

REPORT ON MACHINERY.

13141

No. 5559

No. in Survey held at
Reg. Book.

Honolulu, Ondalay Date, first Survey

Received at London Office

MONDAY 28 SEPT 1835

8th June, Last Survey 15th Sept 1835
(Number of Visits 15)

Tons 1919.82

Tons 1240.17

✓ on the "J. P. " Shakespeare" J. Thompson Vins When built 1885
Master A. G. Dwyer Built at Honolulu By whom built J. L. Thompson Vins when made 1886
Engines made at Honolulu By whom made H. C. Richardson Vins when made 1886
Boilers made at ditto By whom made ditto when made 1885
Registered Horse Power 160 Owners Glover Brothers when made 1885
Port belonging to London

ENGINES, &c.

Description of Engines Single or Double. Two Cylinders, Direct acting - Engine cranking.
Diameter of Cylinders 21" - 24" - 25" Length of Stroke 36" No. of Rev. per minute 70 Point of Cut off, High Pressure $\frac{1}{2}$ Low Pressure ✓

Diameter of Screw shaft 10" Diam. of Tunnel shaft 9" Diam. of Crank shaft journals 10" Diam. of Crank pin 10" size of Crank webs $1\frac{1}{2} \times 6\frac{1}{2}$ "

Diameter of screw 14" Pitch of screw 15' 6" No. of blades 4 state whether moveable No - total surface 60 sq. ft. 9"

No. of Feed pumps 2 No diameter of ditto 2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 No diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work Yes

Where do they pump from The Hull, The Hold, Engine bilges and after well.

No. of Donkey Engines 2 No Size of Pumps $2\frac{1}{2}$ dia. from $1\frac{1}{2}$ dia. 9" Where do they pump from Small on fore peak, engine bilges and after well.

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 $2\frac{1}{2}$ dia. Are they connected to condenser, or to circulating pump Ventilating pump.

How are the pumps worked By lines attached to bottom of after engine.

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Potts

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

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 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 Jan 1835.

Is the screw shaft tunnel watertight and to be fitted with a sluice door Yes worked from platform in engine room

BOILERS, &c.

Number of Boilers 2 Description Copper Melt - High end Whether Steel or Iron Steel.

Working Pressure 145 lbs Tested by hydraulic pressure to 290 lbs Date of test 1/8/85 Certificate No 1255.

Description of superheating apparatus or steam chest None

Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately In superheated.

No. of square feet of fire grate surface in each boiler $41\frac{1}{2}$ Description of safety valves None No. to each boiler 2

Area of each valve $11.04\frac{1}{2}$ 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 16" Diameter of boilers 13.0" description of riveting of shell long. seams ~~Not~~ ~~not~~ circum. seams ~~top~~ angle ~~bottom~~ thickness of shell plates $1\frac{1}{2}$

Diameter of rivet holes $1\frac{1}{2}$ whether punched or drilled ~~Not~~ pitch of rivets $7\frac{1}{2}$ dia. Lap of plating $16\frac{1}{2}$ min.

Per centage of strength of longitudinal joint 85.26% working pressure of shell by rules 145.5 lbs size of manholes in shell $14\frac{1}{2} \times 11\frac{1}{2}$ cu. in. $5\frac{1}{2} \times 3\frac{1}{2}$

Size of compensating plates, rectangular $30 \times 27 \times 1$ No. of Furnaces in each boiler 2

Outside diameter $3\frac{1}{2}$ length, top $5\frac{1}{2}$ bottom $8\frac{1}{2}$ thickness of plates $\frac{9}{16}$ description of joint ~~Not~~ ~~not~~ rings are fitted ~~Not~~

Greatest length between rings working pressure of furnace by the rules 152.4 combustion chamber plating, thickness, sides $\frac{1}{2}$ back $\frac{1}{2}$ top $\frac{1}{2}$

