

No. 15301

REPORT ON MACHINERY.

Port of Glasgow

Received at London Office THUR, 24th JUN 1897

Survey held at Glasgow (Renfrew) Date, first Survey 22nd April Last Survey 24th May 1894

(Number of Visits 4)

on the Watertube boiler for S. G. Anta

Tons ^{Gross}
 _{Net}

Built at _____ By whom built _____ When built _____

Engines made at Renfrew & Co. By whom made Babeona & Wilson when made 1897

Registered Horse Power _____ Owners Mr Pool, Skinner, & Williams Port belonging to Falmouth

Horse Power as per Section 28 _____ Is Electric Light fitted _____

ENGINES, &c.—Description of Engines Two screws (Triple Expansion) No. of Cylinders Six Three No. of Cranks _____

Diameter of Cylinders 6", 10", 16" Length of Stroke 12" Revolutions per minute _____ Diameter of Screw shaft _____

Diameter of Tunnel shaft _____ Diameter of Crank shaft journals _____ Diameter of Crank pin _____ Size of Crank webs _____

Pitch of screw _____ No. of blades _____ State whether moveable _____ Total surface _____

Feed pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____

Bilge pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____

Donkey Engines _____ Sizes of Pumps _____ No. and size of Suctions connected to both Bilge and Donkey pumps _____

Engine Room _____ In Holds, &c. _____

Bilge injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate donkey suction fitted in Engine room & size _____

Are the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____ Are the sluices on Engine room bulkheads always accessible _____

Are connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the discharge pipes above or below the deep water line _____

Are they each fitted with a discharge valve always accessible on the plating of the vessel _____ Are the blow off cocks fitted with a spigot and brass covering plate _____

How are they protected _____

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times _____

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges _____

Were stern tube, propeller, screw shaft, and all connections examined in dry dock _____ Is the screw shaft tunnel watertight _____

Is the tunnel fitted with a watertight door _____ worked from _____

BOILERS, &c.— (Letter for record _____) Total Heating Surface of Boilers 590 sq ft Is forced draft fitted no

Description of Boilers one Watertube Babeona & Wilson patent Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs

Can each boiler be worked separately _____ Area of fire grate in each boiler 16 sq ft No. and Description of safety valves to _____

Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted _____

Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean diameter of boilers 36"

Material of shell plates Steel Thickness 7/16" Description of riveting: circum. seams lap upper heads long. seams Double butt straps

Pitch of rivets 3.95" Lap of plates or width of butt straps 14 3/8"

Working pressure of shell by rules 225 lbs. Size of manhole in shell none

No. and Description of Furnaces in each boiler one large grate Material _____ Outside diameter _____

Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____

Working pressure of furnace by the rules _____ Combustion chamber plates: Material none Thickness: Sides _____ Back _____ Top _____ Bottom _____

Working pressure by rules _____

Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____

Thickness 7/8" Pitch of stays None How are stays secured dished 36" radius Working pressure by rules approved Material of stays _____

Material of Front plates at bottom _____

Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____

Pitch of tubes 3" diam Material of tubes Steel Thickness: Front 1/2" Back _____ Mean pitch of stays _____

Working pressures by rules _____ Girders to Chamber tops: Material None Depth and _____

Length as per rule _____ Distance apart _____ Number and pitch of Stays in each _____

Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked _____

Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet _____

Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____

Working pressure by rules _____ End plates: Thickness _____ How stayed _____

Area of safety valves to superheater _____ Are they fitted with easing gear _____

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 _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
 Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
 Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
 Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace 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 uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops - 1894 April 22. May 8. 10. 21.
 During erection on board vessel -
 Total No. of visits 4

General Remarks (State quality of workmanship, opinions as to class, &c.) This watertube boiler has been built under the conditions of special survey of good material & workmanship, and has been satisfactorily tested to double the working pressure. Before any holes were drilled into the various headers these were each subjected to a hydraulic test of 600 lbs per sq inch. The boiler has been sent to Falmouth where it will be fitted on board. This case is submitted for the favourable consideration of the Committee.

Note Attached hereto are two test sheets dated 21st May 97 detailing the tests on the shell plate & end plates of this boiler's steam drum. The material from which the headers were made was taken from stock, out of a batch of 500 plates, of which every one had been tested. The results showed that the tenacity was less than 2 tons and the elongations ranged from 25% to 32%.

C. E. Brown

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or within the space for Committee's Minute.)

The amount of Entry Fee. . . £ :
 Special £ 3 :
 Donkey Boiler Fee £ :
 Travelling Expenses (if any) £ :

When applied for, 16/6/97
 When received, 21/6/97

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

Committee's Minute
 Assigned

