

## REPORT ON MACHINERY.

No. 67766

Received at London Office

SAT. JUL. 24. 1915

Date of writing Report 15<sup>th</sup> July 1915 When handed in at Local Office 23<sup>rd</sup> July 1915 Port of NEWCASTLE-ON-TYNENo. in Survey held at  
Reg. Book

Date, First Survey

Oct 3. 1913

Last Survey

July 17 1915

38 ships the

Machinery of the steel twin S.S. *Abelia*

Number of Visits

Gross 3680

Master *Davies*

Built at

*Newcastle*

By whom built

*Armstrong Whitworth & Co.*

When built

1915

Engines made at

*Newcastle*

By whom made

*Wallace & Shipway & Eng.*

when made

1915

Boilers made at

By whom made

when made

Registered Horse Power

Owners

*Flower Motor Ship Co.*

Port belonging to

*London*

Nom. Horse Power as per Section 28

342

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes

ENGINES, &amp;c.—Description of Engines

*Diesel Two stroke cycle single*

No. of Cylinders

8

No. of Cranks

4

Dia. of Cylinders

17 1/4"

Length of Stroke

33"

Revs. per minute

120

Dia. of Screw shaft

10 3/8"

Material of screw shaft

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

Length of stern bush

3' 9"

Dia. of Tunnel shaft

as per rule

9 3/8"

Dia. of Crank shaft journals

as per rule

11 3/4"

Dia. of Crank pin

12"

Size of Crank webs

23" x 8 1/2"

Dia. of thrust shaft under

collars

10"

Dia. of screw

10' 6"

Pitch of Screw

9' 9"

No. of Blades

3

State whether moveable

No

Total surface

34 sq'

No. of Feed pumps

1

Diameter of ditto

5"

Stroke

12"

Can one be overhauled while the other is at work

No. of Bilge pumps

2

Diameter of ditto

4 1/4"

Stroke

15"

Can one be overhauled while the other is at work

No. of Donkey Engines

3

Sizes of Pumps

Duplex 10 x 10 1/2 x 10, 6 x 4 x 6

No. and size of

Suctions connected to both Bilge and Donkey pumps

In Engine Room

3 of 3 1/2"

In Holds, &amp;c.

2 of 3 1/2" dia. in each hold

No. of Bilge Injections

1 sizes

8"

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room &amp; size

Yes

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

none

How are they protected

Yes

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

5/6/14

of Stern Tube

5/6/14

Screw shaft and Propeller

5/6/14

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

Yes

worked from

BOILERS, &amp;c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

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

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IS A DONKEY BOILER FITTED? 2 Donkey Boilers If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:— *Spare cylinder & liner, 2 cylinder covers complete with all valves seats & springs, in addition one complete set of valve seats & springs &c for each cylinder, one piston complete for one engine, 1 set of Ramsbottom rings for all pistons, a complete set of main skew wheels, 1 pair of crank pin bearings, 1 set of top end bearings, 2 main bearing bolts 4, top end bolts, 1 set of coupling bolts, spare half crank, spare propeller shaft & other gear in excess of requirements.*

The foregoing is a correct description,

FOR THE WALLSEND SLIPWAY & ENGINEERING CO., LIMITED.

*J. C. Henderson*  
SECRETARY.

Manufacturer.

1913  
Dates of Survey while building  
During progress of work in shops - - - *Oct 3, Nov 3, 25, Dec 12, 15, 18, 22, 23, 27, Jan 12, 14, 26, 28, Feb 3, 6, 10, 13, 16, 19, 25, 27, Mar 6, 13, 23, 31, Apr 3, 6, 7, 8, 15, 17, 20, 21, 23, 24, 27, 28, 29, May 5, 8, 11, 13, 14, 18, 20, 22, 25, 26, 27, 28, 29, Jun 3, 5, 4, 16, Jul 1, 3, 15, 23, 24, Aug 6, 10, 21, 24, 27, 28, Sep 2, 10, 18, Oct 14, 22, 23, Nov 14, 27, Dec 11, 17, 1914 Jan 12, 15, Mar 9, 16, 17, Apr 6, May 18, Jun 10, 11, 15, 22, 23, 24, 30, Jul 12, 19*  
During erection on board vessel - - -  
Total No. of visits *94.*

Is the approved plan of main boiler forwarded herewith

" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders *15/4/14* Slides *✓* Covers *12/2/14* Pistons *12/2/14* Rods *10/2/14*  
Connecting rods *12/2/14* Crank shaft *3/1/13* Thrust shaft *3/1/13* Tunnel shafts *18/5/14* Screw shaft *18/5/14* Propeller *25/5/14*  
Stern tube *25/5/14* Steam pipes tested *✓* Engine and boiler seatings *5/6/14* Engines holding down bolts *11/12/14*  
Completion of pumping arrangements *23/3/15* Boilers fixed *✓* Engines tried under steam *10/6, 14/6 & 13/7/15*  
Main boiler safety valves adjusted *✓* Thickness of adjusting washers *✓*

Material of Crank shaft *Steel* Identification Mark on Do. *6/3/14* Material of Thrust shaft *Steel* Identification Mark on Do. *6/3/14*

Material of Tunnel shafts *Steel* Identification Marks on Do. *29/5/14* Material of Screw shafts *Steel* Identification Marks on Do. *25/5/14*

Material of Steam Pipes *✓* Test pressure *✓*

Is an installation fitted for burning oil fuel *Yes* Is the flash point of the oil to be used over 150°F. *Yes*

Have the requirements of Section 49 of the Rules been complied with *Yes*

Is this machinery duplicate of a previous case *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The machinery of this vessel has been built under special survey, the materials used are good and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under full power with satisfactory results. In my opinion the vessel eligible for the record  $\pm$  L.M.C. 7.15.*

*It is submitted that this vessel is eligible for THE RECORD  $\pm$  L.M.C. 7.15.*

Oil Engines. 2 SC. 5A.

8 Cy.  $17\frac{1}{4}$  - 33. 342 NHP.

Wllsld. Slipwy. Co. Ld. Nwc. 2 DB. 100 lb.

The amount of Entry Fee ... £ 3 : :  
Special ... £ 37 : 2 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, JUL 23 1915  
When received, 28/7/1915

Committee's Minute FRI. AUG. 13. 1915

Assigned

*+ L.M.C. 7.15  
oil engines*

*Charles Cooper*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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