

## REPORT ON MACHINERY.

Port of

Newcastle-on-Tyne

Received at London Office

No. in Survey held at

Newcastle

Date, first Survey

March 6<sup>th</sup>

Last Survey

Oct 4<sup>th</sup> 1901

Book.

(Number of Visits 27)

on the

s/s "BATTENHALL"

Tons

Gross 2144

Net 1978

When built 1901-10

Master C. McEwen

Built at

Blyth

By whom built

The Blyth SBC

Machinery made at

Newcastle

By whom made

The North Eastern Marine Eng<sup>r</sup> Co

when made

1901-10

Boilers made at

Newcastle

By whom made

The North Eastern Marine Eng<sup>r</sup> Co

when made

1901-10

Registered Horse Power

Owners

Lombard &amp; Co. Ltd.

Port belonging to

London

Horse Power as per Section 28

234

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

No

MACHINERY, &amp;c.—Description of Engines

Triple

No. of Cylinders 3

No. of Cranks 3

No. of Cylinders

22-36-59

Length of Stroke

39"

Revs. per minute

75

Dia. of Screw shaft

as per rule 12" 55

Lgth. of stern bush 4' 6"

Dia. of Tunnel shaft

as per rule 10" 43

Dia. of Crank shaft journals

as per rule 10" 95

Dia. of Crank pin

11"

Size of Crank webs

7" 2 1/4"

Dia. of thrust shaft under

No. of blades

11"

Dia. of screw

15-0"

Pitch of screw

15-0"

No. of blades

4

State whether moveable

yes

Total surface

69 sq

No. of Feed pumps

2

Diameter of ditto

3 1/4"

Stroke

18"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/4"

Stroke

18"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

Feed 6" 4" 6"

Ball 8" 9" 10"

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

Engine Room

four 2 3/4" &amp; one 3 1/2"

In Holds, &amp;c.

fore, main &amp; after main holds

No. of bilge injections

1

sizes

4"

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room &amp; size

yes 3 1/2"

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

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

Are the pipes 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

Were stern tube, propeller, screw shaft, and all connections examined

in dry dock

before launch

Is the screw shaft tunnel watertight

yes

Is the screw shaft tunnel fitted with a watertight door

yes

worked from upper deck

BOILERS, &amp;c.—

(Letter for record S)

Total Heating Surface of Boilers

3750 sq

Is forced draft fitted

No

No. and Description of Boilers

Two Mult. Single ended

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

No. of test

26.7.01

Can each boiler be worked separately

yes

Area of fire grate in each boiler

52 sq

No. and Description of safety valves to

No. of boiler

2

direct springs

Area of each valve

4.06 sq

Pressure to which they are adjusted

165 lbs

Are they fitted with easing gear

yes

Least distance between boilers or uptakes and bunkers

12"

Mean dia. of boilers

13-9 1/2"

Length

10-6"

Material of shell plates

Steel

Range of tensile strength

1/32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

D.R

long. seams

DBS, D.R

Diameter of rivet holes in long. seams

1 1/16"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

15 3/8"

End

16 1/2"

Percentages of strength of longitudinal joint

rivets

82.6

plate

82.3

Working pressure of shell by rules

160 lbs

Size of manhole in shell

16 x 12

Compensating ring

end flanged in

No. and Description of Furnaces in each boiler

3 plain

Material

Steel

Outside diameter

39"

Thickness of plain part

top 6-3"

bottom 6-9"

Thickness of plates

crown 23"

bottom 32"

Description of longitudinal joint

DBS, S.R

No. of strengthening rings

none

Working pressure of furnace by the rules

185 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

8"

No. of stays to ditto: Sides

10 x 10

Back

10 3/4 x 9 1/4"

Top

10 x 10

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

163 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

100 sq

Working pressure by rules

161 lbs

End plates in steam space:

Material

Steel

Thickness

1 3/8"

Pitch of stays

21 x 25 1/2"

How are stays secured

D N &amp; W

Diameter at smallest part

3 1/2"

