

REPORT ON MACHINERY.

No. 6137

TUES. 3 JUL 1906

Port of

Belfast

Received at London Office

19

No. in Survey held at
Reg. Book.

Date, first Survey

1905. July 11

Last Survey

1906. June 28

on the

J.S.S. Ortega

(Number of Visits

75)

Gross 7970

Tons

Net 4522

When built 1906

Master

Built at

Belfast

By whom built

Harland & Wolff L^{td}

Engines made at

Belfast

By whom made

when made

Boilers made at

By whom made

when made

Registered Horse Power

Owners Pacific Steam Nav. Co

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

1125

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

MACHINES, &c.—Description of Engines

Twin Screw Quadruple Expansion

No. of Cranks 8

Dia. of Cylinders

24" - 34" - 50" - 71"

Length of Stroke

54

Revs. per minute

76

Dia. of Screw shaft

as per rule 14.6

Material of

as fitted 15.25 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

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

✓

If two

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

✓

Length of stern bush

63"

Dia. of Tunnel shaft

as per rule 13.57

Dia. of Crank shaft journals

as per rule 14.25

Dia. of Crank pin

15.25

Size of Crank web

20 1/2 x 10 1/2

Dia. of thrust shaft under

Collars

15"

Dia. of screw

16" - 10"

Pitch of Screw

22" - 0"

No. of Blades

3

State whether moveable

Yes

Total surface

7022 sq ft

No. of Feed pumps

1

Diameter of ditto

5 1/2"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

1

Diameter of ditto

5 1/2"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

7

SIZES OF PUMPS

14 x 10 1/2 x 26

No. and size of

Suctions connected to both Bilge and Donkey pumps

10 - 3 1/2" x 6 - 2 1/2"

No. of Bilge Injections

2

sizes

12"

Connected to condenser, or to circulating pump

✓

Is separate Donkey Suction fitted in Engine room & size

2 - 4"

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

None

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

Below

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

That pipes are carried through the bunkers

Fore to Aft

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

29-3-06

of Stern Tube

29-3-06

Screw shaft and Propeller

29/3/06

the Screw Shaft Tunnel watertight

Latched

to

is it fitted with a watertight door

Yes

worked from

Top of Engine Room

MATERIALS, &c.—(Letter for record)

S

Manufacturers of Steel

D. Colville

Lans

Lans

Total Heating Surface of Boilers

20343 sq ft

Boiler Draft fitted

No

No. and Description of Boilers

3 Double End

Working Pressure

215 lbs

Tested by hydraulic pressure to

430 lbs

Date of test

14-3-06

No. of Certificate

375

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

1174 sq ft

No. and Description of Safety Valves to

each boiler

3

Double End

Smallest distance between boilers or uptakes and bunkers or woodwork

30"

Mean dia. of boilers

15-0"

Length

18-0"

Material of shell plates

Steel

Thickness

1 1/2"

Range of tensile strength

29-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seam

Lap

Pitch of rivets

10"

Lap of plates or width of butt straps

22 1/2"

Pitch of rivets

92.9

Working pressure of shell by rules

247 lbs

Size of manhole in shell

16 x 12"

Percentage of strength of longitudinal joint

84.0

No. and Description of Furnaces in each boiler

6

None in

Material

Steel

Outside diameter

47"

Length of plain part

top

bottom

10"

Thickness of plates

crown

3 1/4"

Description of longitudinal joint

Weld

No. of strengthening rings

3

Top

Bottom

4"

Working pressure of furnace by the rule

241

Combustion chamber plates: Material

Steel

Thickness: Sides

5"

Back

5"

Top

5"

Bottom

4"

Pitch of stays to ditto: Sides

8 1/2 x 7 1/2"

Back

8 1/2 x 7 1/2"

Top

8 1/2 x 7 1/2"

Are stays fitted with nuts or riveted heads

No

Working pressure by rules

257 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

61 1/2 sq in

Material of stays

Steel

Thickness

1 1/4"

Pitch of stays

7 1/2 x 15"

How are stays secured

Weld

Working pressure by rules

279 lbs

Material of stays

Steel

Diameter at smallest part

2 1/2"

Area supported by each stay

262 1/2 sq in

Working pressure by rule

246 lbs

Material of Front plates at bottom

Steel

Thickness

1 1/2"

Material of Lower back plate

✓

Thickness

✓

Greatest pitch of stays

✓

Working pressure of plate by rules

✓

Diameter of tubes

2 1/2"

Pitch of tubes

4 x 4"

Material of tube plate

Steel

Thickness: Front

4 1/2"

Back

4 1/2"

Mean pitch of stays

8 x 8"

Pitch across wide water spaces

14 1/2"

Working pressures by rule

254 lbs

Material of Chamber tops: Material

Iron

Depth and

Thickness of girder at centre

7 x (5 x 2)

Length as per rule

46 1/2"

Distance apart

8 1/2"

Number and pitch of stays in each

6 - 7"

Working pressure by rules

246 lbs

Superheater or Steam chest; how connected to boiler

✓

Can the superheater be shut off and the boiler worked

✓

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

✓

Lloyd's Register

Foundation

W684-006

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 Description of Safety 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 Rivets
 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 Stayed by
 Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied:— See other Sheet

The foregoing is a correct description,

Manufacturer.

J. Harland & Wolff Ltd

Dates of Survey while building
 During progress of work in shops— 1905. Aug 11, 15, 21, 25, 28, 31, Sept 5, 8, 12, 14, 19, 26, Oct 3, 4, 11, 17
 During erection on board vessel— 21, 26, Nov. 1, 3, 6, 10, 16, 22, 24, Dec 2, 4, 6, 12, up to June 28, 1906
 Total No. of visits 75
 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 15/12/05 Slides 105 Covers 5 Pistons Rods
 Connecting rod 20/2/06 Crank shaft 23-2-06 Thrust shaft 23-2-06 Tunnel shafts 23-2-06 Screw shaft 2-3-06 Propeller 2-3-06
 Stern tube 2-3-06 Steam pipes tested 9-3-06 Engine and boiler seatings 21-4-06 Engines holding down bolts 18-5-06
 Completion of pumping arrangements 21-5-06 Boilers fixed 21-4-06 Engines tried under steam 23-5-06
 Main boiler safety valves adjusted 23-5-06 Thickness of adjusting washers 3/8 & 1/2
 Material of Crank shaft J. Steel Identification Mark on Do. 21-3-06 Material of Thrust shaft J. Steel Identification Mark on Do. 21-3-06
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.
 Material of Steam Pipes W. Iron & Middlesbrough Steel Test pressure 650 lbs

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

The machinery of this vessel has been constructed under Special License, and in accordance with the Rules. The workmanship and the materials are of good description and on trial under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 6-0 Electric Light.

It is submitted that this vessel is eligible for THE RECORD

ILM.C. 6.06. ELEC. LIGHT.

The amount of Entry Fee... £ 3-0-0
 Special... £ 76-5-0
 Donkey Boiler Fee... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 10-6-1906
 When received, 7-7-1906

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

Committee's Minute

FRI. 6 JUL 1906

Assigned

MACHINERY CERTIFICATE WRITTEN.



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