

REPORT ON MACHINERY.

Port of *Sunderland*

Received at London Office

18

Survey held at *Sunderland* Date, first Survey *30 Decr 92* Last Survey *1st Jan'y 1895*
 on the *S.S. "Merionethshire"* (Number of Visits *32*) Tons { Gross *3071.52*
 Net *1949.49*
 Built at *Sunderland* By whom built *Sunderland S.B. Coy (Ld)* When built *1894*
 Lines made at *Sunderland* By whom made *N. E. M. E. Coy (Ld)* when made *1894*
 Masts made at *Sunderland* By whom made *N. E. M. E. Coy (Ld)* when made *1894*
 Registered Horse Power *500* Owners *Jenkins & Co.* Port belonging to *London*
 Horse Power as per Section 28 *325*

Engines, &c.— Description of Engines *Triple* No. of Cylinders *3*
 Diameter of Cylinders *25" 4 1/2" 69"* Length of Stroke *45"* Revolutions per minute *40* Diameter of Screw shaft *as per rule 12"*
 Diameter of Tunnel shaft *as fitted 12 1/8"* Diameter of Crank shaft journals *13"* Diameter of Crank pin *13"* Size of Crank webs *19 1/2" x 9"*
 Diameter of screw *16-6* Pitch of screw *19-0"* No. of blades *4* State whether moveable *yes* Total surface *46 sq ft*
 No. of Feed pumps *2* Diameter of ditto *3 1/2"* Stroke *26"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* Diameter of ditto *4 1/2"* Stroke *26"* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *2* Sizes of Pumps *6 x 4 x 6 1/4 x 9 x 9"* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *centre 3 1/2' x two of 3' wings* In Holds, &c. *H. M. & A holds 2 of 3" after hold*
 Well *3 1/2' funnel well 2 1/2' tanks centre 4' wings 2 1/2'*
 No. of bilge injections *1* sizes *3"* Connected to condenser, or to circulating pump *C.P.* Is a separate donkey suction fitted in Engine room & size *yes 3 1/2"*
 Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *none*
 Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stowhold 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*
 Are all pipes carried through the bunkers *none* How are they protected *—*
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*
 Were stern tube, propeller, screw shaft, and all connections examined in dry dock *yes* Is the screw shaft tunnel watertight *yes*
 Is it fitted with a watertight door *yes* worked from *top platform*
 Boilers, &c.— (Letter for record *S*) Total Heating Surface of Boilers *5000 sq ft*
 No. and Description of Boilers *2 single ended* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*
 Date of test *23-11-94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *60* No. and Description of safety valves to
 No. of boiler *2 direct spring* Area of each valve *4.04 sq ft* Pressure to which they are adjusted *160 lbs* Are they fitted
 No. of easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *14"* Mean diameter of boilers *15-3"*
 Length *11-0"* Material of shell plates *Steel* Thickness *13/32"* Description of riveting: circum. seams *double rivet lap* long. seams *t.r.d. b.s.*
 Diameter of rivet holes in long. seams *1 13/32"* Pitch of rivets *8" 4" 4"* Length of plates or width of butt straps *19 1/2"*
 Percentages of strength of longitudinal joint *102* Working pressure of shell by rules *164 lbs* Size of manhole in shell *16" x 12"*
 No. of compensating ring *8 x 1 13/32"* No. and Description of Furnaces in each boiler *4 plain* Material *S* Outside diameter *3-0"*
 Length of plain part *top 6-3" bottom 6-3"* Thickness of plates *top 2 1/32" bottom 3/32"* Description of longitudinal joint *double butt straps* No. of strengthening rings *1/2 on bot*
 Working pressure of furnace by the rules *160 lbs* Combustion chamber plates: Material *S* Thickness: Sides *5/8"* Back *2 3/32"* Top *5/8"* Bottom *5/8" x 1/2"*
 Length of stays to ditto: Sides *9 x 8 1/4"* Back *10 x 9 1/2"* Top *4 1/2 x 8 1/4"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *169 lbs*
 Material of stays *S* Diameter at smallest part *1 1/2"* Area supported by each stay *95 sq ft* Working pressure by rules *166 lbs* End plates in steam space:
 Material *S* Thickness *1 1/2"* Pitch of stays *14 3/4"* How are stays secured *nuts* Working pressure by rules *219 lbs* Material of stays *S*
 Diameter at smallest part *2 3/8"* Area supported by each stay *214* Working pressure by rules *83 lbs* Material of Front plates at bottom *S*
 Thickness *3/4"* Material of Lower back plate *S* Thickness *2 1/4"* Greatest pitch of stays *12"* Working pressure of plate by rules *160 lbs*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2 x 4 5/8"* Material of tube plates *S* Thickness: Front *13/16"* Back *13/16"* Mean pitch of stays *9 x 9 1/4"*
 Pitch across wide water spaces *14"* Working pressures by rules *160 lbs* Girders to Chamber tops: Material *S* Depth and
 Thickness of girder at centre *6 3/4 x 2 3/4"* Length as per rule *32"* Distance apart *4 1/2"* Number and pitch of Stays in each *3 stays 8 3/4 x 4 1/2"*
 Working pressure by rules *181 lbs* Superheater or Steam chest; how connected to boiler *none* Can the superheater be shut off and the boiler worked
 Separately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivet
 Plates *—* Pitch of rivets *—* Working pressure of shell by rules *—* Diameter of flue *—* Material of flue plates *—* Thickness *—*
 Stays *—* stiffened with rings *—* Distance between rings *—* Working pressure by rules *—* End plates: Thickness *—* How stayed *—*
 Working pressure of end plates *—* Area of safety valves to superheater *—* Are they fitted with easing gear *—*

