

REPORT ON MACHINERY.

No. 5963

WED. 4 OCT 1905

Port of

Belfast

Received at London Office

19

No. in Survey held at
Reg. Book.

Date, first Survey Dec-7-1904 Last Survey 28 Apr 1905

(Number of Visits 75)

on the

A.S.B. Delta

Master

A.L. Daniel

Built at

Belfast

By whom built

Workman Clark & Co

Tons

Gross 805-2

Net 474-3

When built

1905

Engines made at

Belfast

By whom made

Workman Clark & Co

when made

1905

Boilers made at

By whom made

when made

Registered Horse Power

Owners

Peninsular & Oriental S. N. Co. Ltd. Belfast

Nom. Horse Power as per Section 28

1251

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Twin Screw Quadruple Expansion of Cylinders

8

No. of Cranks

8

Dia. of Cylinders

25 1/2 - 36 1/2 - 52 - 74

Length of Stroke

51

Revs. per minute

86

Dia. of Screw shaft

as per rule 14.46

as fitted 15.5

Material of

Screw shaft

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

in the propeller boss

Yes

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

Yes

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

Yes

If two

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

Yes

Length of stern bush

62

Dia. of Tunnel shaft

as per rule 13.77

as fitted 14.0

Dia. of Crank shaft journals

as per rule 14.46

as fitted 14.75

Dia. of Crank pin

14 1/2

Size of Crank web

20 1/2 x 10 1/2

Dia. of thrust shaft under

collars

14 1/2

Dia. of screw

16 - 0

Pitch of screw

20 - 6

No. of blades

3

State whether moveable

Yes

Total surface

66 sq ft

No. of Feed pumps

3

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

3

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

1

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

In Engine Room

4 - 3 1/2

In Holds, &c.

9 - 3 1/2 + 2 - 3 1/2

No. of bilge injections

2 sizes 1 1/2

Connected to condenser, or to circulating pump

Condenser

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 in Engine room 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 casings

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Before launching

Is the screw shaft tunnel watertight

Stated to be

Is it fitted with a watertight door

Yes

worked from

Top Platform Engine Room

Is forced draft fitted

Yes

BOILERS, &c.—

(Letter for record)

3

Total Heating Surface of Boilers

9480

Is forced draft fitted

Yes

No. and Description of Boilers

2 Double End Cylinders

4 Single End Cylinders

Working Pressure

215 lbs

Tested by hydraulic pressure to

430 lbs

Date of test

28-6-05

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

114 sq ft

No. and Description of safety valves to

each boiler

3 - 1 1/2 inch diameter

Area of each valve

14.19 sq in

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

11"

Mean dia. of boilers

14' 8"

Length

20' - 0"

Material of shell plates

Steel

Thickness

1 1/2"

Range of tensile strength

30-33

Are they welded or flanged

No

Descrip. of riveting: cir. seams

Lap or Y

long. seams

Butt. Joints

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

10 1/2"

Lap of plates or width of butt straps

22 1/2"

Per centages of strength of longitudinal joint

rivets 94.6

plate 84.4

Working pressure of shell by rules

246 lbs

Size of manhole in shell

16 x 12"

Size of compensating ring

M. Nails

No. and Description of Furnaces in each boiler

3 - Mannesmann

Material

Steel

Outside diameter

45 1/2"

Length of plain part

top 3"

bottom 1"

Thickness of plates

crown 3/4"

Description of longitudinal joint

Weld

No. of strengthening rings

275 on bottom

Working pressure of furnace by the rules

247 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

3 1/2"

Back

3 1/2"

Top

3 1/2"

Bottom

7"

Pitch of stays to ditto: Sides

8 1/2 x 8"

Back

8 1/2 x 7 1/2"

Top

8 1/2 x 6"

If stays are fitted with nuts or riveted heads

Nuts inside

Working pressure by rules

226 lbs

231 -

Material of stay

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

66 sq in

Working pressure by rules

240 lbs

End plates in steam space:

248 -

Material of stays

Steel

Material

Steel

Thickness

1 1/2"

Pitch of stays

18 x 16"

How are stays secured

Nuts & Washers

Working pressure by rules

294 lbs

Material of Front plates at bottom

Steel

Diameter at smallest part

2 1/2 x 2 1/4"

supported by each stay

288 sq in

Working pressure by rules

251 lbs

Material of Lower back plate

Steel

Thickness

2 1/2"

Greatest pitch of stays

13 1/2"

Working pressure of plate by rules

224 lbs

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/2 x 3 1/2"

Material of tube plates

Steel

Thickness: Front

3/8"

Back

3/8"

Mean pitch of stays

7 1/2 x 7 1/2"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

355 lbs with 8 Double

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 1/2 x 6"

Length as per rule

50 1/2"

Distance apart

8 1/2 x 6"

Number and pitch of Stays in each

6 - 6"

Working pressure by rules

262 -

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

Yes

W1426-006A1/2

DONKEY BOILER— No. Description *None*
Made at By whom made When made Where fixed
Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves
No. of safety valves Area of each Pressure to which they are adjusted 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 Rivets Thickness of shell crown plates Radius of do. No. of Stays to do.
Plates
Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint
Thickness of furnace crown plates Stayed by Working pressure of shell by rules
Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes
SPARE GEAR. State the articles supplied:— *See other sheet*

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

Dates During progress of work in shops— 1904. Dec 7, 14, 16. 1905. Jan 3, 5, 9, 12, 18, 24, 27, 31 Feb 3, 6, 9.
of Survey During erection on board vessel— 14, 17, 21, 24, 28. March 16, 21, 24, 28 up till Sept 28.
while building
Total No. of visits 75
Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " " *Yes*

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 throughout, and on trial under steam in Belfast Lough, the machinery worked satisfactorily.
In my opinion, it is eligible for notification + L.M.C. 9-05.
Forced Draft & Electric Light

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 9-05 F.D. ELEC. LIGHT.

Res. 5.10.05.
5.10.05

The amount of Entry Fee.. £ 3 : 0 :
Special .. £ 82 : 11 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 2-10-05
When received, 10-10-05

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

Committee's Minute

FRI. 27 OCT 1905

Assigned

+ L.M.C. 9-05
+ D. Elec. Light

MACHINERY CERTIFICATE
WRITTEN



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Lloyd's Register
Foundation

Belport

U.S.S. DeltaPumps - Main & Auxiliary

3	Wells Felt	15 1/2" x 11" x 24"	Double
1	Ballast	18 1/2" x 13" x 24"	"
1	Sanitary	" " " "	"
1	Riggs	5" x 7" x 8"	"
1	General	" " " "	"

Spare Gear List

1 Section Crank Shaft

1 - Propeller Shaft

2 - " Blades & Studs (2)

1 - Eccentric Pulley

4 - Slide Valve Spindles

1 - 2^d M. P. & 1 - L. P. piston complete.

1 - Piston Rod & nuts

1 - Set Piston packing rings for each cylinder.

1 - Fan & spindle for Centrif. Circulating pump.

25 - Condenser tubes

25 - Reiller tubes

2 - Safety valve springs.

Cylinder escape valve springs, and spare gear for auxiliaries, and all gear required by Rule in addition.

P. J. Pennington