

REPORT ON MACHINERY.

No. 23887

No. in Survey held at
g. Book.

Port of *Newcastle*

Received at London Office

THURS 6 MARCH 1890

Date, first Survey *9 March* Last Survey *22nd Feb 1890*

(Number of Visits *49*)

322.18

on the

S.S. "Moranghine"

Tons *2481.05*

Master *J. Cow*

Built at *Newcastle*

By whom built *Hawthorn Leslie & Co*

When built *1890*

Engines made at *Newcastle*

By whom made *Hawthorn Leslie & Co*

when made *1890*

Boilers made at *"*

By whom made *"*

when made *1890*

Registered Horse Power *306.300*

Owners *Bladder & S. Co*

Port belonging to *Glasgow*

ENGINES, &c.—

Description of Engines

Triple expansion in three cranks

Diameter of Cylinders

27.44.71

Length of Stroke

48

No. of Rev. per minute

65

Point of Cut off, High Pressure

33 1/2

Low Pressure

33

Diameter of Screw shaft

13 1/2

Diam. of Tunnel shaft

12 1/2

Diam. of Crank shaft journals

13 1/2

Diam. of Crank pin

13 1/2

size of Crank webs *20 1/2 x 8*

Diameter of screw

16.6

Pitch of screw

18.6

No. of blades

4

state whether moveable

Yes

total surface

80 sq

No. of Feed pumps

2

diameter of ditto

3 3/4

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

diameter of ditto

3 3/4

Stroke

24

Can one be overhauled while the other is at work

Yes

Where do they pump from

Eng. Room (P. C. S.) holds. of well

No. of Donkey Engines

Two

Size of Pumps

14 x 8 x 4 x 8

Where do they pump from

Bunks, sea, holdwell,

engine room (p. c. s.) holds. of well

Are all the bilge suction pipes fitted with roses

Yes

Are the roses always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

aff

No. of bilge injections

1

and sizes

4

Are they connected to condenser, or to circulating pump

Yes

How are the pumps worked

by lever over condenser from main engine

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 accessible at all times

Yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges

Yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

new vessel

Is the screw shaft tunnel watertight

Yes

and fitted with a sluice door

Yes

worked from

top platform

BOILERS, &c.—

Number of Boilers

Three

Description

of double ended

Whether Steel or Iron

Steel

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

Dec 6 1889 to 31 1892

Description of superheating apparatus or steam chest

none

Can each boiler be worked separately

Yes

Can the superheater be shut off and the boiler worked separately

Yes

No. of square feet of fire grate surface in each boiler

70

Description of safety valves

opening

No. to each boiler

two

Area of each valve

8.30

Are they fitted with easing gear

Yes

No. of safety valves to superheater

Yes

area of each valve

Yes

Are they fitted with easing gear

Yes

Smallest distance between boilers and bunkers or woodwork

36

Diameter of boilers

12.0

Length of boilers

15.3

description of riveting of shell long. seams

Butt joint

circum. seams

dl

Thickness of shell plates

1 1/2

Diameter of rivet holes

13/16 x 1/4

whether punched or drilled

dl

pitch of rivets

8 3/8

Lap of plating

1 1/2 x 2 1/2

Per centage of strength of longitudinal joint

84.2

working pressure of shell by rules

170

size of manholes in shell

16 x 12

Size of compensating rings

6 x 1 1/4

No. of Furnaces in each boiler

4

Outside diameter

39

length, top

Purmer

bottom

flue

thickness of plates

9/16

description of joint

Yes

if rings are fitted

Yes

Greatest length between rings

Yes

working pressure of furnace by the rules

179

combustion chamber plating, thickness, sides

9/16

back

Yes

top

4/6

Pitch of stays to ditto, sides

7 3/4

back

Yes

top

9 1/2

If stays are fitted with nuts or riveted heads

Yes

working pressure of plating by rules

162

Diameter of stays at smallest part

1 1/4

working pressure of ditto by rules

164

end plates in steam space, thickness

1 1/2

Pitch of stays to ditto

18 x 19

how stays are secured

dl

working pressure by rules

187

diameter of stays at smallest part

2 3/4

working pressure by rules

162

Greatest pitch of stays

Yes

working pressure by rules

Yes

Diameter of tubes

3 1/2

pitch of tubes

4 1/2

thickness of tube

Yes

plates, front

1 1/2

Diameter of Superheater or Steam chest

Yes

length

Yes

thickness of plates

Yes

description of longitudinal joint

Yes

diam. of rivet holes

Yes

Pitch of rivets

Yes

working pressure of shell by rules

Yes

diameter of flue

Yes

thickness of plates

Yes

If stiffened with rings

Yes

Distance between rings

Yes

working pressure by rules

Yes

end plates of superheater, or steam chest; thickness

Yes

how stayed

Yes

Superheater or steam chest; how connected to boiler

Yes

Yes

Yes

Yes

Yes

Yes

DONKEY BOILER— Description *Cyl. single ended*
 Made at *Stockton* by whom made *Rely Bros* when made *12/14/90* where fixed *on deck*
 Working pressure *100* tested by hydraulic pressure to *200* No. of Certificate *2020* fire grate area *20.25 sq* description of safety
 valves *Spring* No. of safety valves *Two* area of each *5.41 sq* if fitted with easing gear *Yes* if steam from main boilers can
 enter the donkey boiler *No* diameter of donkey boiler *8.0* length *8.0* description of riveting *d butt & 12*
 Thickness of shell plates *7/16* diameter of rivet holes *13/16* whether punched or drilled *d* pitch of rivets *3 1/2* lap of plating *5/16*
 per centage of strength of joint *76* thickness of *cover* plates *4/16* stayed by *1 7/8 stays 13" pitch*
 Diameter of furnace *top 2' 3 1/16 bottom 2' 3 1/16* length of furnace *5' 3 1/2* thickness of plates *7/16 & 1/2* description of joint *122 & 8*
 Thickness of furnace *cover* plates *9/16* stayed by *girders 9 1/2 pitch* working pressure of shell by rule
 Working pressure of furnace by rules *114* diameter of uptake *✓* thickness of plates *✓* thickness of water tubes

SPARE GEAR. State the articles supplied:— *3 crank shaft, propeller shaft & blades, Bottom end brasses, Air & oil pump rods, buckets, & head valves, Two c*
top, Bottom end bolts, 2 main bearing bolts, Set coupling
Set feed & bilge pump valves, Quantity bolts, nuts, & assorted iron

The foregoing is a correct description,

R. & M. RAWTHORN, LESLIE & CO., LIMITED,

Manufacturers of main Engines & Boilers.

H. Marshall

DIRECTOR

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel*
has been constructed under special survey the
materials and workmanship are sound and good
and renders the vessel eligible in our opinion to
have the notification **+ L.M.C. 2-90** *in the Register Book*

Heating Surface 6900 sq
Horse Power 40 H

It is submitted that this vessel is eligible
to have + L.M.C. 2-90 recorded *N.A.*
6.3-90

The amount of Entry Fee .. £ 3 *28/3/90* received by me,

Special *9.0.0* .. £ *40.0.0* ..

Donkey Boiler Fee .. £ *35.0.0* ..

Certificate (if required) .. £ *frank 22/4/1890*

To be sent as per margin.

(Travelling Expenses, if any, £ ..)

Committee's Minute

Machinery
Written.

FRIDAY 14 MARCH 1890

+ Lmb 2/90

John H. Schuler & Co
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register
 Foundation