

REPORT ON MACHINERY

No. 826

Received at London Office

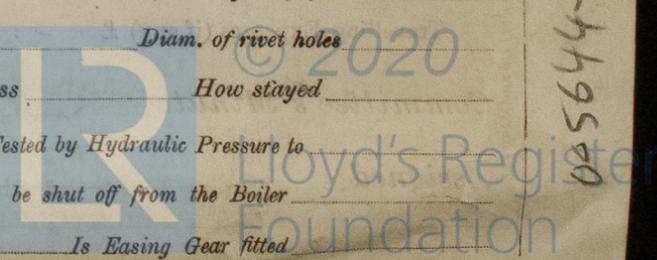
TUE. NOV. 2nd 1920

Writing Report 7 October 1920 When handed in at Local Office 9 October 1920 Port of Vancouver B.C.
 in Survey held at Vancouver B.C. Date, First Survey 5th June Last Survey 2nd October 1920
 on the Steamship "CITY OF VANCOUVER" (Number of Visits 26)
 Built at Vancouver By whom built J. Coughlan & Sons Tons { Gross 5697.32
 By whom made Fairfield Shipbuilding & Engineering Co. Ltd. Net 3525
 By whom made Vulcan Iron Works When built 1920
 Owners Vancouver Steamship Co. Ltd. Port belonging to Vancouver B.C.
 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 83 Dia. of Screw shaft 14.5" Material of steel
 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 yes
 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
 the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If two
 are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5'-2"
 Tunnel shaft 14.5" Dia. of Crank shaft journals 14.5" Dia. of Crank pin 14.5" Size of Crank webs 28" x 9" Dia. of thrust shaft under
 Dia. of screw 17'-6" Pitch of Screw 18'-6" No. of Blades 4 State whether moveable yes Total surface 95 sq ft
 Feed pumps 3 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes
 Bilge pumps 3 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes
 Donkey Engines 1 Sizes of Pumps 10 1/2" x 14" x 24" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Holds, &c. Two 3 1/2" pumps in following Nos. 1-2-3 & 4
 Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size two 4"
 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
 connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves & Cocks
 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 above
 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
 pipes are carried through the bunkers bilge pipes How are they protected wood covers
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Upper Deck in Engine Room

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel Barnegat Steel Co.
 Heating Surface of Boilers 7743 Is Forced Draft fitted yes No. and Description of Boilers 3 Scotch marine
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 17-9-20 No. of Certificate 5384
 Can each boiler be worked separately yes Area of fire grate in each boiler 66.12 sq ft No. and Description of Safety Valves to
 boiler Two Valves 3 1/2" dia. each Area of each valve 9.621 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes
 Minimum distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15.83" Length 11'-6" Material of shell plates steel
 Range of tensile strength 60000 lbs Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double metal
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 19" x 7/8"
 Working pressure of shell by rules 188.4 Size of manhole in shell 16" x 12"
 No. and Description of Furnaces in each boiler 3 Brighten Material steel Outside diameter 50 1/4"
 Thickness of plates 5/8" Description of longitudinal joint — No. of strengthening rings —
 Working pressure of furnace by the rules 138 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1 1/8"
 Working pressure by rules 196
 Area supported by each stay 46.87 sq in Working pressure by rules 199 End plates in steam space:
 Working pressure by rules 202 Material of stays steel
 Working pressure of plate by rules 199
 Working pressures by rules 183.3 Girders to Chamber tops: Material steel Depth and
 Working pressure by rules 250 Steam dome: description of joint to shell — % of strength of joint —
 Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —
 Working pressure of shell by rules — Crown plates — Thickness — How stayed —
 Type — Date of Approval of Plan — Tested by Hydraulic Pressure to —
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler —
 Pressure to which each is adjusted — Is Easing Gear fitted —

8210-550500-419500



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—*two connecting rod top and bottom end bolts & nuts, two main bearing bolts and nuts. Six coupling bolts & nuts. One set of fuel and one set of ledge pump valves. Three main and three dummy fuel check valves. Six cylinder and six steam chest cover studs & nuts. Twelve jimb ring studs & nuts. One propeller bolt. One H.P. piston valve. A number of condenser tubes & several boiler tubes, white metal, a large assortment of bolts, nuts, rivets flat & round.*

The foregoing is a correct description,

John Coughlan & Sons Ltd

Manufacturer.

Dates of Survey while building: During progress of work in shops - *July 5, 7, 12, 13, 14, 15, 22, Aug 9, 12, 17, 19, 23, 25, 27, 30, Sept 3, 8, 10, 11, 14, 17, 20, 24, 29, 30, Oct 2.* Total No. of visits *26*

Dates of Examination of principal parts: Connecting rods *8-9-20 at Glasgow*, Crank shaft *8-9-20 at Van*, Thrust shaft *14-7-20*, Tunnel shafts *14-7-20*, Screw shaft *13-7-20*, Propeller *23-7-20*, Stern tube *9-8-20*, Steam pipes tested *24-9-20*, Engine and boiler seatings *14-9-20*, Engines holding down bolts *30-9-20*, Completion of pumping arrangements *2-10-20*, Boilers fixed *29-9-20*, Engines tried under steam *2-10-20*, Completion of fitting sea connections *8-9-20*, Stern tube *25-8-20*, Screw shaft and propeller *30-8-20*, Main boiler safety valves adjusted *2-10-20*, Thickness of adjusting washers: STARBOARD *27/64*, CENTRE *3/8*, PORT *13/32*

Material of Crank shaft *Steel*, Identification Mark on Do. *LLOYDS WGM 543 10-1-18*, Material of Thrust shaft *Steel*, Identification Mark on Do. *LLOYDS 3081 5-11-20*, Material of Tunnel shafts *Steel*, Identification Marks on Do. *LLOYDS 3094, 3230, 3090, 3092, 3091, 3081*, Material of Steam Pipes *Steel*, Test pressure *540 lbs*

Is an installation fitted for burning oil fuel? *yes*, Is the flash point of the oil to be used over 150°F. *yes*

Have the requirements of Section 49 of the Rules been complied with? *yes*

Is this machinery duplicate of a previous case? *yes*, If so, state name of vessel *58" Margaret Coughtan*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boilers of this vessel have been built under special survey, installed under special survey and in accordance with approved plans together with auxiliary pumps, mounting fittings & no connections etc.*

The material and workmanship are of good quality.

On completion of machinery installation the vessel was tried under full steam at sea and found satisfactory.

Please refer to Glasgow Report on Engine No 543 built by Fairfield SB & E.C. Ltd which report (copy) does not appear to have been received at the office.

The safety valves were adjusted under steam.

The machinery and boilers are eligible in my opinion to be recorded + LMC 10.20 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 10.20. F.D.

Fitted for oil fuel 10.20 FP above 150°F.

The amount of Entry Fee ... *\$ 15.00* When applied for, Special ... *\$ 153.00* 9 Oct 1920

Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 21.11.20

Committee's Minute *TUE NOV. 9 1920*

Assigned *+ LMC 10.20 F.D. Listed for oil fuel 10.20 F.P. above 150°F.*

John Coughlan & Sons Ltd Engineer Surveyor to Lloyd's Register of Shipping

Retd 4/11/20

John Coughlan & Sons Ltd

LLOYD'S REGISTER OF SHIPPING