

REPORT ON MACHINERY. 3543

Port of Glasgow.

Received at London Office.

9 APR 89

3543
2095

Survey held at

Glasgow.

Date, first Survey

21st March 1888

Last Survey

2nd April 1889.

(Number of Visits 65)

on the

S. S. Star of England

Tons

Simpson

Built at Belfast

By whom built Workman, Clark

When built 1889.

made at Glasgow.

By whom made John & James Thomson

when made 1889.

made at Glasgow.

By whom made John & James Thomson

when made 1889.

rated Horse Power 400

Owners J. P. Gorry & Coy

Port belonging to Belfast.

ENGINES, &c.—

Kind of Engines

Triple Expansion (three cranks).

Number of Cylinders

26 $\frac{1}{2}$, 44 & 72

Length of Stroke

48"

No. of Rev. per minute

Point of Cut off, High Pressure

Var

Low Pressure

Var

Number of Screw shaft

13 $\frac{5}{8}$ "

Diam. of Tunnel shaft

13"

Diam. of Crank shaft journals

13 $\frac{3}{4}$ "

Diam. of Crank pin

13 $\frac{3}{4}$ "

size of Crank webs

built

Number of screw

17'-6"

Pitch of screw

20'-0"

No. of blades

4

state whether moveable

Yes

total surface

88 sq ft

Feed pumps

2.

diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

yes

Bilge pumps

2.

diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

yes.

Do they pump from

All compartments—

Donkey Engines

3

Size of Pumps

Weirs 8" x 6" x 18"

Where do they pump from

Hatwell, sea.

Are bilges

"

"

Ballast. 10" x 7" x 12"

Are the bilge suction pipes fitted with roses

yes

Are the roses always accessible

yes

Are the sluices on Engine room bulkheads always accessible

yes.

Are bilge injections

one

and sizes

4"

Are they connected to condenser, or to circulating pump

yes

Are the pumps worked

by levers

Are 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

below

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 pipes carried through the bunkers

bilge suction

How are they protected

wood flooring

Are pipes, cocks, valves, and pumps in connection with the machinery accessible at all times

yes

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

yes

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

see Belfast Report No 3535 attached

Is screw shaft tunnel watertight

yes

and fitted with a sluice door

yes

worked from

upper platform.

BOILERS, &c.—

Number of Boilers

Two.

Description

Multitubular

Whether Steel or Iron

Steel

Working Pressure

160 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

19th February 1889.

Kind 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

—

Number of square feet of fire grate surface in each boiler

95.

Description of safety valves

Direct Spring

No. to each boiler

2.

Area of each valve

11.04

Are they fitted with casing gear

yes

No. of safety valves to superheater

—

area of each valve

—

Are they fitted with casing gear

—

Smallest distance between boilers and bunkers

on woodwork

12"

Diameter of boilers

13'-3"

Number of boilers

17'-3"

description of riveting of shell long seams

d. butt str.

circum. seams

Lap treble

Thickness of shell plates

1 $\frac{3}{16}$ "

Diameter of rivet holes

1 $\frac{3}{16}$ "

whether punched or drilled

drilled

pitch of rivets

2 $\frac{7}{8}$ " & 3 $\frac{15}{16}$ "

Lap of plating

18" butt str.

Percentage of strength of longitudinal joint

84.9%

working pressure of shell by rules

160 lbs.

size of manholes in shell

12" x 16"

Number of compensating rings

McNeil's patent ring & doors

No. of Furnaces in each boiler

6.

Diameter of rings

38 $\frac{5}{16}$ "

length, top

6-10 $\frac{1}{2}$ "

bottom

through

thickness of plates

1 $\frac{7}{32}$ "

description of joint

Purvis Patent

rings are fitted

—

Least length between rings

—

working pressure of furnace by the rules

165 lbs

combustion chamber plating, thickness, sides

9 $\frac{1}{16}$ "

back

—

top

9 $\frac{1}{16}$ "

Number of stays to ditto, sides

7 $\frac{1}{2}$ " x 7 $\frac{1}{2}$ "

back

—

top

7 $\frac{1}{2}$ " x 7 $\frac{1}{2}$ "

If stays are fitted with nuts or riveted heads

Nuts inside

working pressure of plating by

rules

160 lbs

end plates in steam space, thickness

1 $\frac{3}{16}$ " & straps

area

—

Number of stays to ditto

15 $\frac{1}{2}$ " x 15 $\frac{1}{2}$ "

how stays are secured

d. nuts.

working pressure by rules

160 lbs

diameter of stays at

—

smallest part

4.56"

working pressure by rules

160 lbs.

Front plates at bottom, thickness

1 $\frac{3}{16}$ "

Back plates, thickness

1 $\frac{3}{16}$ "

Least pitch of stays

—

working pressure by rules

—

Diameter of tubes

3 $\frac{1}{2}$ "

pitch of tubes

5" x 4 $\frac{7}{8}$ "

thickness of tube

—

Number of stays, front

15 $\frac{1}{16}$ "

back

15 $\frac{1}{16}$ "

how stayed

stubs

pitch of stays

10" x 9 $\frac{3}{4}$ "

width of water spaces

7"

Number of Superheater or Steam chest

—

length

—

thickness of plates

—

description of longitudinal joint

—

diam. of rivet holes

—

Number of rivets

DONKEY BOILER— Description *Multitubular*
 Made at *Glasgow* by whom made *John & James Thomson* when made *1889* where fixed on *24*
 Working pressure *90 lbs* tested by hydraulic pressure to *180 lbs* No. of Certificate *2224* fire grate area *24 sq ft*
 valves *direct spring* No. of safety valves *2* area of each *7"* if fitted with easing gear *yes* if steam from
 enter the donkey boiler *no.* diameter of donkey boiler *8'-6"* length *8'-3"* description of riveting *lap*
 Thickness of shell plates *1 1/16"* diameter of rivet holes *15/16"* whether punched or drilled *drilled* pitch of rivets *3 3/4"* lap of
 per centage of strength of joint *75%* thickness of ^{end} crown plates *1/16"* stayed by *1 3/8" steel stays 14" x 14"*
 Diameter of furnace, top *32"* bottom *—* length of furnace *5'-9"* thickness of plates *8/16"* description of joint *lap*
 Thickness of furnace crown plates *—* stayed by *—* working pressure of shell by *120 lbs*
 Working pressure of furnace by rules *98 lbs* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *Two propeller blades. Air circulating pump rods. Top and bottom end bolts & brasses. Coupling bolts, Main bearing bolts. Feed and bilge pump valves. Two valve spindles. Safety valve springs. Bolts, nuts & iron work.*
 The foregoing is a correct description,
John & James Thomson Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c.) *The above mentioned engines and boilers are now completed on board in a satisfactory manner, of good workmanship and material. This machinery is now in opinion in good working order and eligible to be noted in the Society's Register: T.L.M.C. 4.*

It is submitted that this vessel is eligible to have T.L.M.C. 4. 19 recorded. n.a. 9-4-89

LOAN

The amount of Entry Fee .. £ *3* : : received by me,
 Special *M.M.* £ *40* : :
 Donkey Boiler Fee .. £ : :
 Certificate (if required) .. £ : : *28/3/1889*
 To be sent as per margin.
 (Travelling Expenses, if any, £)

James Morrison
John Sanderson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 Clyde District.

Committee's Minute **FRIDAY 12 APRIL 1889**
+ L.M.C. 4/89

