

R.M.C. Newcastle-on-Tyne No. 90852

R.M.C. No. 48784

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office 27 DEC 1933)

Date of writing Report 23rd Dec 1933 When handed in at Local Office 23rd Dec 1933 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Wallsend on Tyne Date: First Survey 20 Nov Last Survey 22. 12. 1933 (No. of Visits 20)

on the Refrigerating Machinery and Appliances of the T.S.M.V. "PORT CHALMERS" Tons } Gross 8535 Net 8535

Vessel built at Wallsend on Tyne By whom built Wigham Richardson Ltd. Yard No. 1483 When built 1933

Owners Commonwealth & Dominion Ice Ltd. Port belonging to London Voyage

Refrigerating Machinery made by J.E. Hall Ltd. Machine No. 8871 8872 8873 When made 1933

Insulation fitted by Gregson & Co. Ltd. When fitted 1933 System of Refrigeration Carb. & Brine

Method of cooling Cargo Chambers Brine grids & air Insulating Material used Slab Cork in cheese & chilled meat rooms.

Number of Cargo Chambers insulated 14 Chambers Total refrigerated cargo capacity 458590 cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed 2nd Deck aft E.R. Casing

Refrigerating Units, No. of 3 Single, double, or triple ✓ Cubic feet of air delivered per hour ✓

Total refrigeration or ice-melting capacity in tons per 24 hours 168 Are all the units connected to all the refrigerated chambers yes

Compressors, driven direct or through single } reduction gearing. Compressors, single or double acting Single No. of cylinders 2 per machine

Diameter of cylinders 5" Diameter of piston rod 2 1/4" Length of stroke 10" No. of strokes per minute 300

Motive Power supplied from Direct coupled Electric motor

Steam Engines, high pressure, compound, or triple expansion, surface condensing. No. of cylinders ✓ Diameter ✓

Length of stroke ✓ Working pressure ✓ Diameter of crank shaft journals and pins 6 1/2" Journals 7" pins.

Breadth and thickness of crank webs 9" x 4 1/2" No. of sections in crank shaft one Revolutions of engines per minute 300

Oil Engines, type ✓ 2 or 4 stroke cycle ✓ Single or double acting ✓ B.H.P. ✓

No. of cylinders ✓ Diameter ✓ Length of stroke ✓ Span of bearings as per Rule ✓

Maximum pressure in cylinders ✓ Diameter of crank shaft journals and pins ✓

Breadth and thickness of crank webs ✓ No. of sections in crank shaft ✓ Revolutions of engine per minute ✓

Electric Motors, type Open - pedestal bearings No. of 3 Rated 160 H.P. Kilowatts 375

Volts of 220 at 300/200 revolutions per minute. Diameter of motor shafts at bearings ✓

Reduction Gearing, maximum shaft horse power at 1st pinion ✓ Revolutions per minute at full power at 1st pinion ✓

2nd pinion ✓ 1st reduction wheel ✓ main shaft ✓ Pitch circle diameter, 1st pinion ✓ 2nd pinion ✓

1st reduction wheel ✓ Main wheel ✓ Width of face, 1st reduction wheel ✓ Main wheel ✓

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings, 1st pinion ✓ 2nd pinion ✓

1st reduction wheel ✓ Main wheel ✓ Flexible pinion shafts, diameter 1st ✓ 2nd ✓

Pinion shafts, diameter at bearings, External, 1st ✓ 2nd ✓ Internal, 1st ✓ 2nd ✓

Diameter at bottom of teeth of pinion, 1st ✓ 2nd ✓ Wheel shafts, diameter at bearings, 1st ✓

Main ✓ Diameter at wheel shroud, 1st ✓ Main ✓

Gas Condensers, No. of 3 Cast iron or steel casings Cast iron Cylindrical or rectangular cylindrical

No. of coils in each 14 Material of coils S/O Copper 3/4" b x 1" o/p Can each coil be readily shut off or disconnected yes

Water Circulating Pumps, No. and size of 2 @ 200 tons/hr each how worked Electrically Gas Separators, No. of 6

Gas Evaporators, No. of 3 Cast iron or steel casings Steel Pressure or gravity type pressure

No. of coils in each casing 14 Material of coils S/O Steel 1" b x 1 1/2" o/p Can each coil be readily shut off or disconnected yes

Direct Expansion or Brine Cooled Batteries, No. of also 5 fans blowing over side grids. Are there two separate systems, so that one may be in use while the other is being cleared of snow no. No. of coils in each battery ✓ Material of coils S/O Steel 1" bore Can each coil be readily shut off or disconnected yes.

