

REPORT ON MACHINERY.

No. 63482

Date of writing Report

19

When handed in at Local Office

DEC 31 1912

Received at London Office

WED. JAN. - 1 1913

No. in Survey held at

Newcastle

Reg. Book.

on the S.S. "Eboe"

Port of

NEWCASTLE-ON-TYNE.

Date, First Survey

9th Aug 1911 Last Survey 12th Dec 1912

(Number of Visits 100)

Master

Built at

Newcastle

By whom built

Palmer's Co

Tons

Gross 4866

Net 2964

When built 1912

Engines made at

Newcastle

By whom made

Palmer's Co

Boilers made at

do

By whom made

Palmer's Co

when made 1912

Registered Horse Power

Owners

African Steamship Co. Ltd

when made 1912

Nom. Horse Power as per Section 28

566

Is Refrigerating Machinery fitted for cargo purposes

Port belonging to

Liverpool

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

26"-44"-74"

Length of Stroke

51

Revs. per minute

75

Dia. of Screw shaft

as per rule 15.37

Material of

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

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

Yes

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

Yes

If two

Yes

Dia. of Tunnel shaft

as per rule 13.98

Dia. of Crank shaft journals

as per rule 14.48

Dia. of Crank pin

15.4

Size of Crank webs

21 3/4 x 1 1/4

Dia. of thrust shaft under

collars

15.4

Dia. of screw

18.3

Pitch of Screw

17.1 1/2

No. of Blades

4

State whether moveable

Yes

Total surface

97.6

No. of Feed pumps

2 (one)

Diameter of ditto

10 1/2 x 8

Stroke

21

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/4

Stroke

27

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

SIZES OF PUMPS

12 x 9 x 10 1/2

In Engine Room

Four 3 1/2"

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

In Holds, &c.

No. 1 hold 2-3 1/2"

No. 2 hold 2-3 1/2"

No. 3 hold 2-3 1/2"

No. 4 hold 2-3 1/2"

No. 5 hold 2-3 1/2"

No. of Bilge Injections

1

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes 6"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

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

What pipes are carried through the bunkers

Suctions to feed holds

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

7-8-12

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top platform

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 single-ended

Total Heating Surface of Boilers

8100 sq ft

Manufacturers of Steel

J. Spence & Sons & Palmer's Co

Working Pressure

205 lbs

Tested by hydraulic pressure to

410 lbs

Date of test

24/5/12-10/7/12

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63.6 sq ft

No. and Description of Safety Valves to

each boiler

2- Spring

Area of each valve

8.29 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

2'-4"

Mean dia. of boilers

15'-6"

Length

11'-6"

Material of shell plates

Steel

Thickness

1 1/4"

Range of tensile strength

29-32 1/2"

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

8. Lap

long. seams

4.8 x 4.8

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

10 1/4"

Lap of plates or width of butt straps

23"

Per centages of strength of longitudinal joint

rivets 89

plate 84.7

Size of compensating ring

35 1/2 x 3 1/2 x 1 1/4"

No. and Description of Furnaces in each boiler

3 Cornish

Material

Steel

Outside diameter

49 3/4"

Length of plain part

top 11'

Thickness of plates

crown 1 1/4"

Description of longitudinal joint

Welded

No. of strengthening rings

Working pressure of furnace by the rules

225 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

1 5/16"

Material of stays

Steel

Diameter at smallest part

2.03"

Area supported by each stay

69.1 sq in

Working pressure by rules

264 lbs

End plates in steam space:

Working pressure by rules

216 lbs

Material of stays

Steel

Diameter at smallest part

6.10"

Area supported by each stay

248 sq in

Working pressure by rules

255 lbs

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

15"

Greatest pitch of stays

14"

Working pressure of plate by rules

236 lbs

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4" x 3 3/4"

Material of tube plates

Steel

Thickness: Front

1"

Back

15/16"

Mean pitch of stays

9 3/4"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

210 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 1/4" x 13 1/4"

Length as per rule

30 1/2"

Distance apart

8 3/4"

Number and pitch of stays in each

2-8 1/4"

Working pressure by rules

223 lbs

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Yes

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

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure by rules

End plates: Thickness

How stayed

Working pressure by rules

End plates: Thickness

How stayed

Working pressure by rules

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Working pressure by rules

End plates: Thickness

How stayed

Working pressure by rules

VERTICAL DONKEY BOILER—

Manufacturers of Steel *None*

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	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:— 2 top-end, 2 bottom-end & 2 main-bearing bolts & nuts, 1 set of coupling bolts, 1 set of pins for each piston, 1 set of feed & bilge pump valves, a quantity of assorted bolts nuts & washers, 2 side valves, 2 bottom-end bushes, 2 SV springs & an air pump rod.

The foregoing is a correct description.

Dates of Survey while building	During progress of work in shops --	During erection on board vessel --	Total No. of visits
Aug. 9, 10, 11, 14, 17, 23, 24, 25, 26, 29, 31, Sep. 1, 8, 11, 19, 20, 27, 29, Oct. 3, 5, 6, 10, 11, 12, 16, 20, 23, 26	Nov. 1, 7, 8, 13, 17, 30, Dec. 5, 7, 8, 11, 14, 18, 22, 27, Jan. 5, 8, 12, 15, 19, 22, Feb. 2, 7, 10, 20, 22, 23, 26, Mar. 7, 11, 19	Apr. 23, 29, May, 1, 6, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Jun. 4, 5, 10, 14, 18, Jul. 2, 3, 5, 6, 10, 16, 23, Aug. 7, 18, 19, 24, 10, Oct. 6, 10	100

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

" " " donkey " " " *None*

Dates of Examination of principal parts—Cylinders 20-10-11 Slides 12-10-11 Covers 11-9-11 Pistons 11-9-11 Rods 20-9-11

Connecting rods 5-1-12 Crank shaft 20-9-11 Thrust shaft 8-11-11 Tunnel shafts 20-12-11 Screw shaft 1-5-12 Propeller 5-12-11

Stern tube 5-1-12 Steam pipes tested 31-10-12 Engine and boiler seatings 8-10-12 Engines holding down bolts 21-10-12

Completion of pumping arrangements 12-12-12 Boilers fixed 12-12-12 Engines tried under steam 12-12-12

Main boiler safety valves adjusted 12-12-12 Thickness of adjusting washers PB. $P\frac{7}{16}S\frac{7}{16}$ CB. $P\frac{13}{32}S\frac{7}{16}$ SB. $P\frac{7}{16}S\frac{7}{16}$

Material of Crank shaft *Steel* Identification Mark on Do. *TF 9-11* Material of Thrust shaft *Steel* Identification Mark on Do. *TF 11-11*

Material of Tunnel shafts *Steel* Identification Marks on Do. *TF 12-11* Material of Screw shafts *Steel* Identification Marks on Do. *TF 5-12*

Material of Steam Pipes *None* Test pressure 615 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 are found to be good. The engines have been tried under steam and the boiler safety valves adjusted. The machinery is now in good and safe working condition & eligible in my opinion to have the notation of 4 Lmc 12, 12

It is submitted that this vessel is eligible for THE RECORD, + LMC 12, 12

F.D.

Handwritten signature
7/1/13

The amount of Entry Fee	£ 3 : 0 : 0	When applied for, DEC 31 1912
Special	£ 48 : 6 : 0	
Donkey Boiler Fee	£ :	When received, 14. 1. 13
Travelling Expenses (if any)	£ :	

Committee's Minute

FRI. JAN. 3. 13

Assigned

+ Lmc 12 12

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