

REPORT ON MACHINERY.

No. 26829

Date of writing Report 16th Feb. 1913. When handed in at Local Office

Received at London Office

WED. OCT. 22, 1913

No. in Survey held at Hull.

Reg. Book.

Date, First Survey Apr 15thLast Survey Oct 13th

1913

No. of Vessels on the steel sec. "Elf King."

(Number of Vessels)

25

Gross 289

Net 115

When built 1913.

Master

Built at Selby.

By whom built Cochrane & Sons Ltd

Engines made at Hull.

By whom made C. D. Holmes & Co. Ltd

when made 1913.

Boilers made at Hull.

By whom made C. D. Holmes & Co. Ltd

when made 1913.

Registered Horse Power

Owners J. H. Robins & Co. Ltd

Port belonging to

Hull.

Nom. Horse Power as per Section 28

79.

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 13"-22"-36" Length of Stroke 24" Revs. per minute

Dia. of Screw shaft as per rule 7.59. Material of screw shaft as fitted 7 3/4" I.

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

yes.

If two

liners are fitted, is the shaft lapped or protected between the liners

yes.

Length of stern bush 3'-0"

Dia. of Tunnel shaft as per rule 6.78" as fitted 7 3/4"

Dia. of Crank shaft journals as per rule 7.11" as fitted 7 1/4"

Dia. of Crank pin 7 1/4"

Size of Crank web 14" x 4 1/8" Dia. of thrust shaft under

collars 7 1/4" Dia. of screw 9-3. Pitch of Screw 10'-8"

No. of Blades 4

State whether moveable no. Total surface 30 sq ft

No. of Feed pumps 1. Diameter of ditto 2 1/4" Stroke 14 1/4"

Can one be overhauled while the other is at work

No. of Bilge pumps 1. Diameter of ditto 2 1/2" Stroke 14 1/4"

Can one be overhauled while the other is at work

No. of Donkey Engines One. Sizes of Pumps 6" x 4 1/2" x 6"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two. one 2" forward, one 2" aft.

In Holds, &c. One 2" to flush well. One 2" to fore peak. One 2 1/2" ejector from all suction

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 1/2" ejector.

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

Bilge Suctions.

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

31.7.13.

of Stern Tube

31.7.13.

Screw shaft and Propeller

31.7.13.

Is the Screw Shaft Tunnel watertight

yes.

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record S. 4.)

Manufacturers of Steel Messrs. Phoenix Alb. Hördner Verein. of Hörde.

Total Heating Surface of Boilers 1295

Is Forced Draft fitted

no.

No. and Description of Boilers

One Single-ended.

Working Pressure 200 lbs.

Tested by hydraulic pressure to

400 lbs.

Date of test

10.9.13.

No. of Certificate 2012.

Can each boiler be worked separately

yes.

Area of fire grate in each boiler

46 sq ft

No. and Description of Safety Valves to

each boiler 2. Spring-loaded.

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

7"

Mean dia. of boilers

13'-6"

Length

10'-6"

Material of shell plates

S.

Thickness 1 3/16"

Range of tensile strength

29 tons

Are the shell plates welded or flanged

no.

Descrip. of riveting: cir. seams

BRZ.

long. seams

B.S. J.R.

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8"

Lap of plates or width of butt straps

16 3/8"

Per centages of strength of longitudinal joint

rivets 85 1/2%

plate 85%

Working pressure of shell by rules

203.

Size of manhole in shell

16" x 12"

Size of compensating ring

7" x 1 3/16"

No. and Description of Furnaces in each boiler

3 plain

Material

S.

Outside diameter

38"

Length of plain part

top 6' 5 1/2"

Thickness of plates

crown 5"

bottom 6 1/4"

Description of longitudinal joint

Welded.

No. of strengthening rings

yes.

Working pressure of furnace by the rules

212.

Combustion chamber plates: Material

S.

Thickness: Sides

23/32"

Back

23/32"

Top

3/4"

Bottom

23/32"

Pitch of stays to ditto: Sides

10 x 8

Back

10 x 8 1/2

Top

11 x 8.

If stays are fitted with nuts or riveted heads

nuts.

Working pressure by rules

212.

Material of stays

S.

Area at smallest part

2.4 sq in.

Area supported by each stay

11.062

Working pressure by rules

213.

End plates in steam space:

Material

S.

Thickness

1 3/16"

Pitch of stays

18 x 18.

How are stays secured

BRZs.

Working pressure by rules

216.

Material of stays

S.

Area at smallest part

6.33

Area supported by each stay

324

Working pressure by rule

203.

Material of Front plates at bottom

S.

Thickness

15/16"

Material of Lower back plate

S.

Thickness

29/32"

Greatest pitch of stays

14 1/2 x 8 1/4

Working pressure of plate by rules

204.

Diameter of tubes

3 1/2"

Pitch of tubes

5 1/2 x 5

Material of tube plates

S.

Thickness: Front

15/16"

Back

7/8"

Mean pitch of stays

10"

Pitch across wide water spaces

14" x 3 1/4"

Working pressures by rules

315.

Girders to Chamber tops: Material

S.

Depth and

thickness of girder at centre

10 3/4" - 1 1/4"

Length as per rule

2-11 3/8"

Working pressure by rules

203.

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

006387-006400-0142

Lloyd's Register

Foundation

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 feed & bilge pump valves, Iron of various sizes, a quantity of assorted bolts nuts.*

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

Dates of Survey while building	During progress of work in shops	1913. - Apr 25. May 29 July 3. 10. 12. 25. 30. 31. Aug 8. 15. 16. 18. 19. 25. 29. 30. Sep 9
	During erection on board vessel	Sep 10. 13. 16. 18. 19. Oct 2. 7. 13.
	Total No. of visits	25
	Is the approved plan of main boiler forwarded herewith	<i>Ref. No. 26457</i> <i>don't send down.</i>

Dates of Examination of principal parts	Cylinders	29.8.13.	Slides	29.8.13.	Covers	18.8.13.	Pistons	13.9.13.	Rods	13.9.13.	
Connecting rods	18.8.13.	Crank shaft	9.9.13.	Thrust shaft	19.9.13.	Tunnel shafts	✓	Screw shaft	12.7.13.	Propeller	12.7.13.
Stern tube	12.7.13.	Steam pipes tested	2.10.13.	Engine and boiler seatings	31.7.13.	Engines holding down bolts	2.10.13.				
Completion of pumping arrangements	2.10.13.	Boilers fixed	2.10.13.	Engines tried under steam	7.10.13.						
Main boiler safety valves adjusted	7.10.13.	Thickness of adjusting washers	FV 7/16" AV 7/16"								
Material of Crank shaft	J.	Identification Mark on Do.	1168	Material of Thrust shaft	S.	Identification Mark on Do.	1168				
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	J.	Identification Marks on Do.	1168				
Material of Steam Pipes	Copper solid drawn	Test pressure	400 lbs. hyd. press.								

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound & good. The boiler tested by hydraulic pressure, and with the engines secured on board and tested under steam. They are now in good order and safe-working condition, and respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 10.13 in the Register book.*

It is submitted that
 this vessel is eligible for
 THE RECORD. + LMC 10.13.

The amount of Entry Fee	£ 1	When applied for,	21-10-13.
Special	£ 11 17 6	When received,	3/10/13
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£ 2 9		

Committee's Minute FRI. OCT. 24. 1913

Assigned

+ Lmc 10.13

MACHINERY CERTIFICATE
 WRITTEN.



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