

REPORT ON MACHINERY.

No. 25098
WED. 20 1911

Received at London Office

Date of writing Report

10

When handed in at Local Office

12 Dec 11 Port of

Sunderland

No. in Survey held at
Reg. Book.Sunderland
"Habana"

Date, First Survey

June 30/11

Last Survey

Decr 6. 1911

on the

(Number of Visits)

57

Master

Maide

Built at

Sunderland

By whom built

Shut Bros Ltd

269

Tons

Gross

4804

Net

2676

When built

1911

Engines made at

Sunderland

By whom made

G. Clark Ltd

No 934

when made

1911

Boilers made at

Sunderland

By whom made

G. Clark Ltd

No 934

when made

1911

Registered Horse Power

Owners

W. Lowden & Co

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

480

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

26" x 44" x 43"

Length of Stroke

18"

Revs. per minute

65

Dia. of Screw shaft

as per rule

14.5"

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

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

5'-1"

Dia. of Tunnel shaft

as per rule

13.12"

Dia. of Crank shaft journals

as per rule

13.48"

Dia. of Crank pin

14.4"

Size of Crank webs

21.4" x 9.3"

Dia. of thrust shaft under

collars

Dia. of screw

14.5/8"

Pitch of Screw

18'-6"

No. of Blades

4

State whether moveable

No

Total surface

100 sq

No. of Feed pumps

Two

Diameter of ditto

14.5"

Stroke

21"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

Diameter of ditto

14.5"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Three

Sizes of Pumps

4" x 10" x 10"

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

In Engine Room

Three @ 3" dia

In Holds, &c.

One in No 1 Hold well 3 1/2" dia

No 2 one @ 3" in hold well, No 3 one @ 3" in hold well, No 4 one @ 3" dia in hold well.

No. of Bilge Injections

1

sizes

6"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

Yes

3"

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

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

Bide tank 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

5-10-11

of Stern Tube

5-10-11

Screw shaft and Propeller

31-10-11

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top platform

Yes

No

No

BOILERS, &c.—(Letter for record)

(S)

Manufacturers of Steel

Spence & Sons

Total Heating Surface of Boilers

6491 sq

Is Forced Draft fitted

Yes

No. and Description of Boilers

Three single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

25-10-10

No. of Certificate

2870

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

53.4 sq

No. and Description of Safety Valves to

each boiler

Two spring loaded

Area of each valve

9.62 sq

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers

14' 3 3/4"

Length

11' 6"

Material of shell plates

Steel

Thickness

1 1/4"

Range of tensile strength

28 1/2 to 32 1/2

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8' 8"

Lap of plates or width of butt straps

14 1/8"

Per centages of strength of longitudinal joint

rivets

88.9

plate

85.4

Working pressure of shell by rules

182.5 lbs

Size of manhole in shell

16" x 13"

Size of compensating ring

Dished

No. and Description of Furnaces in each boiler

Three Cor.

Material

Steel

Outside diameter

40"

Length of plain part

top

bottom

Thickness of plates

crown

9 1/16"

Description of longitudinal joint

weld

No. of strengthening rings

Yes

No

No

No

No

No

Working pressure of furnace by the rules

220 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

1 1/8"

1 1/8"

Pitch of stays to ditto: Sides

9 1/4" x 9 3/4"

Back

10" x 9"

Top

9" x 9 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

180.7 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

90 sq

Working pressure by rules

203 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/16"

Material of stays

Steel

Pitch of stays

20 1/16" x 20 1/2"

How are stays secured

D. Nuts

Working pressure by rules

185 lbs

Material of stays

Steel

Diameter at smallest part

3"

Area supported by each stay

199.5 sq

Working pressure of plate by rules

188 lbs

Material of Front plates at bottom

Steel

Thickness

1 1/16"

Greatest pitch of stays

14 1/4" x 19 1/2"

Working pressure of plate by rules

183 lbs

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4" x 3 5/8"

Material of tube plates

Steel

Thickness: Front

1 1/16"

Back

3/4"

Mean pitch of stays

9.45"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

185 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9 3/4" x 13 1/4"

Length as per rule

36 13/16"

Distance apart

9 1/2"

Number and pitch of stays

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
 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 cm rod to end & two ditto bottom end bolts & nuts
 One set packing bolts & nuts, 2 main bearing bolts & nuts, 1 set feed & bilge pump valves & seats
 1 set check valves, 19 boiler tubes, 19 condenser tubes, One tail shaft, One propeller, One pair crank
 pin bushes, One valve spindle, Assorted bolts, nuts & iron.

The foregoing is a correct description, *As per*
 FOR GEORGE CLARK LIMITED

Manufacturer of main Engines & Boilers

Dates During progress of work in shops -- 1910 Jun 30. Jul 22. 29. Aug 5. 10. 15. 18. 23. 30. Sep 7. 12. 14. 19. 22. Oct 13. 18. 20. 25. Nov 2. 15. 21. 28.
 of Survey while building During erection on board vessel -- Dec 15. 21. 1911. Jan 10. 27. Feb 4. Mar 15. 20. Apr 7. 13. 25. May 1. 10. 12. 31. June 7. 15. 26. Jul 19.
 Total No. of visits Sep 1. 20. Oct 5. 10. 16. 19. 22. 31. Nov 3. 4. 9. 10. 15. 18. 24. Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 2-11-10 Slides 4-6-11 Covers 10-1-11 Pistons 12-9-10 Rods 21-2-10
 Connecting rods 21-2-10 Crank shaft 13-4-11 Thrust shaft 19-4-11 Tunnel shafts 19-4-11 Screw shaft 10-10-11 Propeller 20-9-11
 Stern tube 29-9-11. Steam pipes tested 10-11-11 & 14-11-11 Engine and boiler seatings 5-10-11. Engines holding down bolts 9-11-11
 Completion of pumping arrangements 4-12-11. Boilers fixed 15-11-11 Engines tried under steam 18-11-11
 Main boiler safety valves adjusted 18-11-11 Thickness of adjusting washers 5 Blk. S. 3/8" P. 7/16; Cut Blk P & S. 3/8. P. 9/16. S. 3/8

Material of Crank shaft Steel Identification Mark on Do. 56 H. K. H. Material of Thrust shaft Steel Identification Mark on Do. 4038 P.A.
 Material of Tunnel shafts Steel Identification Marks on Do. 4040 P.A. 2905 H.K. 2909 H.K.
 Material of Steam Pipes Solid drawn Copper 1 3/4" bore & 1/4" thick; 1 Solid Steel Test pressure 400 lbs for Copper pipes, 540 lbs for iron & steel do.
 3 Weld iron lap welded 1 3/4" bore & 5/16" thick; 5" bore & 3/8" thick.

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been built under special survey, the materials and workmanship are of good quality and the hydraulic test of the boilers proved satisfactory. The whole of the machinery has been securely fitted on board & satisfactorily tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have record
 + LMC 12-11 in the Register's Book.

It is submitted that
 this vessel is eligible for
 THE RECORD + LMC 12.11.
 F.D.

APRIL

JWD.
 27/12/11

William Butler.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 3 : 0 : 0
 Special .. £ 14 : 0 : 0
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for. 15.12.1911
 When received. 19.12.1911

Committee's Minute FRI. DEC. 22. 1911
 Assigned + hmc 12.11

MACHINERY CERTIFICATE
 WRITTEN 22/12/11
 43/7/12