Total cooling surface of battery coils 1600 sq. feet Is a watertight tray fitted under each battery ✓

Air Circulating Fans, Total No. of 5 - 35" each of 1800 c.f./min. - 1800 R.P.M. 500 cubic feet capacity, at 1900 revolutions per minute

Steam or electrically driven Electricity Where spare fans are supplied are these fitted in position ready for coupling up no.

Brine Circulating Pumps, No. and size of, including the additional pump 4 - 5" Vert. Centr. how worked Electrically

Brine Cooling System, closed or open Closed Are the pipes and tanks galvanised on the inside no

No. of brine sections in each chamber See Separate Sheet attached

Can each section be readily shut off or disconnected yes. Are the control valves situated in an easily accessible position yes.

Sheephead



Sounding Pipes, No. and position in each chamber situated below the load water line *Usual double bottom bilge sounding pipes incorporated in bulkheads or shell lining*

Diameter *2* Are all sounding pipes in way of insulated chambers fitted in accordance with Section 3, Clause 11

Are all wood linings tongued and grooved *Yes* Are cement facings reinforced with expanded steel lattice

How is the expanded metal secured in place

How are the cork slabs secured to the steel structure of the vessel *patent Cement*

Air Trunkways in Chambers, inside dimensions, main *Generally 9-11" at sides of tween decks 10-15" at bulkheads* and branch *Trunkways 9" in Holds*

Are they permanently fixed or collapsible, or portable *Portable* State position in chambers *Both sides & 1 cut in each tween deck. Rectangular trunks 9" in under beams with vertical branches to bottom of holds*

Where air trunkways pass through watertight bulkheads, are they fitted with watertight doors Are the door frames efficiently insulated

Are insulated plugs supplied for the doorways Where are the doors worked from

Cooling Pipes in Chambers, diameter *1 1/2* Are they galvanised externally *Yes*

How are they arranged in the chambers *Roof side grids*

Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers *Steam heated brine*

The foregoing is a correct description of the Insulation and Appliances.

*For Messrs. Grogson & Co. Ltd.
S. J. Palmer
Builders.*

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery and Insulation *Yes*
(If not, state date of approval) *Somewhat similar to H.S. Port Fairy*

Is the Refrigerating Machinery and Appliances duplicate of a previous case If so, state name of vessel *Complete*

If the survey is not complete, state what arrangements have been made for its completion and what remains to be done

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

*The materials & workmanship are good.
The requirements of the Society's Rules have been carried out and the vessel is in our opinion, eligible to have the notation + Lloyd's RMC 12.33 recorded in the Register Book.
No. 253 tween decks are gas tight for carriage of chilled meat.
This report has been signed by the Insulation Contractors who are responsible to the Owners for the carrying out of the work.*

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	POWER.		INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.		Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours. Tons.	No.	Capacity. Cubic
<i>3</i>	<i>6</i>	<i>Carb. Amby.</i>	<i>J. & C. Hall Ltd.</i>	<i>1933</i>	<i>(1) Brine & Air (2) Granulated cork chilled meat cheese rooms Slab cork faced with Ullite</i>	<i>168</i>	<i>14</i>	<i>458.</i>	

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REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	POWER.		INSULATED CARGO CHAMBERS.	
No. and whether Single or otherwise.	Makers.	Date of Construction.	System.	Type.		Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours. Tons.	No.	Capacity.

Fee *new £24* *don £12* *36* : : Fee applied for, *23 DEC 1933*

not attendance fee *1:1:0* { Received by me *£11.0 pd 26.1.34*

Travelling Expenses *1:1:0* { *£36 pd 16.1.34*

Committee's Minute *FRI. 29 DEC 1933*

Assigned *+ Lloyd's Rmb. 12.33*

A. B. Forster
H. J. Forster
Surveyor to Lloyd's Register.

It is submitted that this vessel is eligible for THE RECORD. *+ Lloyd's RMC 12.33*



Surveyors present

Certificate to be sent to