

REPORT ON MACHINERY.

No. 41406

Port of Newcastle-on-Tyne

Received at London Office

SAIL 6 AUG 1904

No. in Survey held at
Reg. Book.

South Shields

Date, first Survey Feb. 18th 1904Last Survey July 26th 1904

1904

on the

S. S. ILWEN

Master

Built at

South Shields

By whom built

J. Readhead & Sons

Engines made at

South Shields

By whom made

J. Readhead & Sons

when made

1904

Boilers made at

South Shields

By whom made

J. Readhead & Sons

when made

1901

Registered Horse Power

Owners

W. & C. J. Jones

Port belonging to

Cardiff

Nom. Horse Power as per Section 28

329

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

No

ENGINES, &c.—

Description of Engines

Tri. Compound

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

25 X 42 X 68

Length of Stroke

45

Revs. per minute

60

Dia. of Screw shaft

as per rule

14.17

Material of

Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

No Liners

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

Length of stern bush

47"

Dia. of Tunnel shaft

as per rule

11.17

Dia. of Crank shaft journals

as per rule

12.62

Dia. of Crank pin

12 1/4

Size of Crank webs

17 X 8 1/2

Dia. of thrust shaft under

collars

12 3/4

Dia. of screw

16.6

Pitch of screw

17.9

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

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/8

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

13 1/2 X 9 X 13

7 1/2 X 9 X 6

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

In Engine Room

4 of 3 1/2"

2 centre

1 star 1 port

In Holds, &c.

Fore hold

two of 3 1/2"

Main

two of 3 1/2"

No. 1 After hold

No. of bilge injections

1

sizes

5 1/2

Connected to condenser, or to circulating pump

Pump

Is a separate donkey suction fitted in Engine room & 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

Yes

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

Yes

Are they Valves or Cocks

Valves

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

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

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

New Vessel

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Engine room grating

5240 sq

BOILERS, &c.—

(Letter for record

2)

Total Heating Surface of Boilers

5239.5 sq

Is forced draft fitted

No

No. and Description of Boilers

3 Single Ended Multitubular

Working Pressure

160

Tested by hydraulic pressure to

320

Date of test

4-6-04

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

50 sq

No. and Description of safety valves to

each boiler

2 Spring Loaded

Area of each valve

7.06 sq

Pressure to which they are adjusted

165 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers on uptakes and bunkers on woodwork

24"

Mean dia. of boilers

13.6

Length

10.6

Material of shell plates

Steel

Thickness

1 1/16

Range of tensile strength

27/32

Are they welded or flanged

No

Descrip. of riveting: cir. seams

D. R. Lap

long. seams

T. R. D. B. S.

Diameter of rivet holes in long. seams

1 1/4

Pitch of rivets

8"

Lap of plates or width of butt straps

19 1/2"

Per centages of strength of longitudinal joint

rivets

84.375

Working pressure of shell by rules

164

Size of manhole in shell

12 X 16"

Size of compensating ring

6" X 1 1/4

No. and Description of Furnaces in each boiler

3

Material

Steel

Outside diameter

3.6"

Length of plain part

top

bottom

Thickness of plates

crown

15/32

Description of longitudinal joint

Welded

No. of strengthening rings

—

Working pressure of furnace by the rules

164

Combustion chamber plates: Material

Steel

Thickness: Sides

5/8

Back

5/8

Top

5/8

Bottom

Pitch of stays to ditto: Sides

9 X 9 1/4

Back

8 1/2 X 9

Top

8 X 9 1/4

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

162

Material of stays

Iron

Diameter at smallest part

1.99

Area supported by each stay

83 sq

Working pressure by rules

180 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/4

Pitch of stays

2/12 1/2

How are stays secured

D. N. & washers

Working pressure by rules

163

Material of stays

Steel

Diameter at smallest part

7.24

Area supported by each stay

451.5 sq

Working pressure by rules

160

Material of Front plates at bottom

Steel

with doubler

233

Thickness

3/4

Material of Lower back plate

Steel

Thickness

1 1/16

Greatest pitch of stays

14 X 8 1/2

Working pressure of plate by rules

233

Diameter of tubes

3 1/2

Pitch of tubes

4 3/4 X 4 5/8

Material of tube plates

Steel

Thickness: Front

3/4

Back

3/4

Mean pitch of stays

9 1/2

Pitch across wide water spaces

14"

Working pressures by rules

182 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 X 1 1/2

Length as per rule

2.5 1/2

Distance apart

Working pressure by rules

183

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

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

DONKEY BOILER—

No. Description
 Made at By whom made When made Where fixed
 Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves
 No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear If steam from main boilers can enter the donkey boiler
 Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength
 Descrip. of riveting long. seams Dia. of rivet holes Whether punched or drilled Pitch of rivets
 Lap of plating Per centage of strength of joint Rivets Plates Thickness of shell crown plates Radius of do. No. of Stays to do.
 Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint
 Thickness of furnace crown plates Stayed by Working pressure of shell by rules
 Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— 1 Spare propeller shaft, 1 set top end, 1 set bottom end, 1 set main bearing, 1 set coupling bolts + nuts
 1 set air, fire, feed + bilge pump valves, piston bolts, iron + bolts as sent

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops -
 During erection on board vessel -
 Total No. of visits

25
 1st visit 2nd visit 3rd visit 4th visit 5th visit 6th visit 7th visit 8th visit 9th visit 10th visit 11th visit 12th visit 13th visit 14th visit 15th visit 16th visit 17th visit 18th visit 19th visit 20th visit 21st visit 22nd visit 23rd visit 24th visit 25th visit

Is the approved plan of main boiler forwarded herewith Yes

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

The machinery of this vessel has been built under special Survey & in my opinion is eligible for record L.M.C. 7.04

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 7.04

Bab
 9.8.04

The amount of Entry Fee. £ 3 : : : When applied for, AUG 1904
 Special .. £ 36 : 9 : : :
 Donkey Boiler Fee .. £ : : : : When received, 101 87 04
 Travelling Expenses (if any) £ : : : :
 Committee's Minute TUES. 9 AUG 1904
 Assigned + L.M.C. 7.04

C. A. Dryden Jones
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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