

## REPORT ON MACHINERY.

No. 67318  
SAT. MAR. 27. 1915Date of writing Report 22<sup>nd</sup> March 1915

MAR 25 1915

Received at London Office

Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Newcastle  
Reg. Bogn.

Date, First Survey May 29. 1914 Last Survey Mar 11. 1915

Sup on the Machinery of S.S. "Bronze Wings"

(Number of Vials 41)

Gross 3862

Master J. J. Rose

Built at Newcastle

By whom built Northumbrian S.S. Co.

Tons Net 2412

When built 1914

Engines made at Newcastle

By whom made North Eastern Marine Eng.

when made 1915

Boilers made at "

By whom made "

when made 1915

Registered Horse Power

Owners Wing S.S. Co. Ltd.

Port belonging to London

Nom. Horse Power as per Section 28 371

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines Triple

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 25" 41" 69"

Length of Stroke 48"

Revs. per minute 62

Dia. of Screw shaft as per rule 14.21

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

n 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

If two

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

Length of stern bush 5'-0"

Dia. of Tunnel shaft as per rule 12.9

as fitted 13"

Dia. of Crank shaft journals as per rule 13.33

as fitted 13.98"

Dia. of Crank pin 13.58"

Size of Crank webs 28" x 8"

Dia. of thrust shaft under

collars 13.58"

Dia. of screw 17'-3"

Pitch of Screw 18'-3"

No. of Blades 4

State whether moveable no

Total surface 92.5

No. of Feed pumps 2

Diameter of ditto 3 3/4"

Stroke 26"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4 1/2"

Stroke 26"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2

Sizes of Pumps 9" x 12" x 10" &amp; 2 of 7 1/2" x 4 1/2" x 6"

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

In Engine Room 4 of 3 1/2"

In Holds, &amp;c. 2 of 3 1/2" in each hold

and 1 of 2 1/2" in tunnel

No. of Bilge Injections 1 size 7"

Connected to condenser, or to circulating pump pump

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

That pipes are 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 12/11/14

of Stern Tube 12/11/14

Screw shaft and Propeller 26/1/15

the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Top platform

MILERS, &amp;c.—(Letter for record S)

Manufacturers of Steel J. &amp; S. Furner &amp; Sons

Total Heating Surface of Boilers 5895

Is Forced Draft fitted no

No. and Description of Boilers 3 Single-ended

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 27/11/14

No. of Certificate 8733

Can each boiler be worked separately Yes

Area of fire grate in each boiler 53.33

No. and Description of Safety Valves to

each boiler 2 direct spring

Area of each valve 5.94

Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4'-3"

Mean dia. of boilers 13'-9 1/2"

Length 10'-9"

Material of shell plates Steel

Thickness 1 3/32"

Range of tensile strength 28 3/4"-32 tons

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams d. r. top

Pitch of rivets 8 3/4"

Lap of plates or width of butt straps 17 3/4"

Percentage of strength of longitudinal joint rivets 86.7

Working pressure of shell by rules 182 lbs

Size of manhole in shell 16" x 12"

Use of compensating ring flanged

No. and Description of Furnaces in each boiler 3 Morisons

Material Steel

Outside diameter 41 1/2"

Length of plain part top

Thickness of plates crown 1/2"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 182 lbs

Combustion chamber plates: Material Steel

Thickness: Sides 2 3/32"

Back 2 3/32"

Top 2 3/32"

Bottom 2 9/32"

Pitch of stays to ditto: Sides 10 1/2" x 9 3/8"

Back 10 1/2" x 9 3/8"

Top 10 1/2" x 9 3/8"

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 180.5 lbs

Material of stays Steel

Diameter at smallest part 2.03

Area supported by each stay 98.3

Working pressure by rules 185 lbs

End plates in steam space:

Material Steel

Thickness 1 3/8"

Pitch of stays 24" x 19 1/4"

How are stays secured d. n. g. w.

