

REPORT ON MACHINERY

146

THURS NOV 11

Received at London Office

No. 146 B

No. in Survey held at

Thorskog

Date, first Survey

6 June 1883

Last Survey

October 1886

Reg. Book.

(Number of Visits)

on the

S.S. Solon

Tons 408/302

Master J. A. Samuelson

Built at

Thorskog

By whom built

P. Larsson

When built

1886

Engines made at

J. & C. Bolinders

By whom made

Stockholm

when made

1886

Boilers made at

Thorskog

By whom made

P. Larsson

when made

1886

Registered Horse Power

60

Owners

P. Larsson

Port belonging to

Thorskog

ENGINES, &c.—

Description of Engines

Vertical Compound Inverted

Diameter of Cylinders

16 1/2 x 3 1/4

Length of Stroke

20 1/2

No. of Rev. per minute

Point of Cut off, High Pressure 0.5

Low Pressure 0.5

Diameter of Screw shaft

6 1/4

Diam. of Tunnel shaft

6

Diam. of Crank shaft journals

6 1/4

Diam. of Crank pin

6 1/4

size of Crank webs

7 1/2 x 4 1/2

Diameter of screw

8'

Pitch of screw

11'

No. of blades

4

state whether moveable

No

total surface

20 sq'

No. of Feed pumps

1

diameter of ditto

2 3/4

Stroke

10 1/4

Can one be overhauled while the other is at work

—

No. of Bilge pumps

1

diameter of ditto

2 3/4

Stroke

10 1/4

Can one be overhauled while the other is at work

—

Where do they pump from

Engine room and hold bilges

No. of Donkey Engines

1 double acting

Size of Pumps

2 1/2" dia

Stroke

6" stroke

Where do they pump from

from sea and air compartment

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

Yes

No. of bilge injections

1

and sizes

3"

Are they connected to condenser, or to circulating pump

to circulating pumps

How are the pumps worked

by level from the main engines crosshead

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

Yes

Are they Valves or Cocks

Valves and Cocks

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 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

October 1886

Is the screw shaft tunnel watertight

Yes

and fitted with a sluice door

Yes

worked from

Raised Quarter Deck

BOILERS, &c.—

Number of Boilers

One

Description

Horizontal Multi-tubular

Whether Steel or Iron

Steel

Working Pressure

80 lbs per sq in

Tested by hydraulic pressure to

160 lbs per sq in

Date of test

23 October 1883

Description of superheating apparatus or steam chest

Vertical Cylindrical

Can each boiler be worked separately

—

Can the superheater be shut off and the boiler worked separately

—

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

26.4

Description of safety valves

Adams Spring Safety

No. to each boiler

two

Area of each valve

7.0 sq in

Are they fitted with easing gear

Yes

No. of safety valves to superheater

—

area of each valve

—

Are they fitted with easing gear

—

Smallest distance between boilers and bunkers or woodwork

2'

Diameter of boilers

10'-1"

Length of boilers

8'-8"

description of riveting of shell long. seams

double butt strap circum. seams

double lap

Thickness of shell plates

5/8"

Diameter of rivet holes

7/8"

whether punched or drilled

drilled

pitch of rivets

3 1/2"

Lap of plating

4 1/4"

Per centage of strength of longitudinal joint

75%

working pressure of shell by rules

96 lbs

size of manholes in shell

16" x 11"

Size of compensating rings

3 1/2" x 3/8"

No. of Furnaces in each boiler

2

Outside diameter

34

length, top

6'-7"

bottom

8'-2"

thickness of plates

1/2"

description of joint

Single Lap

if rings are fitted

Yes

Greatest length between rings

4'

working pressure of furnace by the rules

165 lbs

combustion chamber plating, thickness, sides

1 1/2"

back

1 1/2"

top

1/2"

Pitch of stays to ditto, sides

7 1/2"

back

7 1/2"

top

If stays are fitted with nuts or riveted heads

riveted heads

working pressure of plating by

rules

Pitch of stays to ditto

15 1/2" x 15"

how stays are secured

to stay plates with screw bolts

working pressure by rules

100 lbs

diameter of stays at

smallest part

Greatest pitch of stays

7 1/2"

working pressure by rules

105 lbs

Diameter of tubes

3"

pitch of tubes

4 1/4"

thickness of tube

—

plates, front

3/4"

back

3/4"

how stayed

Stay hole

pitch of stays

15" x 9"

width of water spaces

7 1/4"

Diameter of Superheater or Steam chest

36"

length

3'

thickness of plates

1/16"

description of longitudinal joint

Simple Lap

diam. of rivet holes

7/8"

Pitch of rivets

2 3/4"

working pressure of shell by rules

146

diameter of flue

—

thickness of plates

—

If stiffened with rings

—

Distance between rings

—

working pressure by rules

—

end plates of superheater, or steam chest; thickness

9/16"

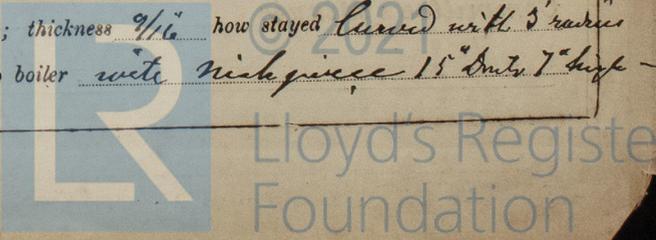
how stayed

curved with 3' radius

Superheater or steam chest; how connected to boiler

with neck piece 15" dia 7" high

3/4" plate



DONKEY BOILER— Description *Vertical Cylindrical*
 Made at *Sateshead* by whom made *Clarke Chapman & Co^s* when made _____ where fixed *Engine Room*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *N^o 2012* fire grate area _____ description of safety
 valves _____ No. of safety valves _____ area of each _____ if fitted with easing gear _____ if steam from main boilers can
 enter the donkey boiler _____ diameter of donkey boiler _____ length _____ description of riveting _____
 Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
 per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
 Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of 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 plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *2 Connecting rod top end and 2 bottom end bolts, 2 Main-bearing bolts, 1 Set coupling bolts, 1 Set feed and bridge pump valves, a quantity of assorted bolts and nuts, iron of various sizes*

The foregoing is a correct description,

 Manufacturer.

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

*The Machinery is of a good construction. The Material and Workmanship is of good quality.
 The steel used in the boiler is tested at Glasgow by the Lloyds Surveyors in accordance with their Report N^o 2913
 The Engine and boiler is examined by me at various times from the commencement of the work until the final test under steam and found to be in good order and safe working condition and in my opinion merit the favorable consideration of the Committee
 To be notified in the Register Book L.M.C.*

*Submitted that the vessel is eligible to have L.M.C. 10.86
 M
 11.11.86*

The amount of Entry Fee .. £ 1 : : received by me,
 Special .. £ 9 : :
 Donkey Boiler Fee .. £ : :
 Certificate (if required) .. £ : 2 : 6 Nov 1886
To be sent 2s per margin.

(Travelling Expenses, if any, £ _____)

C. J. Waller
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRIDAY NOV 12 1886**

L. M. C.
 add to _____



BGN1106/55