

REPORT ON MACHINERY.

No. 5954

(Received at London Office 281) DEC 18 82.

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey Oct 18. 81 Last Survey Dec 27. 18 82

on the

S.S. "City of Cambridge"

Tons 3488
2473

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 14 1/2" Diameter of Crank pin 14 1/2" size of Crank webs brill

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 Hold suction 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 Hold

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 lbs Tested by hydraulic pressure to 160 lbs Date of test 22. Sep. 1882

Description of superheating apparatus or steam chest Vertical Tubes with nuts. 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 6 in

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 lbs

Size of manholes in shell 15" x 12" size of compensating rings Angle Iron 3 x 3 + 1/2"

No. of Furnaces in each boiler 6 outside diameter 3" 4" length, top 4' 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 lbs

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 lbs

Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 80

End plates in steam space, thickness 3/4" pitch of stays to ditto 18" x 15" how stays are secured Nut & Riv Washer

Working pressure by rules 80 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 98 lbs

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 stem 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. U. J. Orr.

The amount of Entry Fee .. £ : : received by me,
 Special *MS* .. £ : :
 Certificate (if required) .. £ : : 18
To be sent as per margin.

(Travelling Expenses, if any, £ 3-3-0) to be collected in Glasgow Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *sent 26/12/88*
7 remitted to Harrow
Friday, 23rd December, 1888.