

REPORT ON MACHINERY.

Port of Belfast

TUES. 8 JUL 1902

Received at London Office

No. in Survey held at Belfast Date, first Survey April 5th Last Survey July 2nd 1902
 Reg. Book. on the S.S. Flaversham Grange (Ex. Rapidan) (Number of Visits 4)
 Master P. Howe Built at W. Hawthorn & Co. Ltd. Newcastle When built 1898
 Engines made at Newcastle By whom made N. S. Marine Coy. L. when made 1898
 Boilers made at W. & A. Fairbank & Co. Ltd. Newcastle when made 1898 & 1902
 Registered Horse Power 582 Owners The Empire Transport Coy. Ltd. Greenock
 Nom. Horse Power as per Section 28 582 (Shoulder Prox. & Low Manages) Is Electric Light fitted

ENGINES, &c.—Description of Engines

Description of Engines		No. of Cylinders	No. of Cranks
Diameter of Cylinders	Length of Stroke	Revolutions per minute	Diameter of Screw shaft as per rule
Diameter of Tunnel shaft as per rule	Diameter of Crank shaft journals	Diameter of Crank pin	Size of Crank webs
Diameter of screw	Pitch of screw	No. of blades	State whether moveable
No. of Feed pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work
No. of Bilge pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps	
In Engine Room		In Holds, &c.	
No. of bilge injections	sizes	Connected to condenser, or to circulating pump	Is a separate donkey suction fitted in Engine room & size
Are all the bilge suction pipes fitted with roses		Are the roses in Engine room always accessible	Are the sluices on Engine room bulkheads always accessible
Are all connections with the sea direct on the skin of the ship		Are they Valves or Cocks	
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates		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		Are the blow off cocks fitted with a spigot and brass covering plate	
What pipes are carried through the bunkers		How are they protected	
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times			
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges			
When were stern tube, propeller, screw shaft, and all connections examined in dry dock		Is the screw shaft tunnel watertight	
Is it fitted with a watertight door		worked from	

BOILERS, &c.— (Letter for record) Total Heating Surface of Boilers Is forced draft fitted

No. and Description of Boilers		Working Pressure	Tested by hydraulic pressure to	
Date of test	Can each boiler be worked separately	Area of fire grate in each boiler	No. and Description of safety valves to each boiler	
with easing gear	Smallest distance between boilers or uptakes and bunkers or woodwork	Area of each valve	Pressure to which they are adjusted	Are they fitted
Length	Material of shell plates	Thickness	Description of riveting: circum. seams	long. seams
Diameter of rivet holes in long. seams	Pitch of rivets	Lap of plates or width of butt straps		
Per centages of strength of longitudinal joint	Working pressure of shell by rules	Size of manhole in shell		
Size of compensating ring	No. and Description of Furnaces in each boiler		Material	Outside diameter
Length of plain part	Thickness of plates	Description of longitudinal joint		No. of strengthening rings
Working pressure of furnace by the rules	Combustion chamber plates: Material		Thickness: Sides	Back Top Bottom
Pitch of stays to ditto: Sides	Back	Top	If stays are fitted with nuts or riveted heads	
Material of stays	Diameter at smallest part	Area supported by each stay	Working pressure by rules	End plates in steam space:
Material	Thickness	Pitch of stays	How are stays secured	Working pressure by rules
Diameter at smallest part	Area supported by each stay	Working pressure by rules	Material of Front plates at bottom	
Thickness	Material of Lower back plate	Thickness	Greatest pitch of stays	Working pressure of plate by rules
Diameter of tubes	Pitch of tubes	Material of tube plates	Thickness: Front	Back
Pitch across wide water spaces	Working pressures by rules	Girders to Chamber tops: Material		Depth and
thickness of girder at centre	Length as per rule	Distance apart	Number and pitch of Stays in each	
Working pressure by rules	Superheater or Steam chest; how connected to boiler		Can the superheater be shut off and the boiler worked separately	
holes	Diameter	Length	Thickness of shell plates	Material
If stiffened with rings	Pitch of rivets	Working pressure of shell by rules	Diameter of flue	Material of flue plates
Working pressure of end plates	Distance between rings	Working pressure by rules	End plates: Thickness	How stayed
Area of safety valves to superheater		Are they fitted with easing gear		