Working pressure by rules 185 lbs

Material of stays Steel

Diameter at smallest part 8.29

Area supported by each stay 474

Working pressure by rules 182 lbs

Material of Front plates at bottom Steel

Thickness 1"

Material of Lower back plate Steel

Thickness 2 9/32"

Greatest pitch of stays 14 1/2" x 9 3/8"

Working pressure of plate by rules 190 lbs

Diameter of tubes 3 1/4"

Pitch of tubes 4 3/8"

Material of tube plates Steel

Thickness: Front 1"

Back 3/4"

Mean pitch of stays 8 3/4"

Pitch across wide water spaces 14 1/2"

Working pressures by rules 182 lbs

Girders to Chamber tops: Material Steel

Depth and

Thickness of girder at centre 9 3/8" x 1 1/2"

Length as per rule 3.1"

Distance apart 10 1/2"

Number and pitch of stays in each 2 of 9 3/8"

Working pressure by rules 187 lbs

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

Yes

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IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:

*Two top end & bottom end bolts, 2 main bearing bolts  
1 set of coupling bolts, 1 set of feed & bilge pump valves  
a quantity of assorted bolts nuts & iron, propeller, propeller  
shaft, 1 piston rod, 1 pair top end & 1 pair bottom end bearings  
eccentric sheave & strap, 2 valve spindles, air & circulating pump  
rods & minor details.*

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING Co., LTD.

*J. J. Harrison*

Manufacturer.

Secretary.

Dates of Survey while building: During progress of work in shops - - *May 24, July 24, 30, Aug 5, 7, 11, 14, 17, 19, 20, 21, Sep 1, 2, 4, 17, 24, Oct 13, 16, 19, 22, 26*  
During erection on board vessel - - *Nov 2, 5, 6, 9, 10, 11, 12, 18, 23, 25, 27, Dec 2, 9, 11, 23, Jan 26, 29, Feb 7, Mar 11*  
Total No. of visits *41*

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

" " " donkey " " "

Dates of Examination of principal parts: Cylinders *23/11/14* Slides *2/11/14* Covers *1/9/14* Pistons *29/5/14* Rods *29/5/14*  
Connecting rods *29/5/14* Crank shaft *25/9/14* Thrust shaft *29/7/14* Tunnel shafts *29/7/14* Screw shaft *19/9/14* Propeller *6/11/14*  
Stern tube *22/10/14* Steam pipes tested *19/8/14* Engine and boiler seatings *12/11/14* Engines holding down bolts *11/2/15*  
Completion of pumping arrangements *17/2/15* Boilers fixed *11/2/15* Engines tried under steam *17/2/15*  
Main boiler safety valves adjusted *17/2/15* Thickness of adjusting washers *PP 7/16" S 7/16" CP 1/2" S 1/4" SP 9/16" S 9/16"*  
Material of Crank shaft *Steel* Identification Mark on Do. *8/11/14* Material of Thrust shaft *Steel* Identification Mark on Do. *30/7/14*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *29/9/14* Material of Screw shafts *Steel* Identification Marks on Do. *26/10/14*  
Material of Steam Pipes *Low welded iron* Test pressure *540 lbs*

Is an installation fitted for burning oil fuel *No*

Is the flash point of the oil to be used over 150°F. ☒

Have the requirements of Section 49 of the Rules been complied with ☒

Is this machinery duplicate of a previous case *No* If so, state name of vessel *P.S. "Elfland"*

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. In my opinion the vessel is eligible for the record of + LMC 3.15*

*It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 3.15*

*M. J. D.*

30.3.15

The amount of Entry Fee *£ 3.0*  
Special *£ 38.11*  
Donkey Boiler Fee *£*  
Travelling Expenses (if any) *£*

When applied for,  
MAR 25 1915

When received,

*6 Apr 1915*

TUE. MAR. 30. 1915

Committee's Minute

Assigned

*+ LMC 3.15*

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



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