

REPORT ON MACHINERY.

No. 29857

WED. 15 MAR 1911

Date of writing Report

19

When handed in at Local Office

13/3/10 11 Port of Glasgow

Received at London Office

No. in Survey held at
Reg. Book.

Clydebank

Date, First Survey

2nd Nov. 1910.

Last Survey

24 Feb. 1911.

(Number of Visits 13)

Master

Built at

Belfast

By whom built

Harland & Wolff (no 418)

Tons

Gross

Net

When built 1911

Engines made at

Clydebank

By whom made

J. Brown & Co. Ltd. (numbered H.W. 425)

when made 1911

Boilers made at

Belfast

By whom made

Harland & Wolff L^d

when made

1911

Estimated Turbine
Registered Horse Power

2100

Owners

G. Chapman & Co. L^d

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

1240

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines One low pressure Turbine

No. of Cylinders

No. of Cranks

Dia. of Cylinders

Rotor drum 104"

Length of Stroke

Revs. per minute

240

Dia. of Screw shaft

as per rule 10.375

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

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

78"

Dia. of Tunnel shaft

as per rule

Rotor

Dia. of Crank shaft journals

as per rule 9.21

Dia. of Crank pin

as fitted 10 1/2"

Size of Crank webs

Dia. of thrust shaft under

Rotor

collars 17" with 10 Dia. of screw

Pitch of Screw

9'-0"

Pitch of Screw

7'-11"

No. of Blades

3

State whether moveable

No

Total surface

36 sq ft.

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

Dates of examination of completion of fitting of Sea Connections

of Stern Tube

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. 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

rivets

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

top

Thickness of plates

crown

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

Working pressure by rules

End plates in steam space:

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of stays

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of Front plates at bottom

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

Mean pitch of stays

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

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

Working pressure of end plates

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Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure

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 _____ Plates _____

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:—

John Brown & Company, Limited

The foregoing is a correct description,

Manufacturers

Assistant Secretary

Dates of Survey while building { During progress of work in shops - - 1910 Nov 2. 21. 29. Dec 1. 16. 1911 Jan 6. 12. 16. 20. Feb 1. 15. 16. 24 }
 { During erection on board vessel - - }
 Total No. of visits 13.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders _____ Slides _____ Covers _____ Pistons _____ Rods _____

Connecting rods _____ Crank shaft _____ Thrust shaft _____ Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested _____ Engine and boiler seatings _____ Engines holding down bolts _____

Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____

Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material of ^{Rotor} Crank shaft steel Identification Mark on Do. HC 159 Material of Thrust shaft _____ Identification Mark on Do. _____

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes _____ Test pressure _____

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

This Turbine (Parsons Type) has been constructed by Messrs J Brown & Co Ltd under special survey; and has been shipped to Belfast to be fitted on board by Messrs Harland & Wolff, the builders of the reciprocating machinery for this vessel. Materials and workmanship are good. Turbine casing is stamped HC

The amount of Entry Fee .. £ _____ When applied for, _____

Special .. £ 8.10 _____

Donkey Boiler Fee .. £ _____ When received, _____

Travelling Expenses (if any) £ _____

Committee's Minute

Assigned

Deferred for completion

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

TUE AUG 15. 1911

14 MAR 1911



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