

REPORT ON MACHINERY.

No. 10440

Port of Glasgow

Received at London Office

THUR. 25 JUN 1891

No. in Survey held at Glasgow

Date, first Survey 10th Jan 1890

Last Survey 16th June 1891

Reg. Book.

534 on the

S. S. City of Agre

(Number of Visits 91)

Tons

When built 1879.

Master

Built at Glasgow

By whom built

B. Connell & Co

Engines made at Glasgow

By whom made

John & James Thomson

when made 1891.

s made at Glasgow

By whom made

John & James Thomson

when made 1891.

Registered Horse Power 375.

Owners

George Smith & Sons

Port belonging to

Glasgow

ENGINES, &c.

Description of Engines

Triple Expansion

No. of Cylinders

Three

Diam. of Cylinders

20 1/2, 44 1/2 & 72"

Length of Stroke

48

Rev. per minute

70

Point of Cut off, High Pressure

Var

Low Pressure

Var

Diameter of Screw shaft

15 3/8

Diam. of Tunnel shaft

14 1/2

Diam. of Crank shaft journals

13 1/2

Diam. of Crank pin

13 1/2

size of Crank webs

built

Diameter of screw

14'-0"

Pitch of screw

19'-0"

No. of blades

4

state whether moveable

yes

total surface

74 sq ft

No. of Feed pumps

Two

diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

Two

diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

yes

Where do they pump from

All Compartments

No. of Donkey Engines

Two

Size of Pumps

Old donkey & new pumps

Where do they pump from

Sea, tank, hotwell

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

One

and sizes

4"

Are they connected to condenser, or to circulating pump

yes

How are the pumps worked

by hand

Are all 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

about

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

by

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

yes

May 1891

Is the screw shaft tunnel watertight

yes

and fitted with a sluice door

yes

worked from

upper platform

BOILERS, &c.

No. of Boilers

Two

Description

Howden's Forced Draught Current

Material

Steel

Letter (for record)

S.

Working Pressure

160 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

11th December 1890.

Description 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

yes

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

52.5

Description of safety valves

d. Spring

No. to each boiler

two

Area of each valve

9.62

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

no side bunk.

Diameter of boilers

14'-6"

Length of boilers

11'-6"

description of riveting of shell long. seams

d. butt str.

circum. seams

lap

Thickness of shell plates

1 7/16

Diameter of rivet holes

1 7/16

whether punched or drilled

drilled

pitch of rivets

8 1/2 & 4 1/2"

Lap of plating

19 1/2" butt 6 1/2"

Per centage of strength of longitudinal joint

84.5%

working pressure of shell by rules

160 lbs.

size of manholes in shell

12" x 16"

Size of compensating rings

3" x 1 1/2" x 1 1/2"

No. of Furnaces in each boiler

Three

Description of Furnaces

plain with flanges

if rings are fitted

yes

Outside diameter

43 3/8"

length

7'-9"

thickness of plates

9/16

description of joint

welded

if rings are fitted

yes

Greatest length between rings

18"

working pressure of furnace by the rules

162 lbs.

combustion chamber plating, thickness, sides

9/16

back

9/16

top

9/16

Pitch of stays to ditto, sides

4 1/2"

back

4 1/2"

top

If stays are fitted with nuts or riveted heads

yes

inside

working pressure of plating by

rules

172 lbs.

Diameter of stays at smallest part

1 3/8" x 1 1/2"

working pressure of ditto by rules

165 lbs.

and plates in steam space, thickness

1 1/4"

straps

—

—

—

Pitch of stays to ditto

15" x 14"

how stays are secured

d. nuts

working pressure by rules

160 lbs.

diameter of stays at

smallest part

2 7/8"

—

Greatest pitch of stays

—

working pressure by rules

—

Diameter of tubes

2 1/2"

pitch of tubes

3 3/4"

thickness of tube

—

plates, front

7/8"

back

7/8"

how stayed

stubs

pitch of stays

7 1/2"

width of water spaces

7"

Diameter of Superheater or Steam chest

—

length

—

thickness of plates

—

description of longitudinal joint

—

diam. of rivet holes

—

Pitch of rivets

—

working pressure of shell by rules

—

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

—

10770 gls
DONKEY BOILER— Description *Multitubular*
 Made at *Glasgow* by whom made *John & James Thomson* when made *1891* where fixed *deckhouse*
 Working pressure *80 lbs* tested by hydraulic pressure to *140 lbs*. No. of Certificate *2885* fire grate area *25 ft²* description of safety
 valves *direct spring* No. of safety valves *two* area of each *5.9* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *no* diameter of donkey boiler *8'-6"* length *8'-3"* description of riveting *double lap*
 Thickness of shell plates *1/16"* diameter of rivet holes *7/8"* whether punched or drilled *drilled* pitch of rivets *3 3/4"* lap of plating *5 3/4"*
 percentage of strength of joint *76.7* thickness of *end* plates *1/16"* stayed by *1 3/4" stays* *14" x 1 3/4" pitch*
 Diameter of furnace, top *33"* bottom *—* length of furnace *5'-9"* thickness of plates *1/2"* description of joint *lap*
 Thickness of furnace crown plates *1/2" x 9/16"* stayed by *seven stays* working pressure of shell by rules *117 lbs*
 Working pressure of furnace by rules *115 lbs* diameter of *uptake* tubes *3 1/2"* thickness of plates *1/16" x 7/8"* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *Top and bottom end branes & bolts—*
Main bearing & coupling bolts. Feed & bilge pump valves
propeller blades & bolts— Old spare propeller shaft.—

The foregoing is a correct description,
John & James Thomson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The above mentioned*
engines and boilers have been built under
special survey and are of good workmanship
and material. The machinery has been properly
fitted onboard the vessel and the engines have been
coupled up to old shafting. The safety valves have
been adjusted under steam to working pressures
A full speed trial has been made by the
machinery with satisfactory results.—
The vessel's machinery is now in my opinion
eligible to the notation: + L.M.C. 6. 91. —
N.E. & B. 91. —

It is submitted that this vessel is eligible
to have + L.M.C. 6. 91 and + N.E. & B. 91
recorded. N.A.
25-6-91

The amount of Entry Fee . . . £ . . . received by me,

Special . . . £ *30* . . .

Donkey Boiler Fee . . . £ . . .

Certificate (if required) . . . £ . . . *16/6 1891*

To be sent as per margin.

(Travelling Expenses, if any, £ . . .)

Committee's Minute

FRI 10 JUL FRI 15 JAN 1892

+ L.M.C. 6. 91 + N.E. & B. 91

John Anderson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI 22 JAN 1892

Glasgow.