

REPORT ON MACHINERY.

Port of *Newcastle-on-Tyne.*

Received at London Office

THUR. SEP 19 1901

No. in Survey held at *South Shields*
Reg. Book.Date, first Survey *Jan. 15. '01*Last Survey *Sept 14. 1901*(Number of Visits *45*)

on the

5/5 "Cayo Bonito"

Tons

Gross *3427*Net *2213*When built *1901*

Master

Sheehan

Built at

South Shields

By whom built

J. Readhead & Sons

Engines made at

South Shields

By whom made

J. Readhead & Sons

when made

1901

Boilers made at

South Shields

By whom made

J. Readhead & Sons

when made

1901

Registered Horse Power

Owners

C. Bigland & Co

Port belonging to

London

Nom. Horse Power as per Section 28

320

Is Refrigerating Machinery fitted

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

25" 42" 68"

Length of Stroke

45"

Revs. per minute

60

Dia. of Screw shaft

as per rule 12.5

Lgth. of stern bush

4'-2"

Dia. of Tunnel shaft

as per rule 11.3

Dia. of Crank shaft journals

as per rule 11.9

Dia. of Crank pin

12 1/2"

Size of Crank webs

15 1/2" x 8 1/2"

Dia. of thrust shaft under

collars 12 3/4

Dia. of screw

16-6"

Pitch of screw

16-6"

No. of blades

4

State whether moveable

no

Total surface

74.8 sq

No. of Feed pumps

2

Diameter of ditto

3 1/2"

Stroke

24"

Can one be overhauled while the other is at work

no

No. of Bilge pumps

2

Diameter of ditto

4 3/8"

Stroke

24"

Can one be overhauled while the other is at work

no

No. of Donkey Engines

2

Sizes of Pumps

6+4+6" + 10 1/2" x 9" x 13"

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

In Engine Room 3 1/2" dia.

In Engine Room

3 1/2" dia.

In Holds, &c.

Two in each hold 3 1/2" dia. run in

No. of bilge injections

1 size 5 1/2"

Connected

*condenser to circulating pump**no*

Is a separate donkey suction fitted in Engine room & size

no 3 1/2"

Are all the bilge suction pipes fitted with roses

no

Are the roses in Engine room always accessible

no

Are the sluices on Engine room bulkheads always accessible

no

Are all connections with the sea direct on the skin of the ship

no

Are they Valves or Cocks

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

no

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

no

Are the blow off cocks fitted with a spigot and brass covering plate

no

What 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

no

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

no

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

no

Is the screw shaft tunnel watertight

no

Is it fitted with a watertight door

no

worked from

upper Platform

BOILERS, &c.—

(Letter for record *no*)

Total Heating Surface of Boilers

4940 sq

Is forced draft fitted

no

No. and Description of Boilers

Two cylindrical single ended

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

11.7.01

Can each boiler be worked separately

no

Area of fire grate in each boiler

60.7 sq

No. and Description of safety valves to

each boiler 2 spring valves

Area of each valve

7.07 sq

Pressure to which they are adjusted

165 lbs

Are they fitted with easing gear

no

Smallest distance between boilers or uptakes and bunkers or woodwork

way of boiler

Mean dia. of boilers

16-5"

Length

10-4"

Material of shell plates

S

Thickness

1 3/8"

Range of tensile strength

28-32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

Lap joints

long. seams

A.B. knots

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9 1/2"

Lap of plates

no

width of butt straps

1-9"

Per centages of strength of longitudinal joint

84.8

Working pressure of shell by rules

189

Size of manhole in shell

12 x 16

Size of compensating ring

8 1/2" x 1 3/8"

No. and Description of Furnaces in each boiler

3 Diaphragms

Material

S

Outside diameter

48"

Length of plain part

top 12"

Thickness of plates

bottom 1 3/8"

Description of longitudinal joint

welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

170

Combustion chamber plates: Material

S

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Bottom

3/4"

Pitch of stays to ditto: Sides

8 1/2"

Back

9 x 8 1/2"

Top

8 x 9 1/2"

If stays are fitted with nuts or riveted heads

no

Working pressure by rules

175

Material of stays

Iron

Diameter at smallest part

1 5/8"

Area supported by each stay

77 sq

Working pressure by rules

194

End plates in steam space:

no

Material

S

Thickness

1 5/8"

Pitch of stays

19 1/2"

How are stays secured

A.B.W.

