

REPORT ON MACHINERY.

No. 5954

(Received at London Office 28th DEC. 82.

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey Oct 18. 81 Last Survey Dec 27. 1882

on the

S.S. City of Cambridge

Tons 3488

Master David Anderson

Built at

Belfast

When built

1881-82

Engines made at

Glasgow

By whom made

J & S Thomson

when made

1882

Boilers made at

do

By whom made

do

when made

1882

Registered Horse Power

650

Owners

G. Smith & Sons

Port belonging to

Glasgow

ENGINES, &c.—

Description of Engines

Compound inverted surface condensing

Diameter of Cylinders 50" & 96" Length of Stroke 60" No. of Rev. per minute 60 Point of Cut off, High Pressure 40" Low Pressure 40"

Diameter of Screw shaft 16 1/2" Diameter of Tunnel shaft 16" Diameter of Crank shaft journals 17 1/2" Diameter of Crank pin 17 1/2" size of Crank webs 16"

Diameter of screw 19" 0" Pitch of screw 24" 0" No. of blades 4 state whether moveable yes total surface 107 sq. ft.

No. of Feed pumps 2 diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 6" Stroke 30" Can one be overhauled while the other is at work yes

Where do they pump from Bilges of Engine Room and all Compartments of vessel

No. of Donkey Engines one Size of Pumps 5 1/2" x 16" Where do they pump from Sea. Hotwell.

And Bilges of Engine Room and all Compartments

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 6" Are they connected to condenser, or to circulating pump Circulating Pump

How are the pumps worked By Levers attached to Crosshead of After Engine

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Stop Valves & 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 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

What pipes are carried through the bunkers Iron & main Hot Water Section How are they protected Wood casing

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

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 Before Launching

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Top Platform

BOILERS, &c.—

Number of Boilers

3

Description

Horizontal Multitubular Circular Top & Bottom Flat Sided

Working Pressure

80 lb

Tested by hydraulic pressure to

160 lb

Date of test

22nd Sep. 1882

Description of superheating apparatus or steam chest

Vertical Tubes with Mch. Two on each Boiler

Can each boiler be worked separately

yes

Can the superheater be shut off and the boiler worked separately

No superheater

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

112 sq. ft.

Description of safety valves

Direct Spring

No. to each boiler

2

area of each valve

28.7 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

4 ft to Deck

Diameter of boilers

12' 3"

Length of boilers

18' 0"

description of riveting of shell long. seams

Double Butt.

circum. seams

Double Lap.

Thickness of shell plates

11/16"

diameter of rivet holes

15/16"

whether punched or drilled

drilled

pitch of rivets

3 1/2"

Lap of plating

10 1/2"

per centage of strength of longitudinal joint

4/3

working pressure of shell by rules

85 lb

Size of manholes in shell

15" x 12"

size of compensating rings

Angle Iron 3 x 3 x 1/2"

No. of Furnaces in each boiler

6

outside diameter

8' 4"

length, top

7' 0"

bottom

through

Thickness of plates

7/16"

description of joint

Corrugated

if rings are fitted

—

greatest length between rings

—

Working pressure of furnace by the rules

125 lb

Combustion chamber plating, thickness, sides

7/16" full

back

—

top

1/2"

Pitch of stays to ditto

sides

8 3/4" x 8 1/2"

back

—

top

8" x 9"

If stays are fitted with nuts or riveted heads

nut

working pressure of plating by rules

78 lb

Diameter of stays at smallest part

1 1/8"

working pressure of ditto by rules

80 lb

End plates in steam space, thickness

3/4"

pitch of stays to ditto

18" x 15"

how stays are secured

Nut & Air Washer

Working pressure by rules

80 lb

diameter of stays at smallest part

2 3/8"

working pressure by rules

98 lb

Front plates at bottom, thickness

11/16"

Back plates, thickness

—

greatest pitch of stays

—

working pressure by rules

—

Diameter of tubes pitch of tubes thickness of tube plates, front back
How stayed pitch of stays width of water spaces
Diameter of Superheater or Steam chest length
Thickness of plates description of longitudinal joint diameter 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 How stayed
Superheater or steam chest; how connected to boiler

DONKEY BOILER— Description
Made at By whom made when made
Where fixed working pressure Tested by hydraulic pressure to No. of Certificate
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

The foregoing is a correct description,

Manufacturer.

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

The stern tube and sea cocks have been examined by me while fitting and they together with the fastenings of the propeller were in good & satisfactory condition before launching. W. J. Orr.

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

Special *W. J. Orr* .. £ : : {

Certificate (if required) .. £ : : 18

To be sent as per margin.

(Travelling Expenses, if any, £ *3-3-0*) to be collected in Glasgow

Committee's Minute

sent 26/12/82. W. J. Orr
7 remitted to Harrow. Friday, 24th December, 1882.

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