

REPORT ON MACHINERY.

No. 26378

Received at London Office

SAT. MAR. 6-1915

of writing Report

19

When handed in at Local Office

26 February 1915

Port of

Sunderland

in Survey held at

Sunderland

Date, First Survey 24th Mar. 1914

Last Survey 3. 2 -

1915

Book.

on the new steel S/S "KILLELLAN."

(Number of Visits 32)

Master M. J. Hardy

Built at Sunderland

By whom built Sunderland S.B. & Ld. (S/N 284)

Tons Gross 1972

Net 1215

When built 1914

Engines made at Sunderland

By whom made MacCall & Pollock Ltd (N° 254)

when made

1914

Machinery made at Sunderland

By whom made MacCall & Pollock Ltd (N° 254)

when made

1914

Registered Horse Power

Owners Atlas Shipping Co. Ltd (John Reid & Co)

Port belonging to Sunderland

Horse Power as per Section 28

134

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

GINES, &c.—Description of Engines Triple expansion

No. of Cylinders 3

No. of Cranks 3

No. of Cylinders 16, 26, 43

Length of Stroke 33

Revs. per minute 85

Dia. of Screw shaft as per rule 9.56

Material of J. 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

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

Length of stern bush 3'-5"

No. of Tunnel shaft as per rule 8.32

Dia. of Crank shaft journals as per rule 8.73

as fitted 8 7/8

Dia. of Crank pin 8 7/8

Size of Crank webs 13 1/2 x 5 1/2

Dia. of thrust shaft under

No. of

Dia. of screw 12'-0"

Pitch of Screw 13'-0"

No. of Blades 4

State whether moveable

yes

Total surface

No. of Feed pumps 2

Diameter of ditto 2 1/2"

Stroke 16"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps 2

Diameter of ditto 2 1/2"

Stroke 16"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines 3

SIZES OF PUMPS

2 @ 9 1/2 x 11 1/2 x 11 & 10 @ 6 1/4 x 6

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

Engine Room Three @ 4"

In Holds, &c. N° 1 hold - 2 @ 4"

N° 2 hold - 2 @ 4"

No. of Bilge Injections one size 5 1/2"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

Are all the bilge suction pipes fitted with roses

yes

Are they Valves or Cocks

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

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

Are all pipes carried through the bunkers

none

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

23.7.14

of Stern Tube

30.7.14

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

Machinery

worked from

MACHINERY, &c.—(Letter for record (S))

Manufacturers of Steel

John Spence & Sons Ltd

Total Heating Surface of Boilers 2329 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

one single ended marine

Working Pressure 180

Tested by hydraulic pressure to

360

Date of test 10.7.14

No. of Certificate 3232

Can each boiler be worked separately

Area of fire grate in each boiler

65 sq ft

No. and Description of Safety Valves to

No. of boiler 2. direct spring

Area of each valve

7.07 sq in

Pressure to which they are adjusted

185

Are they fitted with easing gear

Greatest distance between boilers or uptakes and bunkers or woodwork

1'-9"

Mean dia. of boilers

16'-0"

Length

Thickness 1 3/8"

Range of tensile strength

29 3/4 - 33

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

No. of seams 1005 TR

Diameter of rivet holes in long. seams

1 1/16"

Pitch of rivets

9 7/8"

Lap of plates or width of butt straps

Percentage of strength of longitudinal joint

rivets 88.6

Working pressure of shell by rules

208

Size of manhole in shell

16" x 12"

No. of compensating ring

3 @ 34 x 1 3/8 flanged

No. and Description of Furnaces in each boiler

3 @ Righton box

Material

steel

Length of plain part

top 21"

Description of longitudinal joint

welded

No. of strengthening rings

-

Working pressure of furnace by the rules

205

Combustion chamber plates: Material

steel

Thickness: Sides

1 1/16"

Pitch of stays to ditto: Sides

8 3/4 x 9 3/4"

Back

9 3/4 x 9"

Top

11 x 7 3/4"

Material of stays

steel

Diameter at smallest part

20 3/8 x 23 3/8"

Area supported by each stay

87.7 & 105"

Working pressure by rules

208 & 202

End plates in steam space:

Material

steel

Thickness

Material of stays

steel

Thickness

1 1/8"

Pitch of stays

15 x 20"

How are stays secured

W.N.

