

# REPORT ON REFRIGERATING MACHINERY AND INSULATION.

(Received at London Office)

WED. MAR. 21 1923

Date of writing Report 19. 3. 1923 When handed in at Local Office Port of Glasgow  
No. in Reg. Book. Survey held at Glasgow Date: First Survey 17<sup>th</sup> March 1922 Last Survey 15<sup>th</sup> March 1923.  
78453 (No. of Visits 14)

on the Refrigerating Appliances of the ~~Iron or Steel~~ SS "Calumet" Master

Tons { Gross 7268 Vessel built at Clydebank By whom John Brown & Co. Ltd. When 1922  
Net 4462 Owners Eldon Dempster & Co. Ltd. Port Liverpool Voyage

Insulation fitted by Carb. Amby System. Machinery made by J. E. Hall & Co. When 1922  
John Brown & Co. J. D. Insulation Co. Liverpool When 1922.

Non-conducting material used Cork Slabs. Number of insulated chambers 4 Total capacity 20,300 cub. ft.

**DESCRIPTION OF MACHINES, ETC.** No. of machines One Single or duplex Duplex Where placed in engine room

Power of each machine in tons of ice melted per 24 hours — Sizes of steam cylinders — Stroke —

Revolutions per minute — Working pressure — No. of compression cylinders — Diameter of each —

Single or double acting — Stroke — Diameter of crank shaft — How are air, circulating and feed pumps worked —

Are they in duplicate — Can their work be performed by main engines —

No. of gas condenser coils — Can each be readily disconnected — No. of refrigerator coils — Can each be readily disconnected —

No. of brine pipe sections 12 Can each be readily disconnected yes What test has been applied to gas cylinders and coils — to cast iron connections — to refrigerator coils —

to brine pipe sections gels hydraulic outlets of brine return pipes accessible yes Is each fitted with a thermometer yes

What pipes in connection with refrigerating appliances are carried through bunkers or holds Some flow pipes How are they protected wood casing

What means are adopted for draining engine room — Is all necessary auxiliary machinery supplied —

**SPARE GEAR. ARTICLES REQUIRED BY RULES AND SUPPLIED.** **ADDITIONAL SPARE GEAR SUPPLIED.**

*As per London Report k<sup>o</sup> 17320.  
Checked and found correct, as required by the Rules.*

ARTICLES REQUIRED BY RULES AND NOT SUPPLIED

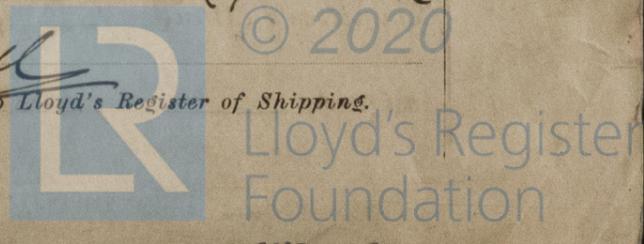
The foregoing is a correct description. *See last rpt.* Manufacturers.

**GENERAL REMARKS AND RECOMMENDATION** (If survey is not complete state what remains to be done) *This machinery was started at 9 AM on the 22/12/22. Average temperature of chambers 41° F. Machine stopped at 6.0 PM average temperature of chambers 10.5° F. Temperatures again taken at 9.0 AM 23/12/22. Average temperature of chambers 20° F. This installation is eligible, in our opinion to be classed with the notation of -1- LLOYD'S R.M.C. 3-23 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + Lloyd's RMC 3.23 *A. Campbell*  
Surveyor to Lloyd's Register of Shipping.

15-1014-T

*AWD 21/3/23*



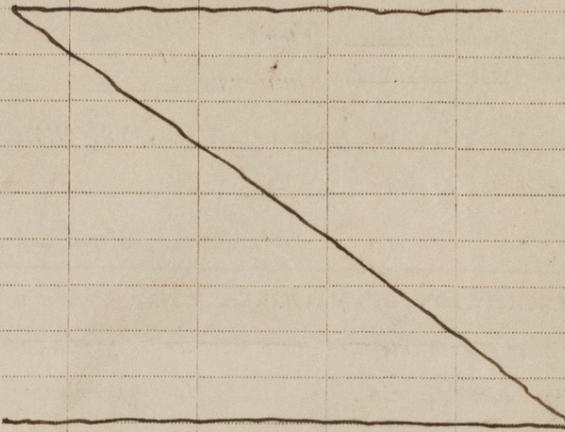
DESCRIPTION OF INSULATION.

