders 12 $\frac{3}{4}$ " - 22" - 36" Length of Stroke 24" Revs. per minute 111 Dia. of Screw shaft as per rule 4 $\frac{1}{4}$ " Material of screw shaft as fitted 4 $\frac{3}{4}$ " 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 Yes 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 Yes Length of stern bush 36"

Dia. of Tunnel shaft as per rule 6 $\frac{1}{4}$ " 6 $\frac{3}{4}$ " Dia. of Crank shaft journals as per rule 4 $\frac{1}{4}$ " Dia. of Crank pin 4 $\frac{1}{4}$ " Size of Crank webs 4 $\frac{3}{4}$ " x 14" Dia. of thrust shaft under collars 4 $\frac{1}{4}$ " Dia. of screw 9'-0" Pitch of Screw 11'-0" No. of Blades 4 State whether moveable No Total surface 29 sq ft

No. of Feed pumps 1 Diameter of ditto 2 $\frac{3}{8}$ " Stroke 14 $\frac{1}{2}$ " Can one be overhauled while the other is at work Yes

No. of Bilge pumps 1 Diameter of ditto 2 $\frac{3}{8}$ " Stroke 14 $\frac{1}{2}$ " Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1 Sizes of Pumps 6" x 4 $\frac{1}{2}$ " x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" One forward & one aft. In Holds, &c. One 2" 1/2 on each well, one 2" 1/2 main hold, one 2" 1/2 fore and aft, & jets on suction from all bilges with discharge on deck.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2 $\frac{1}{2}$ " jet.

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 0

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 Hold suction pipes How are they protected Wood casing

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 30.8.12 of Stern Tube 30.8.12 Screw shaft and Propeller 30.8.12

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

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Messrs. Schulz, Krauss & Co. of Germany

Total Heating Surface of Boilers 1333 sq ft Is Forced Draft fitted No. No. and Description of Boilers One cyl. mult. single ended.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 3.10.12 No. of Certificate 1931

Can each boiler be worked separately No Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 4.9 sq in 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 6" Mean dia. of boilers 13'-9" Length 10'-6" Material of shell plates S.

Thickness 1 $\frac{3}{16}$ " Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 2. D. long. seams D. D. S. P. Diameter of rivet holes in long. seams 1 $\frac{3}{16}$ " Pitch of rivets 8" Lap of plates or width of butt straps 16 $\frac{5}{8}$ "

Per centages of strength of longitudinal joint rivets 85 plate 85 Working pressure of shell by rules 202 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring 4" x 1 $\frac{3}{16}$ " No. and Description of Furnaces in each boiler Hull plan Material S. Outside diameter 40"

Length of plain part top 6'-5 $\frac{1}{2}$ " Thickness of plates crown 13" Description of longitudinal joint Weld No. of strengthening rings 0 bottom 16"

Working pressure of furnace by the rules 204 lbs. Combustion chamber plates: Material S. Thickness: Sides 23" Back 23" Top 3" Bottom 23"

Pitch of stays to ditto: Sides 10" x 8" Back 10 $\frac{1}{2}$ " x 8" Top 11" x 8" If stays are fitted with nuts or riveted heads No Working pressure by rules 205 lbs.

Material of stays S. Diameter at smallest part 2.4" Area supported by each stay 1000" Working pressure by rules 215 lbs. End plates in steam space: Material S. Thickness 1 $\frac{3}{16}$ " Pitch of stays 8 $\frac{1}{2}$ " x 18" How are stays secured D. D. S. W. Working pressure by rules 200 lbs. Material of stays S.

Diameter at smallest part 7.5" Area supported by each stay 333 sq in Working pressure by rules 234 lbs. Material of Front plates at bottom S.

Thickness 1 $\frac{5}{16}$ " Material of Lower back plate S. Thickness 29" Greatest pitch of stays 14 $\frac{1}{2}$ " x 8" Working pressure of plate by rules 204 lbs.

Diameter of tubes 3 $\frac{1}{2}$ " Pitch of tubes 5 $\frac{1}{2}$ " x 5" Material of tube plates S. Thickness: Front 1 $\frac{3}{16}$ " Back 8" Mean pitch of stays 10 $\frac{1}{2}$ "

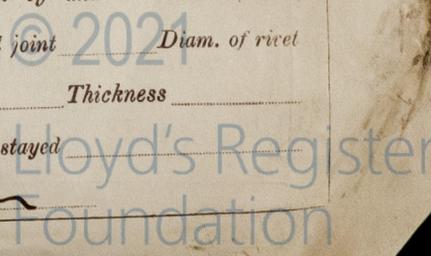
Pitch across wide water spaces 14 $\frac{3}{4}$ " Working pressures by rules 315 lbs. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 10 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " Length as per rule 2'-11 $\frac{3}{8}$ " Distance apart 11" Number and pitch of stays in each 3-8"

Working pressure by rules 201 lbs. 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 \_\_\_\_\_

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 casing 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 each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each fore & aft bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,  
**P. PRO CHARLES D. HOLMES & CO. LTD.** Manufacturer.

*Harold Sheard*  
 Dates of Survey while building: During progress of work in shops - - - 1912:— Jun 27. Aug 1. 9. 14. 16. 22. 28. 29. 30. Sep 3. 11. 19. 23. 25. 28. Oct 3. 8.  
 During erection on board vessel - - - Oct 9. 10. 14. 17. 21. 22.  
 Total No. of visits 23

Is the approved plan of main boiler forwarded herewith *yes*  
 " " " donkey " " " *✓*

**Dates of Examination of principal parts**—Cylinders 22.8.12 Slides 19.9.12 Covers 23.9.12 Pistons 19.9.12 Rods 29.8.12  
 Connecting rods 23.9.12 Crank shaft 29.8.12 Thrust shaft 28.9.12 Tunnel shafts ✓ Screw shaft 28.8.12 Propeller 28.8.12  
 Stern tube 28.8.12 Steam pipes tested 10.10.12 Engine and boiler seatings 30.8.12 Engines holding down bolts 9.10.12  
 Completion of pumping arrangements 21.10.12 Boilers fixed 14.10.12 Engines tried under steam 17.10.12  
 Main boiler safety valves adjusted 14.10.12 Thickness of adjusting washers *Found 5/16" Off: 4/16"*  
 Material of Crank shaft *I* Identification Mark on Do. *Nº 9647.9.D* Material of Thrust shaft *S* Identification Mark on Do. *Nº 914.W.6*  
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *I* Identification Marks on Do. *Nº 9647.9.D*  
 Material of Steam Pipes *Solid drawn copper* ✓ Test pressure *400 lbs per sq inch* ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been re-constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engines covered on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of 'L. 14. C. 10. 12' in the Register Book.*)

It is submitted that  
 this vessel is eligible for  
**THE RECORD + LMC 10.12.**  
*JWR 4/11/12* *GRR*

The amount of Entry Fee .. £ 1 : 0 : When applied for, 1.11.12  
 Special .. £ 12 : 0 :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : 8/2 : When received, 29.11.12  
 Committee's Minute **TUE. NOV. - 5 1912**  
 Assigned *+ Lmc 10.12*

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

Certificate (if required) to be sent to