Auxiliary Heating Surveys 1465 sq ft.
Auxiliary BOILER— Description *Cylindrical Single Ended*
 Made at *Robast* By whom made *Workman Clark & Co. Ltd* When made *1902* Where fixed *St. Stephen*
 Working pressure *180 lbs* tested by hydraulic pressure to *360* No. of Certificate *317* Fire grate area *60 sq ft* Description of safety valves *W.C.M.*
 No. of safety valves *2* Area of each *7.07* Pressure to which they are adjusted *180 lbs* fitted with easing gear *Yes* If steam from main enter the donkey boiler *Yes* Diameter of donkey boiler *15'-0"* Length *10'-0"* Material of shell plates *Steel* Thickness *1/2"*
 Description of riveting long seams *Butt Riddle 1/2"* Diameter of rivet holes *7/8"* Whether punched or drilled *Drilled* Pitch of rivets *9/16"*
 Type of plating *2 1/2"* Percentage of strength of joint *85%* Rivets *8/16"* Thickness of shell plates *1 1/2"* Radius of do. *1/2"* Stays to do. *19 x 1 1/2"*
 Dia. of stays *3 x 3/4"* Diameter of furnace *48 1/2"* Bottom *Flat* Length of furnace *6'-0"* Thickness of furnace plates *5/8"* Description of joint *Weld* Thickness of furnace plates *9/16"* Stayed by *Screwed Stay & Riddle* Working pressure of shell by rules *207 1/2*
 Working pressure of furnace by rules *205 lbs* Diameter of uptake *12"* Thickness of uptake plates *1/2"* Thickness of water tubes *4 1/2" x 4 3/8"*

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,
 FOR WORKMAN, CLARK & CO., LIMITED.
 Manufacturer.

Dates of Survey while building
 During progress of work in shops— *April 5-7-8-9-10-11-17-25-28-30* *May 2-3-3-6-7-12-14-16*
 During erection on board vessel— *May 20-22-26-28-29* *June 6-13-16-20-21-23-25* *July 1-2*
 Total No. of visits *42*

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

ENGINES—Length of stern bush Diameter of crank shaft journals *as per rule* Diameter of thrust shaft under collars
 BOILER—Range of tensile strength Are they welded or flanged **DONKEY BOILER**—No. *Aux* Range of tensile strength *28-32*
 Is the approved plan of main boiler forwarded herewith Is the approved plan of donkey boiler forwarded herewith *Yes*

A new Auxiliary Boiler, also an Evaporator has been fitted to this vessel, in consequence of having a large Refrigerator Installation fitted. The tunnel suction's have been altered, & crimped with the view of trade regulations, and have now had the regulate valves placed outside the tunnel, in the Engine Room.
 When the vessel was in dry dock, the propeller, sea-cocks, and fastenings were examined, and found in good order.
 The main steam pipes have all been annealed, and tested by hydraulic to 360 lbs per sq. inch with satisfactory results.
 The new auxiliary boiler is connected by a new copper main steam pipe to the range of main boilers.

In my opinion this vessel is eligible to remain as Classed and I have record **N.B(1) 7-92**

1 new aux boiler fitted
 It is submitted that this vessel is eligible to remain as CLASSED.

The following to be noted in the Register
 4 SB & 1 Aux 7:02, ~~1902~~ GS 319, HS 10305
 N.P. 565

The amount of Entry Fee... £
 Special ... £
 Donkey Boiler Fee ... £ 6
 Travelling Expenses (if any) £
 When applied for: *24-6-02*
 When received: *2/7/02*

P. J. Bennett
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 11.7.02

Committee's Minute TUES. 15 JUL 1902

Assigned as now not record of boilers



Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.