IN LOWER HOLDS.

IN 'TWEEN DECKS.

	IN LOWER HOLDS.					IN 'TWEEN DECKS.				
	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.
SIDES						4	-	Delta cork	3' 4"	1 5/8 J.D.
OVERHEADING						1	-	" "	3' 4"	1 5/8 J.D.
BULKHEADS No. 1. F						nil	-	" "	2' 4"	2 5/8 J.D.
" " A						nil	-	" "	2' 4"	2 5/8 J.D.
" No. 2. F										
" " A										
" No. 3. F										
" " A										
" No. 4. F										
" " A										
" No. 5. F										
" " A										
" No. 6. F										
" " A										

*None*



RIBBAND, MAIN DECK *nil*

BOTTOM *On top of deck plating 2' 4" Delta cork slabs faced with 1 1/2 J.D. slabs*

HATCHWAYS *nil*

FRESH WATER TANKS " MASTS -  
 TUNNEL " STANCHIONS -  
 SNOW BOX " BILGE SUCTION & AIR & SOUNDING PIPES -

Centre Keelson, Sides " Top " Side Keelson, Sides " Top -  
 Bilge " Sides " Top " Web frames, Sides " Face -  
 Bilge Stringers, Top " Bottom " Face -  
 Side " Top " Bottom " Face -  
 Hold or Orlop Stringer, Top " Bottom " Face -  
 Brackets " Sides " Face -

Are insulated hatches fitted over limbers *yes* and manhole doors of tanks -  
 Are insulated plugs fitted in way of all sluices bilge suctions sounding pipes -  
 Are insulated plugs fitted to ventilators " to cargo ports " in side insulation for examination of ship's side -  
 Are the bottoms, sides and coamings of all insulated hatches coated to prevent decay -  
 Are portable boxes fitted in overheadings for replenishing side insulation and on tunnel tops -  
 What means, if any, are taken to protect the bottom insulation in way of hatchways *no insulation in way of hatchways*  
 Dimensions of cargo battens, on sides *2 1/2 x 1 W.P. in way of gun* bottom *3 x 1 W.P.* spacing *4 1/2 centres*  
 Are these permanently fixed or portable *yes*  
 Number of thermometer tubes in each chamber *2 in each large chamber - 1 in each small chamber -*  
 Position of " do. *See approved plan -*  
 Are the flanges and covers of thermometer tubes efficiently fitted *yes* Are all wood linings tongued and grooved *no wood lining*  
 Description and arrangement of trunkways or brine pipes for the distribution of cold *balls bulkhead not fitted with*  
*brine pipe 1 1/2 dia. 70-9 in girth secured in place as shown on the*  
*approved plan.*

Do any trunkways pass through water-tight bulkheads *no* are water-tight doors fitted *no* and efficiently insulated -  
 What means are adopted for closing the trunkways when carrying general cargo *no trunkways*

The foregoing is a correct description. *John Brown & Company, Limited.* Builders.

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

No. and whether Single or Duplex.	Makers.	Date of Construction.	System.	Type.	System of (1) Refrigerating (2) Insulating the Chambers.	POWER.		INSULATED CARGO CHAMBERS.	
						Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours. Tons.	No.	Capacity.
<i>one duplex</i>	<i>J.E. Hall Ltd.</i>	<i>1922</i>	<i>CO2</i>	<i>Hall</i>	<i>(1) ammonia (2) cork</i>	-	<i>18</i>	<i>4</i>	<i>20300</i>

Fee *£ 6* (Fee applied for, *19.3.1923*)  
 Travelling Expenses *£ 15/9* (Received by me, *23/3/23*)  
 Committee's Minute *GLASGOW 20 MAR 1923*

Assigned *+ Lloyd's R.M.C. 3.23.*

CERTIFICATE WRITTEN *2/3/23*



Certificate to be sent to