Working pressure by rules

181

Material of Front plates at bottom

steel

Material of Lower back plate

steel

Thickness

2 1/2"

Greatest pitch of stays

13 3/4 x 9"

Working pressure of plate by rules

182

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4 x 4 5/8"

Material of tube plates

steel

Thickness: Front

2 1/2"

Back

2 1/2"

Mean pitch of stays

11 3/4"

Working pressures by rules

231

Girders to Chamber tops: Material

steel

Thickness of girder at centre

2 @ 9 1/4 x 1"

Length as per rule

34 5/8"

Distance apart

11"

Working pressure by rules

183

Superheater or Steam chest; how connected to boiler

none

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

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

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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 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	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 connecting rod top and bottom end bolts and nuts two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, iron and bolts of various sizes, four propeller blades.

The foregoing is a correct description,
Mac Coll & Pollock Ltd. Manufacturer.

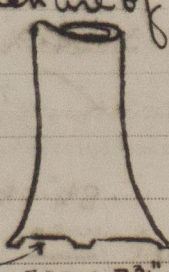
Dates of Survey while building	During progress of work in shop	Managing Director	1914 Mar. 24. Apr. 22. 24. May. 8. 11. 15. 22. 24. Jan. 4. 10. 11. 18. 22. 23. 29. 30.
	During erection on board vessel		Jul. 1. 3. 10. 23. 24. 30. Aug. 1. 4. 8. 10. 12. 18. 27. Sep. 4. 9. 1915. Feb. 3.
Total No. of visits		(32)	

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

Dates of Examination of principal parts	Cylinders	8-5-14	Slides	29-6-14	Covers	10-6-14	Pistons	18-6-14	Rods	11-6-14	
Connecting rods	23-6-14	Crank shaft	5-5-14	Thrust shaft	29-6-14	Tunnel shafts	none	Screw shaft	29-6-14	Propeller	30-6-14
Stern tube	10-4-14	Steam pipes tested	8-8-14	Engine and boiler seatings	23-7-14	Engines holding down bolts	8-8-14				
Completion of pumping arrangements	27-8-14	Boilers fixed	18-8-14	Engines tried under steam	27-8-14						
Main boiler safety valves adjusted	27-8-14	Thickness of adjusting washers	P 1/2". S 3/8".								
Material of Crank shaft	Steel	Identification Mark on Do.	3748AFÖ	Material of Thrust shaft	Steel	Identification Mark on Do.	5372 H.K.				
Material of Tunnel shafts	none	Identification Marks on Do.	✓	Material of Screw shaft	Steel	Identification Marks on Do.	5371 H.K.				
Material of Steam Pipes	Solid drawn copper. 10 1/2" x 5 W.G.	Test pressure	360 lbs per square inch								

General Remarks (State quality of workmanship, opinions as to class, &c.)
The materials and workmanship are good ✓
The machinery has been made under special survey and is eligible in my opinion for classification and the Record + L.M.C. 2.15 ✓

In accordance with the owner's wishes the usual rose boxes have been omitted in the case of the hold suction (letter herewith). In lieu thereof the tail pipes, which are of lead - 4" internal diameter, - have been bellmouthed and the edge slotted, thus:-
An extra large mudbox is fitted between these suction and the pumps. ✓



It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 2.15.

The amount of Entry Fee	£ 2	When applied for,	15. OCT. 1914
Special	£ 20	When received,	2. 12. 14
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

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

Committee's Minute FRI. MAR. 19. 1915
Assigned + L.M.C. 2.15