

REPORT ON MACHINERY.

12667

No. 634

(Received in London Office

12/7/81

No. in Survey held at Sunderland

Date, first Survey April 4th

Last Survey July 7th 1881

Reg. Book.

1044-83

Tons 665.45

on the Iron Screw Steamer "KENT."

Master Brown

Built at Sunderland

When built 1881

Engines made at Sunderland

By whom made H & M Co when made 1881

Boilers made at do

By whom made do when made "

Registered Horse Power 99

Owners Sambert Brothers

Port belonging to London

ENGINES, &c.—

Description of Engines Inverted Compound Direct Acting Surface Condensing

Diameter of Cylinders 29" x 56" Length of Stroke 36 No. of Rev. per minute 61 Point of Cut off, High Pressure 1/2 Low Pressure 1/2

Diameter of Screw shaft 10" Diameter of Tunnel shaft 9 1/2" Diameter of Crank shaft journals 10" Diameter of Crank pin 10" size of Crank webs 11 1/4" x 7 1/4"

Diameter of screw 12" 6" Pitch of screw 19" 0" No. of blades 4 state whether moveable Not total surface 47 1/2 sq feet

No. of Feed pumps 2 diameter of ditto 3 1/2" Stroke 36 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 diameter of ditto 3 1/2" Stroke 36 Can one be overhauled while the other is at work Yes

Where do they pump from Main Pump, After well & Engine room bilges Port Pump, Engine room bilges

No. of Donkey Engines 2 Size of Pumps 10" x 14" & 4" x 6" Where do they pump from All Ballast Tanks

& K Bilges, After well, Condenser & Sea Feed Donkey the same

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 1 and sizes 4" diam Are they connected to condenser, or to circulating pump Circulating Pump

How are the pumps worked Direct from Piston Rod Crossheads

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks 2 Valves & 5 Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes 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 Yes

What pipes are carried through the bunkers A scupper pipe How are they protected Wood casing

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 Near Vessel

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Top Platform

BOILERS, &c.—

Number of Boilers Two Description Cylindrical and Multitubular

Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 21st May 1881

Description of superheating apparatus or steam chest Vertical Dome

Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately No superheater

No. of square feet of fire grate surface in each boiler 31.6 Description of safety valves Adam's Patent Spring

No. to each boiler 2 area of each valve 8.30 Are they fitted with easing gear Yes

No. of safety valves to superheater No superheater area of each valve ———— are they fitted with easing gear ————

Smallest distance between boilers and bunkers or woodwork Six inches

Diameter of boilers 11" 6" Length of boilers 9" 9 1/2" description of riveting of shell long. seams Lap Tub riv circum. seams Lap Doub riv

Thickness of shell plates 13/16" diameter of rivet holes 1 1/8" whether punched or drilled Dulled pitch of rivets 4 1/8"

Lap of plating 6 1/2" per centage of strength of longitudinal joint 70% working pressure of shell by rules 81 lbs

Size of manholes in shell 16" x 12" size of compensating rings 6" x 1"

No. of Furnaces in each boiler 2 outside diameter 3" 1" length, top 6" 6" Total bottom 8" 3"

Thickness of plates 1/2" description of joint Double butt strips if rings are fitted Half rings greatest length between rings 5" 0"

Working pressure of furnace by the rules 100 lbs

Combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"

Pitch of stays to ditto sides 8 7/8" x 8 1/2" back 8 7/8" x 8 1/2" top Circular

If stays are fitted with nuts or riveted heads Riveted heads working pressure of plating by rules 82 lbs

Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 114 lbs

End plates in steam space, thickness 15/16" pitch of stays to ditto 15" x 13" Two 17" x 15" how stays are secured Double nuts

Working pressure by rules 81.8 lbs diameter of stays at smallest part 2" two 2 1/4" working pressure by rules 82 lbs

Front plates at bottom, thickness 5/8" Back plates, thickness 5/8" greatest pitch of stays 11" x 8 7/8" working pressure by rules 82 lbs

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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $5 \times 4\frac{1}{4}$ " thickness of tube plates, front $\frac{3}{16}$ " back $\frac{3}{16}$ "
 How stayed *Stay Tubes* pitch of stays $15 \times 9\frac{1}{2}$ " width of water spaces $1\frac{1}{2}$ "
 Diameter of ~~Superheater~~ Steam chest $3 \cdot 6$ " length *6 ft. total*
 Thickness of plates $\frac{7}{16}$ " description of longitudinal joint *lap* diameter of rivet holes $\frac{7}{8}$ " pitch of rivets $2\frac{3}{4}$ "
 Working pressure of shell by rules 110 lbs 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 4 ft radius*
 Superheater or steam chest; how connected to boiler *Neck 18" diam of $\frac{3}{4}$ " plate flanged*
DONKEY BOILER— Description *Vertical cylindrical with 3 water tubes*
 Made at *Sunderland* By whom made *Welford & Wisham* when made *1881*
 Where fixed *Atok Hole* working pressure 60 lbs Tested by hydraulic pressure to 120 lbs No. of Certificate *380*
 Fire grate area $19 \cdot 09$ ft² Description of safety valves *1 spring & 1 lever* No. of safety valves *2* area of each $8 \cdot 5 \times 7 \cdot 07$
 If fitted with easing gear *Yes (the spring)* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler $5 \cdot 6$ " ~~length~~ height $11 \cdot 6$ " description of riveting *Vertical lap doub. for Crown lap single*
 thickness of shell plates $\frac{3}{8}$ " diameter of rivet holes $\frac{5}{16}$ " whether punched or drilled *Punched*
 pitch of rivets 3 " lap of plating 4 " per centage of strength of joint 75% 79%
 thickness of crown plates $\frac{7}{16}$ " stayed by *Dished 5 ft radius & 4 stays $1\frac{1}{2}$ " diameter*
 Diameter of furnace, top $4 \cdot 6$ " bottom $5 \cdot 0$ " ~~length~~ of furnace height 5 ft
 thickness of plates $\frac{15}{32}$ " description of joint *lap single riveted*
 thickness of furnace crown plates $\frac{15}{32}$ " stayed by *Dished 5 ft radius & 4 stays $1\frac{1}{2}$ " diameter*
 Working pressure of shell by rules 64 lbs working pressure of furnace by rules 69 lbs
 diameter of uptake 15 " thickness of plates $\frac{3}{8}$ " thickness of water tubes $\frac{5}{16}$ "

The foregoing is a correct description,
 G. Mar. Insp. Co. *[Signature]* Manufacturer. except of the Donkey Boiler

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines and Boilers*
of this vessel have been constructed under special survey, the material and workmanship found to be good and efficient. The Machinery has been tried under steam and found satisfactory and in my opinion eligible for the distinguishing mark of
LLOYD'S M.C. *in the Register Book, being in good order and safe working condition.*

This submitted that vessel is eligible to have the certification & stay to M.C. recorded in the Register Book
M 13/7/81

The amount of Entry Fee £ 2 : 0 : 0 received by me,
 Special *[Signature]* .. £ 14 : 17 : 0
 Certificate (if required) .. £ : : : July 1881
 To be sent as per margin. £ 16 : 17 : 0
 (Travelling Expenses, if any, £ _____)

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

Committee's Minute *Friday, July, 15th 1881.*

Lloyd's Register