Area supported by each stay

506 sq

Working pressure by rules

179 lbs

Material of Front plates at bottom

Steel

Thickness

3/4"

Greatest pitch of stays

14 1/2" all

Working pressure of plate by rules

185 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2 x 4 1/2"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

9"

across wide water spaces

14 1/2" all

Working pressures by rules

170 lbs

Girders to Chamber tops: Material

Steel

Depth and

Weight of girder at centre

8 1/2 x 1 1/2"

Length as per rule

31"

Distance apart

10"

Number and pitch of Stays in each

two-10"

Working pressure by rules

160 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

Reinforced 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

006387-006400-0207



DONKEY BOILER— No. 1 Description Vertical  
Made at Stockton By whom made Riley Bros When made 2-8-01 Where fixed stokehold  
Working pressure 80 lbs tested by hydraulic pressure to 160 lbs No. of Certificate 2539 Fire grate area 28 sq ft Description of safety valves direct spring  
No. of safety valves 2 Area of each 4-9 Pressure to which they are adjusted 80 lbs If fitted with easing gear yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 7-0 Length 14-0 Material of shell plates steel Thickness 7/16 Range of tensile strength 27,321 Descrip. of riveting long. seams d 7 lap Dia. of rivet holes 7/16 Whether punched or drilled punched Pitch of rivets 3 1/4  
Lap of plating 4 1/2 Per centage of strength of joint Rivets 82-6 Plates 71-3 Thickness of shell crown plates 9/16 Radius of do. 5-0 No. of Stays to do. 4  
Dia. of stays 1 1/2 eff Diameter of furnace Top 5-5 Bottom 6-0 Length of furnace 5-3 Thickness of furnace plates 5/8 Description of joint lap sr Thickness of furnace crown plates 7/16 Stayed by as crown of shell Working pressure of shell by rules 82-7 1/2  
Working pressure of furnace by rules 86 1/2 Diameter of uptake 17 Thickness of uptake plates 7/16 Thickness of water tubes 3/8

SPARE GEAR. State the articles supplied:— Two top stoves two bottom stoves two main bearing bolts one set coupling bolts, one set feed cone set ridge pump valves. one set piston springs one propeller and a quantity of assorted bolts etc.

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD.  
The foregoing is a correct description,

*S. Hunter* Manufacturer.  
DIRECTOR

Dates { During progress of work in shops— 1901. Mch 12. 18. Apr. 19. 26. 29. May 6. 8. 29. June 7. 12. July 3. 9. 19. 24. 26. 30. Aug. 1. 2. 11. 15. 21. 23. 26. 28. Sep. 1. 5. 12. 19. 26. 30. Oct. 7. 14. 21. 28. Nov. 4. 11. 18. 25. Dec. 2. 9. 16. 23. 30.  
of Survey { During erection on board vessel— Oct. 7  
while building { Total No. of visits 24

Is the approved plan of main boiler forwarded herewith no

“ “ “ donkey “ “ “ no

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

Material of screw shaft Iron Is the screw shaft fitted with a continuous liner the whole length of the stern tube no

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 no

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 no If two liners are fitted, is the shaft lapped or protected between the liners yes

The machinery of this vessel has been constructed & fitted on board under Special Survey the workmanship is sound & good.

The machinery has been tried under steam as required by the Rules & found satisfactory & is in our opinion eligible for the record of +L.M.C. 10-01 in the Register Book.

The plan of main boilers is retained for dealing with duplicate.

It is submitted that this vessel is eligible for THE RECORD.

+L.M.C. 10, 01

*H. J.*  
10/10/01

10.10.01

The amount of Entry Fee... £ 2 : 0 : 0 When applied for.  
Special ... £ 31 : 14 : 0 5-10-1901  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : 11-10-01

Robert Haig, J. C. Surpin  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

FRI. OCT 11 1901

+L.M.C. 10. 01

MACHINERY CERTIFICATE  
WRITTEN.



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Foundation