

REPORT ON MACHINERY.

(1200
26667)

No. 108

(Received in London Office 14/10/81)

No. in Survey held at Aberdeen Date, first Survey 13th Decr Last Survey 13th Decr 1879
 Reg. Book. 148 on the TSS "Dee" Now named "Mantua" Tons 196
 Master Petitt Built at Aberdeen When built 1873 Tons 304
 Engines made at Glasgow By whom made Smith Bros & Co when made 1873 Tons 262
 Boilers made at Aberdeen By whom made Hall Russell & Co when made 1879
 Registered Horse Power 44 Owners Loire & Thames Transit Co Ltd Port belonging to London

ENGINES, &c.—

Description of Engines Compound Snot Cyls surface Condensing
 Diameter of Cylinders 20" & 30" Length of Stroke 20" No. of Rev. per minute 100 Point of Cut off, High Pressure Low Pressure
 Diameter of Screw shaft 5 1/2" Diameter of Tunnel shaft 5" Diameter of Crank shaft journals 5 1/2" Diameter of Crank pin 5 1/2" size of Crank webs
 Diameter of screw 8" 0" Pitch of screw 12" 0" No. of blades 4 state whether moveable Solid total surface
 No. of Feed pumps one diameter of ditto 3 3/4" Stroke 10" Can one be overhauled while the other is at work
 No. of Bilge pumps one diameter of ditto 3 3/8" Stroke 10" Can one be overhauled while the other is at work
 Where do they pump from Engine room only
 No. of Donkey Engines one Size of Pumps 6" x 8" x 3 1/2" pump Where do they pump from Tanks, sea, hotwell, to boiler through ship side and on Deck
 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
 Are bilge injections one and sizes 3" Are they connected to condenser, or to circulating pump circulating
 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 No 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
 What pipes are 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock
 Is the screw shaft tunnel watertight and fitted with a sluice door worked from

OILERS, &c.—

Number of Boilers one Description circular Tubular
 Working Pressure 70 lbs Tested by hydraulic pressure to 140 lbs Date of test 7th October 1879
 Description of superheating apparatus or steam chest Vertical dumb
 Can each boiler be worked separately Can the superheater be shut off and the boiler worked separately
 Area of square feet of fire grate surface in each boiler 27 feet Description of safety valves direct spring load
 No. of safety valves to each boiler two area of each valve 8.3 4" 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
 Diameter of boilers 10" 0" Length of boilers 8' 8" description of riveting of shell long. seams lap & riveted circum. seams lap D. R.
 Thickness of shell plates 3/4" diameter of rivet holes 1 1/16" whether punched or drilled drilled pitch of rivets 4 1/2"
 Thickness of plating 7 1/4" & 4 1/2" per centage of strength of longitudinal joint 76 rivets 71 working pressure of shell by rules 78 lbs
 Diameter of manholes in shell 17" x 12" size of compensating rings 4 1/2" x 3" x 3/8"
 No. of furnaces in each boiler two outside diameter 36" length, top 6" 0" bottom 8" 0"
 Thickness of plates Top 7/16" B 1/2" description of joint lap & Riveted if rings are fitted No greatest length between rings
 Working pressure of furnace by the rules Top 74 lbs bottom 77 lbs
 Thickness of boiler plating, thickness, sides 7/16" back 7/16" top 1/2"
 Thickness of plates to ditto sides 8" x 9" back 8 1/2" x 8 1/2" top 9" x 9 1/4"
 Are they fitted with nuts or riveted heads Nuts both side working pressure of plating by rules 75 lbs
 Thickness of stays at smallest part 1 1/4" working pressure of ditto by rules 5108 lbs
 Thickness of stays in steam space, thickness 3 1/4" & 1/2" large basket pitch of stays to ditto 14" x 14" how stays are secured through ends & nuts
 Working pressure by rules 88 lbs diameter of stays at smallest part 2" working pressure by rules 4368 lbs
 Thickness of stays at bottom, thickness 3/4" Back plates, thickness 3/4" greatest pitch of stays 9 1/2" x 8" working pressure by rules 5373 lbs

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Diameter of tubes $2\frac{3}{4}$ " pitch of tubes 4×4 " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{4}{16}$ "
 How stayed *tubes & nuts* pitch of stays 12×12 " width of water spaces $1\frac{1}{4}$ "
 Diameter of ~~superheater~~ Steam chest $3 \text{ a } 0$ " length $4 \text{ a } 2$ " 26667 Iron
 Thickness of plates $\frac{1}{2}$ " description of longitudinal joint *lap D. 7c.* diameter of rivet holes $\frac{3}{4}$ " pitch of rivets $2\frac{1}{2}$ "
 Working pressure of shell by rules 150 lb 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 $\frac{5}{8}$ " How stayed *dished*
~~Superheater~~ or steam chest; how connected to boiler *riveted to shell*

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. *A new boiler has been fitted on board of this vessel at this time; agreeable to tracing submitted for the Committee's approval dated 3/2/79. Both material and workmanship are satisfactory. The safety valves have been tested under steam and set to a working pressure of 70 lbs per square inch; the engines have been seen at work and in my opinion are now in good working order.*)
The sea cocks on skin of vessel, and bilge piping are not in accordance with the requirements of the Rules, and which were to be seen after the necessary alterations had been made, but no opportunity has been afforded me for making the final survey in this district

It is submitted that this be deferred until the vessel again comes under survey J.M. 21/10/80

The amount of Entry Fee £ _____ received by me, _____
 Special £ 3 : 3 : 0 Oct 12 *J. W. White*
 Certificate (if required) £ _____ 18 80 *and sent to Dundee*
To be sent as per margin.
(Travelling Expenses, if any, £ 2-13-3)

Committee's Minute

Friday, 30th June, 1882.

Stoava 20/6/82

B & M S. 12, 79

W.B. 79

John Sturrock
 Engineer Supervisor to Lloyd's Register of British & Foreign Steamships
 Dundee District

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