

REPORT ON MACHINERY.

No. 431

No. in Survey held at South Shields

Reg. Book.

Date, first Survey 29 July 1880 Last Survey 12 Jan 1881

on the Screw Steamer "Homer"

Master J. W. Jones

Built at South Shields

When built 1881

Engines made at South Shields

By whom made J. Readhead

Boilers made at Do

By whom made Do when made 1881

Registered Horse Power 145

Owners Dick & Age

Port belonging to London

ENGINES, &c.—

Description of Engines Inverted Compound Surface Condensing
 Diameter of Cylinders 30 & 57 Length of Stroke 36 No. of Rev. per minute 58 Point of Cut off, High Pressure $\frac{9}{16}$ Low Pressure $\frac{9}{16}$
 Diameter of Screw shaft $9\frac{1}{2}$ Diameter of Tunnel shaft 9 Diameter of Crank shaft journals $9\frac{1}{2}$ Diameter of Crank pin $9\frac{1}{2}$ size of Crank webs $6\frac{1}{2} \times 11\frac{1}{2}$
 Diameter of screw 14 " 0 Pitch of screw 15 to 18 put No. of blades 4 state whether moveable solid total surface 46 sq. feet.
 No. of Feed pumps 2 diameter of ditto $3\frac{1}{2}$ Stroke 18 Can one be overhauled while the other is at work yes.
 No. of Bilge pumps 2 diameter of ditto $3\frac{1}{2}$ Stroke 18 Can one be overhauled while the other is at work yes.
 Where do they pump from fore hold, engine space, tunnel well and all tanks
 No. of Donkey Engines 2 Size of Pumps 8" x 10" & 3" x 8" Where do they pump from fore hold, engine space, tunnel well and all tanks & sea

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 $3\frac{1}{2}$ Are they connected to condenser, or to circulating pump circulating
 How are the pumps worked levers over condenser
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks screw valves and 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 below
 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.
 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 now
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from engine room top platform

BOILERS, &c.—

Number of Boilers 2 Description Cylindrical & multitubular
 Working Pressure 70 lbs. Tested by hydraulic pressure to 140 lbs. Date of test 16.11.80 No. of Certificate 502
 Description of superheating apparatus steam chest dome on top of boiler
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately none
 No. of square feet of fire grate surface in each boiler 33 sq. ft. Description of safety valves Spring
 No. to each boiler 2 area of each valve 7 sq. ins. 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 9"
 Diameter of boilers 11" 6 Length of boilers 10" 4 description of riveting of shell long. seams lap. treble riv? circum. seams lap. double riv?
 Thickness of shell plates $\frac{3}{4}$ diameter of rivet holes 1" 6 whether punched or drilled drilled pitch of rivets $4\frac{1}{8}$ "
 Pitch of plating $7\frac{1}{2}$ per centage of strength of longitudinal joint 74 working pressure of shell by rules 72
 Size of manholes in shell 16 diam. size of compensating rings $6 \times \frac{3}{4}$
 No. of Furnaces in each boiler 2 outside diameter 3" 4 length, top 7" 4 bottom 9" 9
 Thickness of plates $\frac{1}{2} \& \frac{9}{16}$ description of joint lap, single riv? if rings are fitted no greatest length between rings
 Working pressure of furnace by the rules 73 lbs.
 Combustion chamber plating, thickness, sides $\frac{1}{2}$ back $\frac{1}{2}$ top $\frac{1}{2}$
 Pitch of stays to ditto sides $9 \times 8\frac{3}{4}$ back $8\frac{3}{4} \times 8\frac{3}{4}$ top curved
 Are stays fitted with nuts or riveted heads riveted heads working pressure of plating by rules 76 lbs.
 Diameter of stays at smallest part $1\frac{1}{8}$ working pressure of ditto by rules 78 lbs.
 Pitch of stays to ditto $15 \times 12\frac{1}{4}$ how stays are secured d. nuts & wash?
 Thickness of plates in steam space, thickness $\frac{21}{32}$ diameter of stays at smallest part $1\frac{3}{4}$ working pressure by rules 78 lbs.
 Working pressure by rules 70 lbs. Back plates, thickness $\frac{5}{8}$ greatest pitch of stays $14\frac{1}{2}$ working pressure by rules 67 lbs.
 Front plates at bottom, thickness $\frac{5}{8}$

