

REPORT ON MACHINERY.

3916

No. 3916

Port of

Belfast

Received at London Office

MON. 1 JUN 1891

No. in Survey held at
Reg. Book.

Belfast

Date, first Survey Nov 28, 1890 Last Survey May 19 1891

(Number of Visits 19)

on the steel S.S. Stream Fisher

Tons Gross 479
Net 188

Master R. Bannister Built at Belfast By whom built MacIlwaine & MacColl When built 1891-2

Engines made at Belfast By whom made MacIlwaine & MacColl, Lim. when made 1891

Boilers made at Do By whom made Do when made 1891

Registered Horse Power 80 Owners J. Fisher & Sons Port belonging to Barrow

ENGINES, &c.—

Description of Engines Tri-compound I. D. A. S. C. with 3 Cranks No. of Cylinders 3

Diam. of Cylinders 15" 23" 39" Length of Stroke 30 Rev. per minute 90 Point of Cut off, High Pressure 1/8" Low Pressure 1/2"

Diameter of Screw shaft 7 1/2" Diam. of Tunnel shaft 7 1/8" Diam. of Crank shaft journals 7 1/2" Diam. of Crank pin 7 1/2" size of Crank webs 9" x 4 1/2"

Diameter of screw 10 3/8" Pitch of screw 14 1/2" No. of blades 3 state whether moveable yes total surface 24 sq. ft.

No. of Feed pumps 2 diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes

Where do they pump from Feed from hotwell Bilge from all the holds & 8 x 13 space

No. of Donkey Engines Two Size of Pumps 4 1/2" 2 1/2" 5" 14" Where do they pump from From sea, hotwell

inlets and bilges of 8 x 13 space and holds

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 4 in. Are they connected to condenser, or to circulating pump to centrifugal air pump

How are the pumps worked By levers & links

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves

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 the

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 pipes 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 Before the vessel was launched

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Top Platform

BOILERS, &c.—

No. of Boilers One Description Corrugated Single ended Material Steel Letter (for record) Oct 30, 1890

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test April 29th 1891 Cor. No. 109

Description of superheating apparatus or steam chest

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 400 Description of safety valves D. Cockburn's No. to each boiler Two

Area of each valve 5.93 sq. ft. 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 7 ft. Diameter of boilers 12' 0"

Length of boilers 10' 0" description of riveting of shell long. seams Double B.S. Treble circum. seams Treble & double Thickness of shell plates 1"

Diameter of rivet holes 1" whether punched or drilled Drilled pitch of rivets 9.14 Lap of plating 16 1/2" B.S.

Percentage of strength of longitudinal joint 88.4 working pressure of shell by rules 159.6 size of manholes in shell 16" x 12"

Size of compensating rings none No. of Furnaces in each boiler Two Description of Furnaces Plain with one Adamson's

Outside diameter 3' 5 1/8" length 4' 1 1/8" thickness of plates 3/32 description of joint Welded if rings are fitted yes

Greatest length between rings 3' 7 1/2" working pressure of furnace by the rules 163 combustion chamber plating, thickness, sides 9/16 back 9/16 top 9/16

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 nutted & C.C. working pressure of plating by

rules 162 Diameter of stays at smallest part 1 1/4 working pressure of ditto by rules 162.6 end plates in steam space, thickness 3/32 doubled

Pitch of stays to ditto 18" x 14" how stays are secured Double nutted & riveted working pressure by rules 160 lbs diameter of stays at

smallest part 2 3/4 working pressure by rules 143 Front plates at bottom, thickness 7/16 Back plates, thickness 7/16 doubled

Pitch of stays 1 1/8 working pressure by rules 160 Diameter of tubes 3 1/2" pitch of tubes 4 1/4" x 4 1/4" thickness of tube

front 7/16 back 7/16 how stayed Stay tubes pitch of stays 9 1/2" x 9 1/2" width of water spaces 11 1/2" x 9"

of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. of rivet holes

Are they riveted working pressure of shell by rules diameter of flue thickness of plates If stiffened with rings

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 *Cir. Single ended Multitubular Horizontal one furnace Steel*
 Made at *Belfast* by whom made *MacDugane & MacColl Ltd* when made *1891* where fixed *St. Stokeloid*
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *108* fire grate area *8.5* description of safety
 valves *D. Cockburn's* No. of safety valves *2* area of each *3.14 sq ft* 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 *Double rivetted lap*
 Thickness of shell plates *3/8"* diameter of rivet holes *7/16"* whether punched or drilled *Drilled* pitch of rivets *2 1/2"* lap of plating *4"*
 per centage of strength of joint *69* thickness of ~~plates~~ ^{END} plates *1/2"* stayed by *1 1/2" steel stays 12 in pitch with washers 7 dia x 7/16*
 Diameter of furnace *top 24 3/4" bottom 24"* length of furnace *4' 2"* thickness of plates *3/8"* description of joint *Welded*
 Thickness of ~~furnace~~ ^{base} plates *top 3/8" bottom 1/2"* stayed by *1 1/2" steel stays 12 in pitch with washers 7 dia x 7/16* working pressure of shell by rules *78 lbs*
 Working pressure of furnace by rules *108 lbs* diameter of uptake *4"* thickness of plates *3/8"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:—*2 Top & 2 Bottom-end Bolts and nuts; one set of coupling bolts; 2 Main Bearing bolts; one set of Lead & Bilge Pump valves; one set of Ramsbottom rings for H.P. & I.P. pistons and a quantity of assorted bolts & nuts, and two Propeller Blades.*

The foregoing is a correct description,

MacDugane & MacColl Ltd Manufacturer.

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

The machinery of this vessel has been constructed in accordance with the amended plans of the main & auxiliary boilers, the Secretary's letter dated Oct 30, 1890, the Rules of the Society & to the satisfaction of the undersigned.

The shafting when finished was examined & found free from any visible defects.

The materials & workmanship are good & satisfactory throughout. The main steam pipe, main & auxiliary boilers were tested to twice the working pressure & the safety valves adjusted under steam to 160 + 5 lbs & 60 lbs respectively.

*The engines were tried under steam running at full speed & gave every satisfaction & I am of opinion that the machinery merits the approval of the Committee & that the special notification **+ LMC 5.91** be granted & recorded in the Society's Register Book.*

The amount of Entry Fee .. £ *1 : 0 :* received by me,
 Special .. £ *12 : 6 :*
 Donkey Boiler Fee .. £ : :
 Certificate (if required) .. £ *Gratio*:
 To be sent as per margin.
 (Travelling Expenses, if any, £ ..)

Committee's Minute

TUES. 2 JUN 1891

+ L.M.C. 5/91.

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



Lloyd's Register
Foundation