

REPORT ON MACHINERY.

No. 73007

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of London

No. in Survey held at

Yarmouth

Date, First Survey

June 22

Last Survey 27/9/10

19

Reg. Book.

on the

Engine No 426 for Garston G. & I. B. Co. Ltd. "Gopher"

(Number of Visits)

Tons

Gross

Net

Master

Built at

Garston

By whom built

Garston G. & I. B. Co.

When built 1910

Engines made at

Yarmouth

By whom made

Crabtree & Co. Ltd.

when made 1910

Boilers made at

Glasgow

By whom made

D. Rowan & Co.

when made 1910

Registered Horse Power

Owners Canadian & Pacific Railway

Port belonging to

Nom. Horse Power as per Section 28

120

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines

Triple exp. surface condensing

No. of Cylinders

three

No. of Cranks 3

Dia. of Cylinders

16"-26"-42"

Length of Stroke

27"

Revs. per minute

Dia. of Screw shaft

as per rule 8.30"

Material of

steel

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

Is the after end of the liner made water tight

in the propeller boss 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

If two

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

Length of stern bush 3'-3"

Dia. of Tunnel shaft

as per rule 7.75"

Dia. of Crank shaft journals

as per rule 8.14"

Dia. of Crank pin

8 1/2"

Size of Crank webs

6 1/4" x 12 1/2"

Dia. of thrust shaft under

collars 8 1/4"

Dia. of screw

9'-6"

Pitch of Screw

No. of Blades

State whether moveable

Total surface

No. of Feed pumps

two

Diameter of ditto

2 3/4"

Stroke

13 1/2"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

two

Diameter of ditto

3 1/4"

Stroke

13 1/2"

Can one be overhauled while the other is at work

yes

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

2115 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

one single ended

Working Pressure

180 lbs.

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

bottom

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

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

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

002770-002783-0310

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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 _____ 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 _____ Rivets _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ 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:—

CRABTREE & CO., LIMITED

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1910 June 22 Jul 26 Aug 22 23. 26 Sep 6. 14. 16. 20. 27
 { During erection on board vessel -- }
 Total No. of visits 10/ Is the approved plan of main boiler forwarded herewith _____

Dates of Examination of principal parts—Cylinders 22-8-10 Slides 22-8-10 Covers 22-8-10 Pistons 22-8-10 Rods 22-8-10
 Connecting rods 22-8-10 Crank shaft 20-9-10 Thrust shaft 26-7-10 Tunnel shafts 26-7-10 Screw shaft _____ Propeller _____
 Stern tube 26-7-10 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 Crank shaft Steel Identification Mark on Do. 254/WDH Material of Thrust shaft Steel Identification Mark on Do. 191 FLS
 Material of Tunnel shafts Steel Identification Marks on Do. 190 FLS 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.) These engines have been constructed under special survey in accordance with the rules of this society, the material has been tested & the workmanship is good. These engines have been forwarded to Liverpool to be fitted on board the vessel.

Note: For balance of fee see 4th rpt on boiler

The amount of Entry Fee £ 2: 0: 0 When applied for, 19:10:10
 Special £ 5: 9: 6
 Donkey Boiler Fee £ 5: 9: 6
 Travelling Expenses (if any) £ 2: 7: 11 When received, 9:11:10

Frank L. Sturgeon

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

Committee's Minute

Assigned

See Liv report No. 65001



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