

REPORT ON MACHINERY.

No. 25226

Port of Glasgow

Received at London Office THUR. 9 MAY 1907

No. in Survey held at Glasgow

Date, first Survey 25 July 1906 Last Survey 1-5-1907

Reg. Book.

on the

S/S "Kazembe"

(Number of Visits)

Master

Built at

Glasgow

By whom built

Alisc Stephens & Sons Ltd

Gross
Tons
Net
When built

Engines made at

Glasgow

By whom made

Alisc Stephens & Sons Ltd (421)

when made

1907

Boilers made at

ditto

By whom made

ditto

(421)

when made

1907

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

514

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders 26-44-73 Length of Stroke 48 Revs. per minute

Dia. of Screw shaft

as per rule 14.50

Material of screw shaft

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

Solid

If two

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

Length of stern bush 6-0

Dia. of Tunnel shaft as per rule 13.12

Dia. of Crank shaft journals as per rule 13.41

Dia. of Crank pin 14 1/2

Size of Crank webs 9 1/2 1/2

Dia. of thrust shaft under

collars 14 1/4

Dia. of screw 17.6

Pitch of Screw 16-6

No. of Blades 4

State whether moveable

Yes

Total surface

88

No. of Feed pumps 2

Diameter of ditto 4

Stroke 27

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 2

Diameter of ditto 4

Stroke 27

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 5

Sizes of Pumps 2 Weirs 8 1/2 x 2 1/2

8 1/2 x 8 1/2

8 1/2 x 10 1/2

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

In Engine Room 3-3 1/2

Tunnel 3 1/2

Donkey 6 x 4 1/4 x 6

In Holds, &c. No. 1, 2, 3

Holds 2, 3 1/2

No. 4, 1-3 1/2

Four Peak 1-3 1/2

After Peak 1-3 1/2

No. of Bilge Injections 1

sizes 8 1/4

Connected to condenser, or to circulating pump

Cor

Is a separate Donkey Suction fitted in Engine room & size

Yes 3 1/2

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

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

What pipes are carried through the bunkers

No 1 & 2

Hold suction

How are they protected

wood

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

8-4-07

of Stern Tube

8-4-07

Screw shaft and Propeller

8-4-07

Is the Screw Shaft Tunnel watertight

apparently

Is it fitted with a watertight door

Yes

worked from

Upper E R platform

BOILERS, &c.—(Letter for record 8.)

Manufacturers of Steel

D. Bellville & Co. Ltd

Total Heating Surface of Boilers

6164

Is Forced Draft fitted

Yes

No. and Description of Boilers

Two Single Ended

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

634

No. and Description of Safety Valves to

each boiler

2 Double Spring

Area of each valve

9-63

Pressure to which they are adjusted

180 lb

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers

16-6

Length

12-0

Material of shell plates

S

Thickness 1 1/2

Range of tensile strength

28-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

double

long. seams

TR D B S

Diameter of rivet holes in long. seams

1 1/32

Pitch of rivets

9 1/4

Lap of plates or width of butt straps

19 1/16

Per centages of strength of longitudinal joint

rivets 85-85

plate 85-40

Working pressure of shell by rules

181 lb

Size of manhole in shell

16 x 12

Size of compensating ring

M Heils

No. and Description of Furnaces in each boiler

3 Doughton

Material

S

Outside diameter

4 2 1/8

Length of plain part

top 37 1/4

Thickness of plates

crown 37 1/4

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

180 lb

Combustion chamber plates: Material

S

Thickness: Sides

5/8

Back

5/8

Top

5/8

Bottom

Pitch of stays to ditto: Sides

9 x 8

Back

8 3/4 x 8 3/4

Top

9 x 8

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

182 lb

Material of stays

S

Diameter at smallest part

1.78

Area supported by each stay

73 1/4

Working pressure by rules

219

End plates in steam space:

S

Material

S

Thickness

1 1/32

Pitch of stays

18 x 18 1/2

How are stays secured

DN

Working pressure by rules

180 lb

Material of stays

S

Diameter at smallest part

6

Area supported by each stay

18 x 18 1/2

Working pressure by rules

183

Material of Front plates at bottom

S

Thickness

7/8

Material of Lower back plate

S

Thickness

7/8

Greatest pitch of stays

14 1/2

Working pressure of plate by rules

189

Diameter of tubes

2 1/2

Pitch of tubes

37 1/4 x 33 1/4

Material of tube plates

S

Thickness: Front

7/8

Back

27/32

Mean pitch of stays

9.56

Pitch across wide water spaces

14 1/2

Working pressures by rules

180 lb

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

9 1/4 x 13 1/4

Length as per rule

32 1/2

Working pressure by rules

20 lb

Superheater or Steam chest; how connected to boiler

Now

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

Yes

Lloyd's Register

Foundation

W616-0226

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			Stayed by						
Diameter of uptake	Thickness of uptake plates			Thickness of water tubes			Dates of survey			

The foregoing is a correct description,
 Alex. Stephens & Co. Ltd
 Alex. Scott, Secy. Manufacturer.

Dates	During progress of work in shops-	1906, July 25 Aug 8 21 Sep 26 Oct 30 Nov 12 14 28 Dec 28 1907, Jan 10 17 22 25
of Survey while building	During erection on board vessel -	Feb. 11 19 20 26 Mar 5 8 12 14 18 22 25 Apr 8 10 15 16 17 26 27 9 Long & Reports 30 May 1
	Total No. of visits	33
	Is the approved plans of main boilers forwarded herewith	

" " " donkey " " "
 Dates of Examination of principal parts—Cylinders 17-1-07 Slides 17-1-07 Covers 17-1-07 Pistons 22-1-07 Rods 22-1-07
 Connecting rods 27-1-07 Crank shaft 20-2-07 Thrust shaft 22-1-07 Tunnel shafts 22-1-07 Screw shaft 20-2-07 Propeller 22-1-07
 Stern tube 11-2-07 Steam pipes tested 15-4-07 Engine and boiler seatings 17-4-07 Engines holding down bolts 17-4-07
 Completion of pumping arrangements 10-4-07 Boilers fixed 17-4-07 Engines tried under steam 30-4-07
 Main boiler safety valves adjusted 26-4-07 Thickness of adjusting washers SV 7/16" PV 3/8" SV 1/4" PV 1/16" AR 3/8" FV 3/8"
 Material of Crank shaft S Identification Mark on Do. 20-2-07 Material of Thrust shaft S Identification Mark on Do. 22-1-07
 Material of Tunnel shafts S Identification Marks on Do. 22-1-07 Material of Screw shafts Iron Identification Marks on Do. 20-2-07
 Material of Steam Pipes Copper Solid drawn, Lap welded iron Test pressure Copper 360° Iron 500 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines & Boilers have been constructed & fitted on board under Special Survey in accordance with the approved plan & the Requirements of the Rules & the workmanship & material have been found good. The Machinery is in my opinion eligible for the Record of

✱ LMC 5.07

It is submitted that
this vessel is eligible for
THE RECORD. ✠ L. M. C. 5, 07
Elec light
P. D.

The amount of Entry Fee..	£ 5 :	:	When applied for,
Special	£ 45 11 :	:	- 7 MAY 1907 .. 19 ..
Donkey Boiler Fee	£ :	:	When received,
Travelling Expenses (if any) £	8 :	:	10 SEP 1907 .. 19 ..

Committee's Minute

Assigned

MACHINERY CERTIFICATE
WRITTEN 45.07

W^m Gordon Murchie
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Foundation