REPORT ON MACHINERY.

No. 5520

Received at London Office THURS 30 JULY 1885

No. in Reg. Book. Survey held at West Hartlepool & Stockton Date, first Survey 17th April Last Survey 17th July 1885.

(Number of Visits 14.)

✓ on the Screw Steamer "Emilie" Tons 1131 / 1742

Master J. Shotton Built at W. Hartlepool By whom built C. Witty & Co. When built 1885

Engines made at Stockton By whom made Mess.rs Blair & Co. Lim.d when made 1885.

Boilers made at Stockton By whom made Mess.rs Blair & Co. Lim.d when made 1885.

Registered Horse Power 180 Owners Mess.rs Burdick & Cooke Port belonging to London

ENGINES, &c.—

Description of Engines Triple Expansion, 3 Cylinders, & 3 Cranks

Diameter of Cylinders 21", 34" & 56" Length of Stroke 36" No. of Rev. per minute 65 Point of Cut off, High Pressure ½ stroke Low Pressure ½ stroke

Diameter of Screw shaft 11¼" Diam. of Tunnel shaft 10½" Diam. of Crank shaft journals 11" Diam. of Crank pin 11½" size of Crank webs 13¾" x 6¾"

Diameter of screw 15'. 0" Pitch of screw 16'. 0" No. of blades 4 state whether moveable yes total surface —

No. of Feed pumps 2 diameter of ditto 2¾" Stroke 26" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2 diameter of ditto 3½" Stroke 26" Can one be overhauled while the other is at work yes.

Where do they pump from Fore-hold, Engine room, after well and ballast tanks

No. of Donkey Engines 2 Size of Pumps (7½" x 9") (4" x 8") Where do they pump from Fore-hold, Engine room, after well, & ballast tanks. Sea, hotwell & 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 yes.

No. of bilge injections one and sizes 6½" dia. Are they connected to condenser, or to circulating pump Circulating pump.

How are the pumps worked By Levers from the low pressure piston crosshead.

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 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

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 8th June 1885.

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform in engine room.

BOILERS, &c.—

Number of Boilers one Description Cyl.r multitubular, double ends Whether Steel or Iron Steel

Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 3rd July 1885.

Description of superheating apparatus or steam chest none

Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately —

No. of square feet of fire grate surface in each boiler 68.75 Description of safety valves Spring No. to each boiler two

Area of each valve 8.29 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 18" Diameter of boilers 12'. 6¾"

Length of boilers 14'. 6" description of riveting of shell long. seams double butt strap circum. seams double rivd. lap Thickness of shell plates 1⅛"

Diameter of rivet holes 1⅛" whether punched or drilled drilled pitch of rivets 2 rows 3½", 1 row 7" Lap of plating 8⅛"

Per centage of strength of longitudinal joint 83.9 working pressure of shell by rules 162.7 lbs. size of manholes in shell 16" x 12"

Size of compensating rings 6" x 1 3/16" No. of Furnaces in each boiler 4

Outside diameter 3'. 7" length, top 5'. 2" bottom 5'. 7" thickness of plates 37/64" corrugated description of joint welded if rings are fitted no

Greatest length between rings — working pressure of furnace by the rules 168 lbs. combustion chamber plating, thickness, sides 9/16" back — top 9/16"

Pitch of stays to ditto, sides 7½" x 7¼" back — top 7⅝" x 7¼" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 167 lbs. Diameter of stays at smallest part 15/16" working pressure of ditto by rules 195 lbs. end plates in steam space, thickness 15/32"

Pitch of stays to ditto 17¼" x 17" how stays are secured double nuts & washers working pressure by rules 161 lbs. diameter of stays at smallest part 2⅝" working pressure by rules 166 lbs. Front plates at bottom, thickness 1" Back plates, thickness 1"

Greatest pitch of stays — working pressure by rules — Diameter of tubes 3" Int.l pitch of tubes 4 3/16" x 4¼" thickness of tube plates, front 1" back ⅞" how stayed stay tubes & nuts pitch of stays 8¾" x 8½" width of water spaces 1 9/16" x 1¼"

Diameter of Superheater or Steam chest none 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 —

DONKEY BOILER— Description Cylindrical, Vertical, Multitubular (Cochrans Patent)
Made at Gateshead by whom made Clarke, Chapman & Co when made 25.6.85 where fixed in stokehole
Working pressure 60 lbs. tested by hydraulic pressure to 120 lbs. No. of Certificate 1871 fire grate area 21.6 sq. ft. description of safety valves Spring No. of safety valves one area of each 11.04 if fitted with easing gear yes if steam from main boilers can enter the donkey boiler no diameter of donkey boiler 6.0 length 13.0 description of riveting double riveted lap
Thickness of shell plates 3/8" diameter of rivet holes 3/4" whether punched or drilled punched pitch of rivets 2 3/4" lap of plating 3 1/8"
per centage of strength of joint 75 thickness of crown plates 9/16" stayed by Dished & 5 gusset stays.
~~Diameter~~ Radius of furnace, top 2.6" bottom 5.3 dia. length of furnace — thickness of plates 1/2" description of joint single riv. lap.
Thickness of furnace crown plates 1/2" stayed by hemisphere working pressure of shell by rules 6
Working pressure of furnace by rules 63 lbs. diameter of uptake 18" thickness of plates 7/16" thickness of water tubes —
R.S. per John H. Hes

SPARE GEAR. State the articles supplied :— 2 main bearing bolts, 2 top end & 2 bottom end bolts for connecting rod. 1 set of coupling bolts, 1 set of feed & bilge pump valves. 1 set of donkey pump valves, 1 Propeller, 1 set of low pressure piston springs, 100 Bolts & nuts assorted, 2 Eccentric shaft bushes

The foregoing is a correct description,
Geo Clark Hes & Co
G W Clark Manufacturer. of Engines & Main Boilers only.

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

The Engines and boilers of this vessel have been constructed under Special Survey, and of a good quality of workmanship they have been examined under steam and found to work well and they are now in safe and efficient working condition and, in my opinion, eligible to have ✠ L. M. C. 7. 85. recorded in the Register Book of this Society

The amount of Entry Fee .. £ 2 : 0 : 0 received by me,
Special .. .. .. £ 27 : 0 : 0
Donkey Boiler Fee .. .. £ : : 27.7.1885.
Certificate (if required) .. £ : :
To be sent as per margin.
(Travelling Expenses, if any, £)

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

Committee's Minute FRIDAY 31 JULY 1885

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