

REPORT ON MACHINERY.

No. 396 (Received in London Office 28/12/80)
 No. in Survey held at Hpool West Hartlepool Date, first Survey 2nd Octbr Last Survey 9th Decr 1880
 Reg. Book. 894 on the S. S. Ann Webster Tons 682
 Master Blackburn Built at Hartlepool When built 1870
 Engines made at Hartlepool By whom made J. Richardson & Sons when made 1870
 Boilers made at " By whom made " when made 1880 12th Mo
 Registered Horse Power 96 Owners Ann Steam Ship Co. (Lind) Port belonging to Frieden

ENGINES, &c.—

Description of Engines Compound Inverted Surface Condensing
 Diameter of Cylinders 25" x 48" Length of Stroke 36 No. of Rev. per minute 65 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
 Diameter of Screw shaft 8" Diameter of Tunnel shaft 7 1/2" Diameter of Crank shaft journals 8 1/4" Diameter of Crank pin 7 1/2" size of Crank webs 6 x 10
 Diameter of screw 12" - 8" Pitch of screw 26 x 14 - 6 No. of blades 4 state whether moveable not total surface 42 sq feet
 No. of Feed pumps 1 diameter of ditto 3 3/4" Stroke 36 Can one be overhauled while the other is at work —
 No. of Bilge pumps 1 diameter of ditto 3 3/4" Stroke 36 Can one be overhauled while the other is at work —
 Where do they pump from Engine room Fore-hold and after well
 No. of Donkey Engines One Size of Pumps 3" diam x 12" Where do they pump from Sea, Hot well Engine room and after well
Centrifugal Pump for pumping out Ballast Tanks
 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 no
 No. of bilge injections 1 and sizes 3 1/2" diam Are they connected to condenser, or to circulating pump to circulating pump
 How are the pumps worked Auxiliary pump, also four piston rod crossheads direct
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves and Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates no 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 no
 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 9th Decr 1880
 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 1 Description Cylindrical Multi-tubular Marine Type
 Working Pressure 75 lbs Tested by hydraulic pressure to 150 lbs Date of test 16/11/80
 Description of ~~superheating apparatus~~ or steam chest Vertical drum
 Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately No Superheater
 No. of square feet of fire grate surface in each boiler 47.5 Description of safety valves Spring made by J. Richardson & Sons
 No. to each boiler 2 area of each valve 15.03 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 12"
 Diameter of boilers 13' - 5" Length of boilers 10' - 0" description of riveting of shell long. seams DB Shop & Riv'd circum. seams Lap & Riv'd
 Thickness of shell plates 25/32 diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 5 1/8"
 Lap of plating 5" per centage of strength of longitudinal joint 78.04 working pressure of shell by rules 75.7 lbs
 Size of manholes in shell 12 x 16 size of compensating rings 27 x 30 x 25/32
 No. of Furnaces in each boiler 3 outside diameter 38.9375 length, top 6' - 3" bottom 9' - 6"
 Thickness of plates 15/32 2 1/4" description of joint Lap Doub Riv'd if rings are fitted T rivets greatest length between rings 6' - 3"
 Working pressure of furnace by the rules 80.9 lbs
 Combustion chamber plating, thickness, sides 7/16 back 7/16 top 7/16
 Pitch of stays to ditto — sides 7 x 7 1/2 back 7 1/2 x 7 1/2 top 8 x 8
 If stays are fitted with nuts or riveted heads of nuts, other riv'd heads working pressure of plating by rules 99 lbs
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 92.8 lbs
 End plates in steam space, thickness 13/16 pitch of stays to ditto 17 3/4 x 17 3/4 how stays are secured Nuts & washers
 Working pressure by rules 75.1 lbs diameter of stays at smallest part 2 1/4" working pressure by rules 95.8 lbs
 Front plates at bottom, thickness 7/16 Back plates, thickness 3/4 greatest pitch of stays Guards working pressure by rules —

28684 Don

Diameter of tubes $3\frac{1}{4}$ pitch of tubes $4\frac{1}{2} \times 4\frac{1}{2}$ thickness of tube plates, front $\frac{1}{16}$ back $\frac{1}{16}$
How stayed Stay tube pitch of stays $9 \times 13\frac{1}{2}$ width of water spaces $1\frac{1}{4}$
Diameter of Superheater or Steam chest $3'-0"$ length $6'-6"$
Thickness of plates $\frac{7}{16}$ description of longitudinal joint Lap Double Riveted diameter of rivet holes $\frac{13}{16}$ pitch of rivets $2\frac{9}{16}$
Working pressure of shell by rules $128\frac{1}{2}$ 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 $\frac{1}{2}$ How stayed Cuneal ends
Superheater or steam chest; how connected to boiler by Anglin $4 \times 4 \times \frac{5}{8}$ Single riveted
DONKEY BOILER— Description Vertical, 3 water tubes in furnace
Made at Newcastle By whom made Clarke, Chapman & Co When made November - 1880
Where fixed On deck working pressure 50 lbs Tested by hydraulic pressure to 100 lbs No. of Certificate 499
Fire grate area $12\frac{1}{2}$ sq ft Description of safety valves Spring & Lever No. of safety valves 2 area of each 7 and 4.4 sq
If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No
Diameter of donkey boiler $4'-9"$ length $11'-0"$ description of riveting Long seams Lap Double Riveted
thickness of shell plates $\frac{3}{8}$ diameter of rivet holes $\frac{3}{4}$ whether punched or drilled Punched
pitch of rivets 3" lap of plating 4" per centage of strength of joint 75%
thickness of crown plates $\frac{7}{16}$ stayed by 4 Crown Stays 1 1/2 dia
Diameter of furnace, top $3'-6\frac{1}{2}"$ bottom $4'-2"$ length of furnace $4'-11"$
thickness of plates $\frac{7}{16}$ description of joint Lap Single riveted
thickness of furnace crown plates $\frac{7}{16}$ stayed by Uptake & 4 Stays 1 1/2 dia
Working pressure of shell by rules 76 lbs working pressure of furnace by rules 51 lbs
diameter of uptake $1'-2"$ thickness of plates $\frac{3}{8}$ thickness of water tubes $\frac{3}{8}$

The foregoing is a correct description,

Manufacturer.

Thomas Wilson

General Remarks (State quality of workmanship, opinions as to class, &c. This Survey is held in accordance with the requirements of the Rules for New Boilers and for annual Survey.

Material and workmanship of New Boilers Good.

Cylinders, Slide Valves and Condenser examined. Condition of same satisfactory. New nuts and studs fitted to Piston as required. New ends in L.P. piston rods. Piston rods skinned up in lathe and new neck bases fitted. New air pump rod. Crank shaft and pumps examined and found free for use. New wood in stern bush, fastenings of sea connection examined and found to be in order.

New Main and donkey boilers as above described.

Main Boiler tested under steam and safety valves found to be loaded to 75 lbs per square inch.

Donkey Boiler tested under steam and safety valves found to be loaded to 50 lbs per square inch.

The Machinery and Boilers of this vessel are in good order and safe working condition and in my opinion eligible for the Notification B & M S in the Register Book.

Should the Notification be desired, it will be necessary to raise the deck to position above Engine room platform.

The amount of Entry Fee .. £ + : : received by me,

Special £ 4 : 4 :

Certificate (if required) .. £ : 2 : 6 : 15/11/80

To be sent as per margin.

(Travelling Expenses, if any, £ —)

Committee's Minute

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