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Diameter of tubes $3\frac{1}{4}$ " pitch of tubes $4\frac{3}{4} \times 4\frac{3}{8}$ thickness of tube plates, front $\frac{3}{4}$ " back $\frac{3}{4}$ "
How stayed tube stays pitch of stays $23\frac{1}{2} \times 14\frac{1}{2}$ central width of water spaces $11\frac{1}{2}$ "
Diameter of ~~Superheater~~ Steam chest $3\frac{1}{2}$ " length $5\frac{1}{2}$ "
Thickness of plates $\frac{1}{2}$ " description of longitudinal joint lap d. riv diameter of rivet holes $\frac{3}{4}$ " pitch of rivets $2\frac{1}{2}$ "
Working pressure of shell by rules 140 lbs. Diameter of flue — thickness of plates —
If stiffened with rings — distance between rings — Working pressure by rules —
End plates of ~~superheater~~ steam chest; thickness $\frac{5}{8}$ " How stayed dished to $3\frac{1}{2}$ " radius
~~Superheater~~ steam chest; how connected to boiler contracted neck

DONKEY BOILER— Description Vertical and cylindrical
Made at Newcastle By whom made Blake Chapman & Co. when made January 1881
Where fixed Stockhold working pressure 70 lbs. Tested by hydraulic pressure to 140 lbs. No. of Certificate 491
Fire grate area 18 sq. ft. Description of safety valves Spring No. of safety valves 1 area of each 76 sq. ins.
If fitted with easing gear yes If steam from main boilers can enter the donkey boiler no.
Diameter of donkey boiler $5\frac{1}{2}$ " length 11" 0" description of riveting long seams d. riveted
thickness of shell plates $\frac{7}{16}$ " diameter of rivet holes $\frac{13}{16}$ " whether punched or drilled punched
pitch of rivets $3\frac{1}{4}$ " lap of plating $4\frac{1}{4}$ " per centage of strength of joint 75
thickness of crown plates $\frac{1}{2}$ " stayed by 5- $1\frac{1}{2}$ " stays
Diameter of furnace, top $4\frac{1}{2}$ " bottom $4\frac{1}{2}$ " length of furnace $4\frac{1}{2}$ "
thickness of plates $\frac{1}{2}$ " description of joint lap, single riveted
thickness of furnace crown plates $\frac{1}{2}$ " stayed by 5, $1\frac{1}{2}$ " stays
Working pressure of shell by rules 77 lbs. working pressure of furnace by rules 79 lbs.
diameter of uptake 14" thickness of plates $\frac{3}{8}$ " thickness of water tubes $\frac{3}{8}$ "

The foregoing is a correct description,
Wm. Keasthead Manufacturer.

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

The machinery of this vessel has been constructed under
or under survey, the materials and workmanship good
and under the vessel eligible in my opinion to have the
Notification Lloyd's M.B. recorded in the Society's
Register Book, without the distinguishing mark ✱

*It is submitted that this
vessel is eligible to have
the notification Lloyd's M.B.
recorded in the Register Book.
M 17/1/81*

The amount of Entry Fee .. £ 2 : - : - received by me,
Special .. £ 18 : 2 : 6 } w.l.g.
Certificate (if required) .. £ - : 2 : 6 $14\frac{1}{2}$ Jan 1881
To be sent as per margin.

(Travelling Expenses, if any, £ —)
Committee's Minute Tuesday January 18th 1881.
Wm. Keasthead

David James
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Wm. Keasthead