DONKEY BOILER— Description *Horizontal multitubular ordinary marine type*
 Made at *Gateshead* By whom made *Clarke Chapman & Co* When made *5-14-94* Where fixed *on deck*
 Working pressure *100 lbs* tested by hydraulic pressure to *200 lbs* No. of Certificate *4471* Fire grate area *26 sq ft* Description of safety valves *direct spring*
 No. of safety valves *2* Area of each *8.2* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *9-0"* Length *9-0"* Material of shell plates *steel* Thickness *9/16"*
 Description of riveting long seams *D.B.S.D.R.* Diameter of rivet holes *3/4"* Whether punched or drilled *no* Pitch of rivets *48"*
 L *Straps 4/15"* Per centage of strength of joint *85%* Rivets *85%* Thickness of shell plates *9/16"* Radius of do. *flat* No. of Stays to do. *10*
 Dia. of stays *1 1/3"* Diameter of furnace *2-8"* Bottom *5/8"* Length of furnace *6-6"* Thickness of furnace plates *1/2"* Description of joint *Riv. butt straps* Thickness of furnace plates *1/2"* Stays by *1 1/4" eff screw stays* Working pressure of shell by rules *106 lbs*
 Working pressure of furnace by rules *132 lbs* Diameter of tubes *3"* Thickness of tube plates *3/4"* Thickness of tubes *5/16"*

SPARE GEAR. State the articles supplied:— *Top & bottom end connecting rod bolts & nuts*
two main bearing bolts & nuts. one set of coupling bolts feed &
bridge pump valves

The foregoing is a correct description,
for the North Eastern Marine Engineering Co. of main engines & boilers
J. H. Irwin. Director

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

The machinery of this Vessel has been constructed under special survey. the material & workmanship are good & efficient and the engines when tried under steam worked satisfactorily. The main steam pipes have been tested by hydraulic pressure to 320 lbs & the pumps & watertight doors are in efficient working order. This Vessel is fitted with the electric light by Messrs Clarke Chapman & Co.
In my opinion this Vessel is eligible for the notification in the Register Book of L.M.C. 1.95.
The electric light report will be forwarded in a few days.

It is submitted that
 this vessel is eligible for
 THE RECORD + L.M.C. 1-95

W.A.
12-1-95

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 3	:	When applied for,
Special	£ 36	: 5	8 Jan 1895
Donkey Boiler Fee	£	:	When received,
Travelling Expenses (if any) £		:	10 Jan 1895

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

Committee's Minute

TUES. 15 JAN 1895

Assigned

+ L.M.C. 1.95



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