

REPORT ON MACHINERY.

Port of Greenock.

No. in Survey held at Greenock Date, first Survey 21st March Last Survey 11th May 1890
Reg. Book. on the S.S. Russell's N^o 467 (Carmichael, Maclean's N^o 30) (Number of Visits 8)
Master Greenock Built at Greenock By whom built Russell & Co. Tons { Gross
Engines made at Glasgow By whom made Ross & Duncan when made
Boilers made at By whom made when made
Registered Horse Power Owners Port belonging to
Nom. Horse Power as per Section 28 Is Electric Light fitted

ENGINES, &c.—Description of Engines

| Diameter of Cylinders | | Length of Stroke | Revolutions per minute | Diameter of Screw shaft | No. of Cranks |
|---|--|--|---|-------------------------|--------------------|
| Diameter of Tunnel shaft | as per rule | Diameter of Crank shaft journals | Diameter of Crank pin | as fitted | Size of Crank webs |
| Diameter of screw | Pitch of screw | No. of blades | State whether moveable | Total surface | |
| No. of Feed pumps | Diameter of ditto | Stroke | Can one be overhauled while the other is at work | | |
| No. of Bilge pumps | Diameter of ditto | Stroke | Can one be overhauled while the other is at work | | |
| No. of Donkey Engines | Sizes of Pumps | No. and size of Suctions connected to both Bilge and Donkey pumps | | | |
| Engine Room | | In Holds, &c. | | | |
| No. of bilge injections | sizes | Connected to condenser, or to circulating pump | Is a separate donkey suction fitted in Engine room & size | | |
| Are all 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 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 | | 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 | Yes | Are the blow off cocks fitted with a spigot and brass covering plate | Yes | | |
| What pipes are carried through the bunkers | | 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 | | | | | |
| When were stern tube, propeller, screw shaft, and all connections examined in dry dock | Before launching | Is the screw shaft tunnel watertight | | | |
| it fitted with a watertight door | worked from | | | | |

BOILERS, &c.—

(Letter for record) Total Heating Surface of Boilers Is forced draft fitted

| No. and Description of Boilers | | Working Pressure | Tested by hydraulic pressure to |
|---|--|---|---|
| State of test | Can each boiler be worked separately | Area of fire grate in each boiler | No. and Description of safety valves to |
| Each boiler | Area of each valve | Pressure to which they are adjusted | Are they fitted |
| With easing gear | Smallest distance between boilers or uptakes and bunkers or woodwork | Mean diameter of boilers | |
| Length | Material of shell plates | Thickness | Description of riveting: circum. seams |
| Diameter of rivet holes in long. seams | Pitch of rivets | Lap of plates or width of butt straps | long. seams |
| Percentages of strength of longitudinal joint | Working pressure of shell by rules | Size of manhole in shell | |
| Size of compensating ring | No. and Description of Furnaces in each boiler | Material | Outside diameter |
| Length of plain part | Thickness of plates | Description of longitudinal joint | No. of strengthening rings |
| Working pressure of furnace by the rules | Combustion chamber plates: Material | Thickness: Sides | Back |
| Thickness of stays to ditto: Sides | Back | Top | Bottom |
| Material of stays | Diameter at smallest part | Area supported by each stay | Working pressure by rules |
| Material | Thickness | Pitch of stays | How are stays secured |
| Diameter at smallest part | Area supported by each stay | Working pressure by rules | Material of stays |
| Thickness | Material of Lower back plate | Thickness | Greatest pitch of stays |
| Diameter of tubes | Pitch of tubes | Material of tube plates | Thickness: Front |
| Thickness across wide water spaces | Working pressures by rules | Girders to Chamber tops: Material | Depth and |
| Thickness of girder at centre | Length as per rule | Distance apart | Number and pitch of Stays in each |
| Working pressure by rules | Superheater or Steam chest; how connected to boiler | Can the superheater be shut off and the boiler worked | |
| Material | Diameter | Length | Thickness of shell plates |
| Pitch of rivets | Working pressure of shell by rules | Diameter of flue | Material of flue plates |
| Stiffened with rings | Distance between rings | Working pressure by rules | End plates: Thickness |
| Working pressure of end plates | 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 { During progress of work in shops - - 1900. March 21. April 12. 24. May 4. 7. 9. 10. 11.
of Survey { During erection on board vessel - -
while building { Total No. of visits 8.

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

ENGINES—Length of stern bush _____ Diameter of crank shaft journals _____ as per rule _____ Diameter of thrust shaft under collars _____ as fitted _____

BOILERS—Range of tensile strength _____ Are they welded or flanged _____ **DONKEY BOILERS**—No. _____ Range of tensile strength _____

Is the approved plan of main boiler forwarded herewith _____

Is the approved plan of donkey boiler forwarded herewith _____

Stern tube, screw shaft, propeller and sea connections in place and found in order.

This vessel proceeds to Glasgow to receive her machinery.

Certificate (if required) to be sent to _____

| | | | |
|--------------------------------|---|---|-------------------|
| The amount of Entry Fee. . . £ | : | : | When applied for, |
| Special £ | : | : | 18. |
| Donkey Boiler Fee £ | : | : | When received, |
| Travelling Expenses (if any) £ | ✓ | : | 18. |

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

Committee's Minute

Assigned *See Minutes of the Glasgow Report 2^d 1888*



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Foundation