

REPORT ON MACHINERY.

Port of *Belfast*

MON 10 NOV 1890

No. *3809*

No. in Survey held at *Belfast*

Date, first Survey *June 24* Last Survey *Nov 4th 1890*

Reg. Book.

on the steel S.S. "*Susannah Kelly*"

(Number of Visits *19*)

Master *W. Watson* Built at *Belfast* By whom built *MacDwaine & MacColl* (When built *1890*)

Engines made at *Belfast* By whom made *MacDwaine & MacColl* when made *1890*

Boilers made at *Belfast* By whom made *MacDwaine & MacColl* when made *1890*

Registered Horse Power *48* Owners *John Kelly* Port belonging to *Belfast*

ENGINES, &c.—

Description of Engines *Tri-compound S.I.S.C. 3 cranks* No. of Cylinders *Three*
 Diam. of Cylinders *12, 19, 31* Length of Stroke *30* Rev. per minute *110* Point of Cut off, High Pressure *50.8* Low Pressure *50.4*
 Diameter of Screw shaft *6 1/2* Diam. of Tunnel shaft *none* Diam. of Crank shaft journals *6 1/2* Diam. of Crank pin *6 1/2* size of Crank webs *8 x 4*
 Diameter of screw *9 ft.* Pitch of screw *11-3* No. of blades *4* state whether moveable *yes* total surface *28 sq ft.*
 No. of Feed pumps *one* diameter of ditto *2 1/2* Stroke *13* Can one be overhauled while the other is at work *—*
 No. of Bilge pumps *one* diameter of ditto *3* Stroke *13* Can one be overhauled while the other is at work *—*
 Where do they pump from *From the bilges in E. & B. space & from the holds*
 No. of Donkey Engines *one* Size of Pumps *3 dia x 6 stroke* Where do they pump from *Sea, bilges, tanks & holds*
Centrifugal Pump from sea & 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 *—* Are they connected to condenser, or to circulating pump *circulating pumps*
 How are the pumps worked *by links & levers from I.P. engine cross lead, separate engine for centrifugal circulating pumps.*
 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 stokehold plates *yes* Are the discharge pipes above or below the deep water line *—*
 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 *—*
 Is the screw shaft tunnel watertight *none* and fitted with a sluice door *—* worked from *—*

BOILERS, &c.—

No. of Boilers *one* Description *Multi-² Single ended Gir.* Material *Steel* Letter (for record) *—*
 Working Pressure *160 lbs* Tested by hydraulic pressure to *820* Date of test *Oct 16th 1890*
 Description of superheating apparatus or steam chest *—*
 Can each boiler be worked separately *—* Can the superheater be shut off and the boiler worked separately *—*
 Area of square feet of fire grate surface in each boiler *29.7* Description of safety valves *Cockburn's* No. to each boiler *two*
 Area of each valve *3.9460* 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 *—* Diameter of boilers *10.4*
 Length of boilers *6.9* description of riveting of shell long. seams *treble, butt shape circum.* seams *top 1/2 double* Thickness of shell plates *27/32*
 Diameter of rivet holes *7/8* whether punched or drilled *drilled* pitch of rivets *8.2955* Lap of plating *4 1/2 x 6*
 Percentage of strength of longitudinal joint *89.4* working pressure of shell by rules *159* size of manholes *in shell 16 x 12*
 No. of compensating rings *none* No. of Furnaces in each boiler *two* Description of Furnaces *plain with Adamson's rings*
 Outside diameter *2.11* length between rings *3.53 + 3.23* thickness of plates *7/16* description of joint *welded* if rings are fitted *yes*
 Greatest length between rings *3.5 7/8* working pressure of furnace by the rules *177* combustion chamber plating, thickness, sides *7/16* back *7/16* top *7/16*
 Pitch of stays to ditto, sides *7 3/4* back *7 3/4* top *7 3/4* If stays are fitted with nuts or riveted heads *riveted over a steel* working pressure of plating by rules *162* Diameter of stays at smallest part *1 1/4* working pressure of ditto by rules *164* end plates in steam space, thickness *7/16 doubled*
 Pitch of stays to ditto *14 x 15 1/2* how stays are secured *double nuts* working pressure by rules *160.2* diameter of stays at smallest part *2 3/8* working pressure by rules *160.2* Front plates at bottom, thickness *7/8* Back plates, thickness *7/8 doubled*
 Greatest pitch of stays *7 3/4* working pressure by rules *167* Diameter of tubes *3 1/4* pitch of tubes *4 1/2* thickness of tube plates, front *1 1/16* back *1/16* how stayed *stay tubes* pitch of stays *9 x 13 1/2* width of water spaces *10 1/2 x 9 sides*
 Diameter of Superheater or Steam chest *—* 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 *—*



1100-85738

DONKEY BOILER— Description *Cir. single ended multitubular horizontal steel with one furnace*
 Made at *Belfast* by whom made *MacLwaine & MacColl* when made *1890* where fixed on *R.A.D. over M. boiler*
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *94* fire grate area *8.5* description of safety
 valves *D. Crebburn's* No. of safety valves *two* area of each *3.140* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *No* diameter of donkey boiler *5.6* length *6.6* description of riveting *lap & double riveted*
 Thickness of shell plates *3/8* diameter of rivet holes *1/6* whether punched or drilled *drilled* pitch of rivets *2.25* lap of plating *4*
 per centage of strength of joint *69* thickness of ^{end} ~~cover~~ plates *1/2* stayed by *1 1/2* steel stays *12* pitch *washers 7/8 dia & 1/4 thick*
 Diameter of furnace, top *27 3/4* bottom *✓* length of furnace *4.25 ft* thickness of plates *3/8* description of joint *welded*
 Thickness of ~~furnace cover~~ ^{c.c. top & bottom} plates *25/32* stayed by *✓* working pressure of shell by rules *66.6*
 Working pressure of furnace by rules *108* diameter of uptake *✓* thickness of plates *✓* thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *2 top end bolts, 2 bottom end bolts, 2 M. bearings, bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, bolts & nuts & iron of various sizes*

The foregoing is a correct description,
MAGILWAINE & MACCOLL, LIMITED. Manufacturers.
MacColl

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel*)
has been constructed in accordance with the approved plans of main & donkey & to the Rules of the Society & also to the satisfaction of the undersigned.
The main & auxiliary boilers & the main steam pipe have been tested in accordance with the Rules & shewed no signs of leakage or weakness, the boilers have also been tried under steam & the safety valves set to 160 + 5 lbs & 60 + lbs respectively.
The shafting has been examined when finished & found free from visible defects.
The whole of the material used in the construction of the machinery & the workmanship throughout are good & satisfactory & I recommend the notification L.M.C. granted & recorded in the Register Book.

It is submitted that this vessel is eligible to have + L.M.C. 11-90 *revised,*

Machinery Certificate
 Written.

The amount of Entry Fee .. £ *1 : 0* : *not received by me,*
 Special £ *8 : 11* :
 Donkey Boiler Fee £ : :
 Certificate (if required) .. £ : : *2/12/1890*
 To be sent as per margin.

W.M. Davy
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES 18 NOV 1890**

+ Lmb 11/90

