

REPORT ON MACHINERY.

Survey held at Sunderland

Date, first Survey June 2^d 1881 Last Survey October 19th 1881

on the S.S. "Ada"

Tons 845.81 tons G.
555.32 tons N.

Langford

Built at Sunderland

When built 1881

at Sunderland

By whom made G. Clark

when made 1881

at Sunderland

By whom made G. Clark

when made 1881

Horse Power 99

Owners Turner Edwards & Co

Port belonging to Bristol

ENGINES, &c.—

Description of Engines

Compound inverted surface condensing direct acting

Diameter of Cylinders 26" & 48" Length of Stroke 36" No. of Rev. per minute 60 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke

Diameter of Screw shaft 9" Diameter of Tunnel shaft 8 7/8" Diameter of Crank shaft journals 9" Diameter of Crank pin 9" size of Crank webs 11 3/4" x 6"

Diameter of screw 12 1/2" Pitch of screw 16 1/2" No. of blades 4 state whether moveable not total surface 42 square ft

No. of Feed pumps 2 diameter of ditto 3 1/4" Stroke 18" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 3 1/4" Stroke 18" Can one be overhauled while the other is at work yes

Where do they pump from Fore tank, after tank, engine room bilges and after well

No. of Donkey Engines 2 Size of Pumps 8" x 10" Where do they pump from Fore tank, after tank

engine room bilges sea. 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 4 1/2" Are they connected to condenser, or to circulating pump to circulating pump

How are the pumps worked By levers on after engine crosshead

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both valves & 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 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 new vessel launched Sept 26th 1881

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top platform of engine room

BOILERS, &c.—

Number of Boilers one Description Cylindrical multitubular internal parts of steel

Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 8-9-81

Description of ~~superheating apparatus~~ steam chest Horizontal dome

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

No. of square feet of fire grate surface in each boiler 48 sq ft Description of safety valves Direct spring valves

No. to each boiler 2 area of each valve 14.19 sq in 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 22"

Diameter of boilers 13-9" Length of boilers 10-6" description of riveting of shell long. seams Treble circum. seams Double

Thickness of shell plates 1 1/2" diameter of rivet holes 1 3/32" whether punched or drilled drilled pitch of rivets 4 7/8"

Lap of plating 8 1/2" per centage of strength of longitudinal joint P 1/4 R 40 40 0 working pressure of shell by rules 81.1 lbs

Size of manholes in shell 16 x 13 & 13 x 11" size of compensating rings 7" x 3 1/4" & 6" x 3 1/4"

No. of Furnaces in each boiler 3 outside diameter 3-3 1/2" length, top 6-10" bottom 6-10"

Thickness of plates 1 1/2" description of joint dbl butt single riveted if rings are fitted yes greatest length between rings 6-10"

Working pressure of furnace by the rules 94 lbs

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

Pitch of stays to ditto sides 9 x 9" back 9 x 9" top radius of 2-0"

if stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 87.5 lbs

Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 109 lbs

End plates in steam space, thickness 1 1/2" & 1/2" covering plate pitch of stays to ditto 1 1/4" x 1 1/2" how stays are secured double nut & washers

Working pressure by rules 90 lbs diameter of stays at smallest part 2 3/4" working pressure by rules 120 lbs

Front plates at bottom, thickness 3/8" Back plates, thickness 1/8" greatest pitch of stays 10" working pressure by rules 100 lbs

Diameter of tubes $3\frac{3}{4}$ " pitch of tubes 5" thickness of tube plates, front $\frac{3}{16}$ " back $\frac{1}{8}$ "
How stayed stay tubes pitch of stays 10×10 " width of water spaces $8\frac{1}{2} \times 14\frac{1}{2} \times 6$ "
Diameter of ~~Superheater~~ Steam chest 4-3" length 8-4"
Thickness of plates $\frac{1}{16}$ " description of longitudinal joint lap double riveted diameter of rivet holes $\frac{3}{16}$ " pitch of rivets 2-2"
Working pressure of shell by rules 93 lbs Diameter of flue — thickness of plates —
If stiffened with rings — distance between rings — Working pressure by rules —
End plates of ~~superheater~~ on steam chest; thickness $\frac{1}{16}$ " How stayed Spherical
~~Superheater~~ steam chest; how connected to boiler by a neck 16" x $3\frac{1}{8}$ " flanged to boiler & dome & double riveted
DONKEY BOILER— Description Horizontal water tubes in furnace
Made at Middlesbrough By whom made J. Robinson when made 1881. Sited 25-4-81
Where fixed Stokehold working pressure Certified 45 lbs Tested by hydraulic pressure to 150 No. of Certificate 5737-4
Fire grate area 12 sq ft Description of safety valves Mc. Lever, one weight No. of safety valves 2 area of each $3\frac{1}{4}$ sq in
If fitted with easing gear yes If steam from main boilers can enter the donkey boiler no
Diameter of donkey boiler 4-6" length 10-6" description of riveting Long seams Lap double riveted
thickness of shell plates $\frac{1}{16}$ " diameter of rivet holes $\frac{25}{32}$ " whether punched or drilled Punched
pitch of rivets $2\frac{5}{8}$ " lap of plating $4\frac{1}{4}$ " per centage of strength of joint 70
thickness of crown plates $\frac{1}{16}$ " stayed by Stay stays $1\frac{1}{2}$ "
Diameter of furnace, top 3-9" bottom 3-11" length of furnace 4-3
thickness of plates $\frac{1}{16}$ " description of joint Lap single riveted
thickness of furnace crown plates $\frac{1}{16}$ " stayed by Stay stays $1\frac{1}{2}$ " dia
Working pressure of shell by rules 88 lbs working pressure of furnace by rules 46 lbs
diameter of uptake 12" thickness of plates $\frac{3}{8}$ " thickness of water tubes $\frac{3}{8}$ "

The foregoing is a correct description,

James Dani.
Spkwr. Clark W. Clark Manufacturer. except of donkey boiler

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

The engines and boilers of this vessel have been specially surveyed during construction. The material and workmanship are good and efficient and the engines when tried under steam were found to work satisfactorily. In my opinion the machinery of this vessel is in good order and safe working condition and eligible for the notification in the Register Book of LLOYD'S. MC 10.81

The amount of Entry Fee £ 2 : 0 : 0 received by me,

Special .. £ 14 : 14 : 0

Certificate (if required) .. £ Grates 21st Octr 1881

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

Friday, October, 28th 1881.

Lloyd's

Robert Edmund Taylor & Son Printers, 19, Old Street, Goswell Road, London, E.C.

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



Lloyd's Register
Foundation