

REPORT ON MACHINERY.

No. 7495
MON. FEB. 15. 1915

Date of writing Report 11 Feb 1915 When handed in at Local Office

Received at London Office

No. in Survey held at Belfast

Port of Belfast

Reg. Book.

Date, First Survey 27 Feb 1914 Last Survey 6 Feb 1915

on the

S.S. Carmarthenshire

(Number of Visits 81)

Gross 7823

Master

Built at

Belfast

By whom built

Nockman Clark & Co

Tons

Net 4969

When built 1913

Engines made at

Belfast

By whom made

Boilers made at

By whom made

Registered Horse Power

By whom made

Nom. Horse Power as per Section 28 735

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Single Screw, Quadruple Expansion

Dia. of Cylinders 27½-39½-57-82

Length of Stroke 54"

Revs. per minute 70

Dia. of Screw shaft

as per rule 16.35

Material of

S. Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

liners are fitted, is the shaft lapped or protected between the liners

Dia. of Tunnel shaft

as per rule 14.87

Dia. of Crank shaft journals

as per rule 15.61

Dia. of Crank pin

as fitted 16.12

Size of Crank webs

11x22½

Dia. of thrust shaft under

collars

No. of Feed pumps

Vauclain

Pitch of Screw

18'-9"

No. of Blades

4

State whether moveable

Yes

Total surface

125 sq ft.

No. of Bilge pumps

Two

Diameter of ditto

5"

Stroke

27"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Five

Sizes of Pumps

10x8x10

7x6x8

9x10x8

No. and size of Suctions connected to both Bilge and Donkey pumps

In Holds, &c.

12-3½

6-2½

In Engine Room

3-3½

No. of Bilge Injections

Four

Connected to condenser, or to circulating pump

Pumps

a separate Donkey Suction fitted in Engine room & size

2-3½

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

Yes

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

Both

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

Fore hold suction

How are they protected

Wood casing

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

Dates of examination of completion of fitting of Sea Connections

22-9-14

of Stern Tube

14-10-14

Screw shaft and Propeller

14-10-14

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Upper Deck

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Beardmore & Co Ld.

Total Heating Surface of Boilers

10500

Is Forced Draft fitted

Yes

No. and Description of Boilers

4

Single End Cylind.

Working Pressure

215 lbs

Tested by hydraulic pressure to

430 lbs

Date of test

13-10-14

No. of Certificate

467

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

65 sq ft

No. and Description of Safety Valves to

each boiler

Two-Direct Spring

Pressure to which they are adjusted

215 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

About 19"

Mean dia. of boilers

15-4½

Length

11'-6"

Material of shell plates

Steel

Thickness

3/4"

Range of tensile strength

30-33½ tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap & P.

long. seams

Butt & Circle

Pitch of rivets

10½"

Lap of plates or width of butt straps

23½"

Per centages of strength of longitudinal joint

rivets 89.7

plate 84.8

Working pressure of shell by rules

251 lbs

Size of manhole in shell

16"x12"

Size of compensating ring

McNeill

No. and Description of Furnaces in each boiler

4

Material

Steel

Outside diameter

42½"

Length of plain part

top 2"

Thickness of plates

bottom 8"

Description of longitudinal joint

Weld

No. of strengthening rings

8

Working pressure of furnace by the rules

240 lbs

combustion chamber plates: Material

Steel

Thickness: Sides

4/4"

Back

3/4"

Top

4/4"

Bottom

Pitch of stays to ditto: Sides

8x6"

Back

8x7"

Top

8x7"

Working pressure by rules

215 lbs

Material of stays

Steel

Diameter at smallest part

1 7/16"

Supported by

each stay

Working pressure by rules

225 lbs

plates in steam space:

Material of stays

Steel

Material

Steel

Thickness

1 7/16"

Pitch of stays

15x15"

How are stays secured

Weld

Working pressure by rules

219 lbs

Material of stays

Diameter at smallest part

7 1/2"

Supported by

each stay

Working pressure by rules

258 lbs

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

3 1/2 x 7 1/2"

Working pressure of plate by rules

235 lbs

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/2 x 3 5/8"

Material of tube plates

Steel

Thickness: Front

1 1/4"

Back

1 1/2"

Mean pitch of stays

Pitch across wide water spaces

13 1/2"

Working pressures by rules

215 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9 1/2 x (7/4 x 2)

Length as per rule

31 1/2"

Working pressure by rules

216 lbs

Superheater or Steam chest; how connected to boiler

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

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If 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

Foundation

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description			
Made at	By whom made	When made	Where fixed	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment
If fitted with easing gear	If steam from main boilers can enter the donkey boiler		Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams	
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by	
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey	

SPARE GEAR. State the articles supplied:—Propeller shaft, 2 propeller blades, pair crank pin bushes, 2 pair cross head bushes, air pump bucket, rod & guide & two valve seat complete, 2 pair main bearing bushes, piston rod, 2 valves spindles, eccentric pulley rod & trap, set piston rings, cent. pump impeller packing rings, H.P. piston valve, etc. and all gear to Lloyd's Rules extra.

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

Dates of Survey while building: During progress of work in shops -- 1/9/14; Feb 27, March 6, 11, 19, 24 April 1, 7, 10, 21, 28, May 4, 6, 11, 13, 14, 23, June 13, 16, 24, 26 up till 6th Feb 1915
During erection on board vessel --
Total No. of visits 8/

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 1 - 4 Slides 14 Covers 5 Pistons Rods
Connecting rods 26-10-14 Crank shaft 21 - 4 Thrust shaft Tunnel shafts 14-9-14 Propeller 4-9-14
Stern tube 4-9-14 Steam pipes tested 28-10-14 Engine and boiler seatings 6-1-15 Engines holding down bolts 19-1-15
Completion of pumping arrangements 29-1-15 Boilers fixed 6-1-15 Engines tried under steam 6-2-15
Main boiler safety valves adjusted 29-1-15 Thickness of adjusting washers 12-1-15
Material of Crank shaft Steel Identification Mark on Do. LLOYDS 7-5-13 Material of Thrust shaft Do Identification Mark on Do. 7-5-13
Material of Tunnel shafts Do Identification Marks on Do. 26-8-14 Material of Screw shafts Do Identification Marks on Do. 10-9-14
Material of Steam Pipes W. Iron Test pressure 650 lbs sq. in.

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The workmanship, and the materials, are of good description and on trial in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 2-15, with notation. Forced Draft Electric Light Refrigerating Machinery.

It is submitted that this vessel is eligible for

THE RECORD + L.M.C. 2.15. F.D.

Ref. Mch.

J.W.D.

16.2.15.

ARK

The amount of Entry Fee .. £ 3 : 0 :
Special .. £ 56 : 15 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 5-2-15
When received, 11-2-15

R. F. T. Beveridge
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. FEB. 23. 1915

Assigned + L.M.C. 2.15

MACHINERY CERTIFICATE

