

REPORT ON MACHINERY.

No. 20508

No. in Survey held at
Reg. Book.

Newcastle

Date, first Survey 29th March Last Survey 23rd July 1887

Received at London Office

WEDNES. 3 AUGUST 1887

(Number of Vials 22) 2146

Tons 1398

on the s. s. Acme

Master W. E. Bentley Built at Newcastle By whom built Palmer Co When built 1887

Engines made at Newcastle By whom made Palmer Co when made 1887

Boilers made at By whom made when made 1887

Registered Horse Power 200 Owners Newman & Dall Port belonging to London

ENGINES, &c.—

Description of Engines Triple expansion on three cranks
Diameter of Cylinders 22 $\frac{1}{2}$ 36 $\frac{1}{2}$ 60 Length of Stroke 39 No. of Rev. per minute 68 Point of Cut off, High Pressure 6.6 Low Pressure 6
Diameter of Screw shaft 11 $\frac{1}{4}$ Diam. of Tunnel shaft 10 $\frac{1}{2}$ Diam. of Crank shaft journals 11 $\frac{1}{4}$ Diam. of Crank pin 11 $\frac{1}{4}$ size of Crank webs 7 $\frac{3}{4}$ x 15-
Diameter of screw 14.9 Pitch of screw 16.0 No. of blades 4 state whether moveable 40 total surface 60.5 ft²
No. of Feed pumps 2 diameter of ditto 3 $\frac{1}{2}$ Stroke 18 Can one be overhauled while the other is at work ☒
No. of Bilge pumps 2 diameter of ditto 4 $\frac{1}{4}$ Stroke 18 Can one be overhauled while the other is at work ☒
Where do they pump from Sta. pump bilge & Port pump bilge, tunnel & holds
No. of Donkey Engines Two Size of Pumps 11 x 11 & 8 x 3 $\frac{1}{2}$ Where do they pump from Ballast from all tanks
bilge, tunnel & hold. Fed from bottom well sea
Are all the bilge suction pipes fitted with roses ☒ Are the roses always accessible ☒ Are the sluices on Engine room bulkheads always accessible ☒
No. of bilge injections one and sizes 5 Are they connected to condenser, or to circulating pump ☒
How are the pumps worked by lever over condenser from after engine
Are all connections with the sea direct on the skin of the ship ☒ 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 above
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 ☒
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 ☒
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges ☒
When were stern tube, propeller, screw shaft, and all connections examined in dry dock new
Is the screw shaft tunnel watertight ☒ and fitted with a sluice door ☒ worked from top platform

BOILERS, &c.—

Number of Boilers Two Description cyl. single ended Whether Steel or Iron Steel
Working Pressure 160 lb Tested by hydraulic pressure to 320 lb Date of test June 1st 1887 No. 2271
Description of superheating apparatus or steam chest none
Can each boiler be worked separately ☒ Can the superheater be shut off and the boiler worked separately ☒
No. of square feet of fire grate surface in each boiler 48.75 Description of safety valves spring No. to each boiler 2
Area of each valve 8.30 Are they fitted with easing gear ☒ No. of safety valves to superheater 1 area of each valve ☒
Are they fitted with easing gear ☒ Smallest distance between boilers and bunkers or woodwork 12 Diameter of boilers 12.9
Length of boilers 10.6 description of riveting of shell long. seams dbb? circum. seams dbb? Thickness of shell plates 1 $\frac{5}{8}$
Diameter of rivet holes 1 $\frac{5}{8}$ whether punched or drilled drilled pitch of rivets 6 $\frac{1}{2}$ Lap of plating 16 $\frac{1}{2}$
Per centage of strength of longitudinal joint 82 working pressure of shell by rules 161 size of manholes in shell 16 x 12
Size of compensating rings ☒ No. of Furnaces in each boiler 3
Outside diameter 3' 8" length, top ☒ bottom ☒ thickness of plates 1 $\frac{3}{8}$ description of joint Forcs if rings are fitted flush
Greatest length between rings ☒ working pressure of furnace by the rules 171 combustion chamber plating, thickness, sides 9/16 back 9/16 top 9/16
Pitch of stays to ditto, sides 7 $\frac{3}{4}$ back 7 $\frac{3}{4}$ top 2nd If stays are fitted with nuts or riveted heads ☒ working pressure of plating by
rules 162 Diameter of stays at smallest part 1 $\frac{1}{2}$ working pressure of ditto by rules 177 end plates in steam space, thickness 1 $\frac{5}{8}$
Pitch of stays to ditto 14 $\frac{1}{2}$ how stays are secured drawn working pressure by rules 160 diameter of stays at
smallest part 2 $\frac{3}{8}$ working pressure by rules 160 Front plates at bottom, thickness 3/4 Back plates, thickness 3/4
Greatest pitch of stays 11 $\frac{1}{4}$ working pressure by rules 160 Diameter of tubes 3 $\frac{1}{4}$ pitch of tubes 4 $\frac{1}{2}$ thickness of tube
plates, front 3/8 back 3/4 how stayed tubes pitch of stays 9 width of water spaces 6
Diameter of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. 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 ☒

Report made 29/7/87 sent to Lon. 2/8/87

Boiler drawing & other details not forwarded

DONKEY BOILER— Description *Steel with four cross tubes*
Made at *Gateshead* by whom made *Clark Chapman Partners* No. when made *6.6.87* where fixed *stockhold*
Working pressure *7 1/2 lbs* tested by hydraulic pressure to *150 lbs* No. of Certificate *2272* fire grate area *26 sq* description of safety
valves *spring* No. of safety valves *two* area of each *8.30* if fitted with easing gear *yes* if steam from main boilers can
enter the donkey boiler *no* diameter of donkey boiler *7.0* length *14.0* description of riveting *able lap*
Thickness of shell plates *7/16* diameter of rivet holes *7/8* whether punched or drilled *no* pitch of rivets *3 3/16* lap of plating *4 1/2*
per centage of strength of joint *70* thickness of crown plates *7/8* stayed by *7 stud stays 1 3/8 off diam*
Diameter of furnace, top *5.0* bottom *6.0* length of furnace *5.6* thickness of plates *7/8* description of joint *o l*
Thickness of furnace crown plates *7/16* stayed by *same as crown* working pressure of shell by rules *7 1/2*
Working pressure of furnace by rules *6 1/2* diameter of uptake *18* thickness of plates *7/16* thickness of water tubes *3/8*
and one rim of stays

SPARE GEAR. State the articles supplied:— *6 coupling bolts, 2 top end & 2 bottom end bolts nuts,*
2 main bearing bolts nuts, set of feed valve pump valves, propeller,
bolts nuts, assorted rim, and usual engine room outfit.

The foregoing is a correct description,

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has*
been constructed under special survey, the materials and workmanship
are sound and good and eligible, in my opinion to be classed \pm *L.M.C*
7.87 in the Register Book.

The amount of Entry Fee .. £ 2 : - : - *received by me,*

Special £ 30 : - : -

Donkey Boiler Fee £ - : - : -

Certificate (if required) *gratis* - *12/4 1887*

To be sent as per margin.

(Travelling Expenses, if any, £ - - -)

Committee's Minute

FRIDAY 5 AUGUST 1887

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