

REPORT ON MACHINERY.

3741

130 3741

No. 10044

Port of Glasgow

Received at London Office 23 AUGUST 1890

No. in Survey held at Glasgow

Date, first Survey 4th May Last Survey 18th Aug 1890

eg. Book.

(Number of Visits 19)

on the

S. S. City of Dundee

Tons { Gross
Not

ster

Built at Belfast

By whom built

Horkman, Clark & Co When built 1890.

engines made at

Glasgow

By whom made

James Howden & Co

when made 1890.

boilers made at

Glasgow

By whom made

James Howden & Co

when made 1890.

Registered Horse Power

350

Owners

George Smith & Son

Port belonging to Glasgow.

GINES, &c.—

Description of Engines

Triple Expansion

No. of Cylinders Three

Diam. of Cylinders

25" 42" + 68 1/2"

Length of Stroke

48"

Rev. per minute

Point of Cut off, High Pressure var Low Pressure var

Diameter of Screw shaft

14"

Diam. of Tunnel shaft

13"

Diam. of Crank shaft journals

13 1/2"

Diam. of Crank pin

13 1/2"

size of Crank webs built

Diameter of screw

17" 0"

Pitch of screw

17" 0" to 18" 0"

No. of blades

4

state whether moveable yes total surface 75 sq. ft.

No. of Feed pumps

Two

diameter of ditto

3"

Stroke

24"

Can one be overhauled while the other is at work yes

No. of Bilge pumps

Two

diameter of ditto

4 1/2"

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

Wine pumps

Where do they pump from

Outside, Sea

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

5 1/4"

Are they connected to condenser, or to circulating pump yes

How are the pumps worked

by levers

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 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 —

How are pipes 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

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

See Belfast Report attached

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

Howdens forced draught arrangement

Material

Steel

Letter (for record) S.

Working Pressure 160 lbs.

Tested by hydraulic pressure to 320 lbs.

Date of test 21st May 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 —

Area of square feet of fire grate surface in each boiler 42

Description of safety valves

direct spring

No. to each boiler two

Area of each valve 9.6

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 15"

Diameter of boilers 14' 3"

Length of boilers 11' 6"

Description of riveting of shell long. seams d. butt str.

circum. seams lap

Thickness of shell plates 1 9/32

Diameter of rivet holes 1 9/32

whether punched or drilled drilled

pitch of rivets 8 1/2" x 4 1/2"

Lap of plating butt str.

Percentage of strength of longitudinal joint 85%

working pressure of shell by rules 161 lbs.

size of manholes in shell 12" x 16"

No. of compensating rings McNitts Ring

No. of Furnaces in each boiler 3

Description of Furnaces

plain with flanges

Inside diameter 43"

length 8' 9"

thickness of plates 9/16"

Description of joint

welded

if rings are fitted yes

Least length between rings 19"

working pressure of furnace by the rules 162 lbs.

combustion chamber plating, thickness, sides 9/16"

back 9/16"

top 9/16"

full 9/16"

No. of stays to ditto, sides 7 3/4"

back 7 3/4"

top 7 3/4"

If stays are fitted with nuts or riveted heads nuts

working pressure of plating by

Rules 162 lbs.

diameter of stays at smallest part 1 7/8" x 1 7/8"

working pressure of ditto by rules 160 lbs.

and plates in steam space, thickness 7/8" x 7/8" str.

No. of stays to ditto 15 1/2" x 15 1/2"

how stays are secured nuts

working pressure by rules 160 lbs.

diameter of stays at

Smallest part 2 7/8" bars

working pressure by rules 162 lbs.

Front plates at bottom, thickness 3/4"

Back plates, thickness 3/4"

Least pitch of stays 3/4"

working pressure by rules —

Diameter of tubes 2 1/2"

pitch of tubes 3 1/2" x 3 3/4"

thickness of tube

Diameter of Superheater or Steam chest —

length —

thickness of plates —

Description of longitudinal joint —

diam. of rivet holes —

No. 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 —

how stayed —

Superheater or steam chest; how connected to boiler —

Bel 57-0118

DONKEY BOILER— Description *Multitubular (steel)*
Made at *Glasgow* by whom made *James Howden & Co* when made *1890* where fixed *deck house*
Working pressure *70 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *2578* fire grate area *28 sq ft* description of safety
valves *d. spring* No. of safety valves *2* area of each *7* if fitted with easing gear *yes* if steam from main boilers can
enter the donkey boiler *no* diameter of donkey boiler *9' 9"* length *9' 9"* description of riveting *lap*
Thickness of shell plates *1/2 in* diameter of rivet holes *1 1/16* whether punched or drilled *drilled* pitch of rivets *2 5/8* lap of plating *4 1/2*
per centage of strength of joint *70%* thickness of ~~end~~ plates *5/8* stayed by *1 3/4" stays pitched 13 x 15"*
Diameter of furnace, top *34 1/2* bottom *—* length of furnace *6' 8 1/2"* thickness of plates *7/16* description of joint *butt.*
Thickness of ~~furnace crown~~ plates *7/16* stayed by *stayed stays* working pressure of shell by rules *70 lbs*
Working pressure of furnace by rules *101 lbs* diameter of ~~uptake~~ tubes *3 1/2* thickness of plates *5/8* thickness of water tubes *—*

SPARE GEAR. State the articles supplied: *One Set Connect Rod bushes (top & bottom)*
air pumps bucket rod also for circulating pumps set of valves for
all the pumps, 2 main bearing bolts, connect rod bolts, 8 coupling bolts, one
valve spindle assortment of springs & bottle nuts, and other gear
The foregoing is a correct description,
Manufacturer. *James Howden & Co*

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 now completed
onboard in a satisfactory manner.
The machinery is now in my
opinion eligible to the notation: + L.M.C.
8/90

It is submitted that this vessel is
eligible to have + L.M.C. 8-90 recorded
M.A.
23-8-90

The amount of Entry Fee .. £ 3 : 4 : 4 received by me,
Special .. £ 35 : 6 : 4
Donkey Boiler Fee .. £ .. : .. :
Certificate (if required) .. £ .. : .. : *22/8/1890*
To be sent as per margin.
(Travelling Expenses, if any, £ .. : .. :)

Committee's Minute *TUES 26 AUGUST 1890*

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

+ S.M.C. 8.90

Lloyd's Register
Glasgow
Foundation