

# REPORT ON MACHINERY. 3543

Port of *Glasgow.*

Received at London Office. **3 APR 89**

Date, first Survey *21<sup>st</sup> March 1888* Last Survey *2<sup>nd</sup> April 1889.*  
(Number of Visits *65*)

Survey held at *Glasgow.*

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.*

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red Horse Power *400* Owners *J. P. Gorry & Co* Port belonging to *Belfast.*

NES, &c.—

tion of Engines *Triple Expansion (three cranks).*

r of Cylinders *26 $\frac{1}{2}$ , 44 $\frac{1}{2}$  & 72* Length of Stroke *48"* No. of Rev. per minute \_\_\_\_\_ Point of Cut off, High Pressure *Var* Low Pressure *Var*

r 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*

r of screw *17'-6"* Pitch of screw *20'-0"* No. of blades *4* state whether moveable *yes*, total surface *88 $\frac{1}{2}$  ft<sup>2</sup>*

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 *Hotwell, sea.*

*for bilges.* " " *Ballast 10" x 7" x 12"*

the bilge suction pipes fitted with roses *yes* Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes.*

bilge injections *one* and sizes *4"* Are they connected to condenser, or to circulating pump *yes*

re the pumps worked *by levers*

connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*

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*

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*

pipes are carried through the bunkers *bilge suction* How are they protected *wood flooring*

l pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*

e 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*

screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *upper platform.*

ERS, &c.—

r of Boilers *Iron.* Description *Multitubular* Whether Steel or Iron *Steel*

ng Pressure *160 lbs.* Tested by hydraulic pressure to *320 lbs.* Date of test *19<sup>th</sup> February 1889.*

tion of superheating apparatus or steam chest *none*

each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *—*

square feet of fire grate surface in each boiler *95.* Description of safety valves *Direct Spring* No. to each boiler *2.*

of each valve *11-04* Are they fitted with easing gear *yes* No. of safety valves to superheater *—* area of each valve *—*

ey fitted with easing gear *—* Smallest distance between boilers and bunkers *on woodwork 12"* Diameter of boilers *13'-3"*

of boilers *17'-3"* description of riveting of shell long. seams *d. butt str.* circum. seams *lap tubular* Thickness of shell plates *1 $\frac{3}{16}$ "*

ter of rivet holes *1 $\frac{3}{16}$ "* whether punched or drilled *drilled* pitch of rivets *2 $\frac{1}{8}$ " & 3 $\frac{1}{16}$ "* Lap of plating *18" butt str.*

stage of strength of longitudinal joint *84.9%* working pressure of shell by rules *160 lbs.* size of manholes in shell *12" x 16"*

f compensating rings *McNeil's patent ring & doors* No. of Furnaces in each boiler *6.*

e diameter *38 $\frac{5}{16}$ "* length, top *6'-10 $\frac{1}{2}$ "* bottom *through* thickness of plates *1 $\frac{1}{32}$ "* description of joint *Purvis' Patent* rings are fitted *—*

st length between rings *—* working pressure of furnace by the rules *165 lbs* combustion chamber plating, thickness, sides *9 $\frac{1}{16}$ "* back *—* top *9 $\frac{1}{16}$ "*

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

les *160 lbs.* Diameter of stays at smallest part *1 $\frac{3}{8}$ "* stays working pressure of ditto by rules *160 lbs* end plates in steam space, thickness *1 $\frac{1}{16}$ "* & straps

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

allest part *4.56"* working pressure by rules *160 lbs.* Front plates at bottom, thickness *1 $\frac{1}{16}$ "* Back plates, thickness *1 $\frac{1}{16}$ "*

est 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

ates, front *1 $\frac{1}{16}$ "* back *1 $\frac{1}{16}$ "* how stayed *stubs* pitch of stays *10" x 9 $\frac{1}{4}$ "* width of water spaces *7"*

ter of Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*

of rivets *—* working pressure of shell by rules *—* diameter of flue *—* thickness of plates *—* If stiffened with rings *—*

ce between rings *—* working pressure by rules *—* end plates of superheater, or steam chest; thickness *—* how stayed *—*

Superheater or steam chest; how connected to boiler *—*

## DONKEY BOILER—

Description

Multitubular

Made at Glasgow

by whom made

John &amp; James Thomson

when made

1889.

where fixed on

the ship

Working pressure 90 lbs

tested by hydraulic pressure to

180 lbs.

No. of Certificate

2224.

fire grate area

24 sq ft

description

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

1 5/16"

whether punched or drilled

drilled

pitch of rivets

3 3/4"

lap of

percentage of strength of joint

75%

thickness of

crown plates

1 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

1 1/16"

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 &amp; brasses. Coupling bolts, Main

bearing bolts. Feed and bilge pump valves. Two

valve spindles. Safety valve springs. Bolts, nuts &amp; iron

The foregoing is a correct description,

John &amp; James Thomson Manufacturers

## General Remarks

(State quality of workmanship, opinions as to class, &amp;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. recorded. W.A. 9-4-89

The amount of Entry Fee .. £ 3 : - : - received by me,

Special

£ 40 : - : -

Donkey Boiler Fee .. £ - : - : -

Certificate (if required) .. £ - : - : -

To be sent as per margin.

(Travelling Expenses, if any, £ )

Committee's Minute

FRIDAY 12 APRIL 1889

+ Lmle 4/89

James Morrison

John Sanderson

Engineer Surveyor to Lloyd's Register of British &amp; Foreign Shipping.

Clyde District.