Working pressure by rules

no

Material of stays

S

Diameter at smallest part

7.24"

Area supported by each stay

380 sq

Working pressure by rules

190

Material of Front plates at bottom

S

Thickness

3/4"

Material of Lower back plate

S

Thickness

1 3/8"

Greatest pitch of stays

11 1/2"

Working pressure of plate by rules

172

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4"

Material of tube plates

S

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

10 3/4"

Pitch across wide water spaces

14"

Working pressures by rules

162

Girders to Chamber tops: Material

S

Depth and

no

thickness of girder at centre

8 1/2" x 1 1/2"

Length as per rule

29"

Working pressure by rules

160

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

✓

DONKEY BOILER—

No. *one* Description *Cylindrical single ended*
 Made at *St Shields* By whom made *J. Readhead & Sons* When made *7.3.01* Where fixed *Stothold*
 Working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* No. of Certificate *6029* Fire grate area *225* Description of safety valves *Spring*
 No. of safety valves *one* Area of each *12.5 sq* 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 *9' 0"* Length *9' 0"* Material of shell plates *S* Thickness *3/8"* Range of tensile strength *27-32* Descrip. of riveting long. seams *Lap double* Dia. of rivet holes *15/16"* Whether punched or drilled *Drilled* Pitch of rivets *3"*
 Lap of plating *4 1/2"* Per centage of strength of joint *69.5* Rivets *68.7* Thickness of shell *end* plates *3/4"* Radius of do. *✓* No. of Stays to do. *6, 18" x 16"*
 Dia. of stays. *1 1/8"* Diameter of furnace *top 34"* Bottom *✓* Length of furnace *5' 9"* Thickness of furnace plates *3/8" 1/2"* Description of joint *Lap single* Thickness of *C. Cham.* plates *1/2"* Stays by *1 1/8" stays 9" x 9" pitch* Working pressure of shell by rules *82*
 Working pressure of furnace by rules *129* Diameter of *tube 3 1/2"* Thickness of *tube* plates *3/4" 1/2"* Thickness of *stay* tubes *1/2"*

SPARE GEAR. State the articles supplied:— *One propeller & propeller shaft, two top end and two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts, one set fuel & high pump valves, assentor bolts & nuts, Iron of various sizes.*

The foregoing is a correct description,

John Readhead & Sons Manufacturer.

Dates of Survey while building { During progress of work in shops— *1901 Jan. 15, 16, 22, 25, 30 Feb. 15, 17, 20, 23, 26, 29, 30 Apr. 1, 2, 11, 12, 25, 29 May 2, 7, 15, 17, 22, June 12, 14, July 2, 11, 25, 31*
 { During erection on board vessel— *Aug. 10, 15, 19, 24, Sept. 1*
 Total No. of visits *45*

Is the approved plan of main boiler forwarded herewith *Yes*
 " " " 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 *✓*
 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 *Yes*

The Machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and under the vessel ship in my opinion to have record of 4-L.M.C. 9.01.

It is submitted that this vessel is eligible for THE RECORD. *+ LMC 9.01.*

C.M.
19.9.01

Rel

20.9.01

The amount of Entry Fee. . . £ *3* : : : When applied for, *18. SEP 1901*
 Special . . . £ *36* : : :
 Donkey Boiler Fee . . . £ : : : When received, *21.9.01*
 Travelling Expenses (if any) £ : : :

Committee's Minute

FRI. SEP 20 1901

Assigned

G. A. Saker
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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MACHINERY CERTIFICATE
 WRITTEN.