Pitch of stays to ditto, sides $7\frac{1}{2} \times 7\frac{1}{2}$ back $7\frac{1}{2} \times 7\frac{1}{2}$ top $7\frac{1}{2} \times 7\frac{1}{2}$ If stays are fitted with nuts or riveted heads $9\frac{1}{2}$ working pressure of plating by rules 146.4

Diameter of stays at smallest part $1\frac{1}{2}$ working pressure of ditto by rules 169 end plates in steam space, thickness 1 mil

Pitch of stays to ditto $14\frac{1}{2} \times 15\frac{1}{2} \times 15\frac{1}{2}$ hour stays are secured $9\frac{1}{2}$ working pressure by rules 149 lbs diameter of stays at smallest part $2\frac{1}{2}$

working pressure by rules 153 lbs Front plates at bottom, thickness $\frac{11}{16}$ Back plates, thickness $\frac{3}{4}$

greatest pitch of stays $12\frac{1}{2}$ working pressure by rules 100 lbs Diameter of tubes $3\frac{1}{2}$ pitch of tubes $4\frac{1}{2} \times 4\frac{1}{2}$ thickness of tube plates, front $\frac{3}{4}$ back $\frac{13}{16}$ how stayed stay tube pitch of stays $8\frac{1}{2} \times 8\frac{1}{2}$ width of water spaces $18\frac{1}{2} \times 1\frac{1}{2}$

diameter of Superheater or Steam chest $1\frac{1}{2}$ 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

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Lloyd's Register
Foundation

DONKEY BOILER— Description *Stevens Patent - Steel Plates, new style.*
 Made at *Gateshead* by whom made *Stevens Fife* when made *1885* where fixed *Portsmouth*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1882* fire grate area *25.96*
 valves *Spring* No. of safety valves *2* area of each *7.072* if fitted with easing gear *Yes* if steam fit *Boilers etc.*
 enter the donkey boiler *90* diameter of donkey boiler *6.6* length *13.3* description of riveting *St. lath, 2 in. stays.*
 Thickness of shell plates *9/16* diameter of rivet holes *15/16* whether punched or drilled *X* pitch of rivets *3 7/16* lap of plating *4"*
 per centage of strength of joint *70%* thickness of crown plates *9/16* stayed by *6 stays and 2 stayplates.*
 Diameter of furnace, top *5.8* bottom *6.0* length of furnace *3.0* thickness of plates *5/8* description of joint *Hugh lath.*
 Thickness of furnace crown plates *9/16* stayed by *7/11 tubes* working pressure of shell by rules *82 lbs*
 Working pressure of furnace by rules *80 lbs* diameter of uptake *12"* thickness of plates *7/16* thickness of water tubes *3/8*
 SPARE GEAR. State the articles supplied:— *3 crank shaft, 1 flywheel shaft, 2 top and 2 bottom*
and connecting rod bolts, 2 main bearing bolts, 1 set of coupling bolts,
2 sets of feed and ledge pump valves 1 set of piston springs, 2 sets of main & cylinder
pump valves, quantity of asbestos bolt nuts & turn of various sizes.
 The foregoing is a correct description,
Richardson Sons, Manufacturer of Engines and Marine Boilers.

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

Material and workmanship good.
 The steel plates, out of which the main boiler is
 constructed, were manufactured by J.W. Edmundson Glasgow.
 The plates are *Stevens Patent* corrugated.
 The crank shaft is made in three duplicate parts, was
 forged and finished by *The Birmingham Works* and is in all appearance
 strong and efficient.
 The machinery and boiler of this vessel are in
 good order and safe working condition and eligible in my
 opinion for the registration **L.M.C. 9, 85.** in the Register
 1882

The amount of Entry Fee £ *2* received by me,
 Special £ *1* *10*
 Donkey Boiler Fee £ *1* *10*
 Certificate (if required) £ *1* *10* 23.9.1885
 To be sent as per margin.
 Travelling Expenses £ *1* *2* *6*

P. J. James Fowler

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

Committee's Minute

TUESDAY 29 SEPT 1885

L. M. C.