

Report on Refrigerating Machinery and Appliances.

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No. in Reg. Book. Survey held at LIVERPOOL. Date: First Survey 29/8/51 Last Survey 9-10-1951. (Number of Visits 8)

on the Refrigerating Machinery and Appliances of the M.V. "ACAMEMNON" Tons (Gross... Net...)

Vessel built at Belfast By whom built Workman Clarke (1928) Ltd. No. When built 1929

Owners Ocean S.S. Co. Ltd. Port belonging to Liverpool Voyage

Refrigerating Machinery made by The Liverpool Appliances Co. Machine Nos. 1424-5 When made 1933

Insulation fitted by J.D. MacLellan & Co. Ltd. When fitted 1933 System of Refrigeration Carbonyl

Method of cooling Cargo Chambers Brine and air Insulating Material used Gran. slab cork & slate cutters

Number of Cargo Chambers insulated 2 Total refrigerated cargo capacity 44,836 cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed N°4 UTD aft of Mast.

Refrigerating Units, No. of 2 No. of machines 2 Is each machine independent yes

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

Compressors, driven direct or through simple reduction gearing. Compressors, single or double acting Single If multiple effect compression

Are relief valves or safety discs fitted yes No. of cylinders to each unit 2 Diameter of cylinders 2 3/4"

Diameter of piston rod 1 7/16" Length of stroke 6" No. of revolutions per minute 360/240

Motive Power supplied from 4 auxiliary engines (State number of boilers, oil engines or electric generators supplying the motive power.)

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 Journals 4" crank pins 4"

Breadth and thickness of crank webs No. of sections in crank shaft 1 Revolutions of engines per minute

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

Air Receivers: Have they been made under survey State No. of Report or Certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned Is a drain fitted at the lowest part of each receiver

No. of Receivers Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Electric Motors, type 2 No. of 2 Rated 55 H.P. Kilowatts 220 Volts

at 360/240 revolutions per minute Diameter of motor shafts at bearings 4 5/8"

Reduction Gearing Pitch circle diameter, pinion Main wheel Width of face

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings, pinion Main wheel

Pinion shafts, diameter at bearings Main wheel shaft, diameter at bearings

Gas Condensers, No. of 2 Cast iron or steel casings C.I. Cylindrical or rectangular vertical Are safety valves fitted

to casings yes No. of coils in each 7 Material of coils Copper Can each coil be readily shut off or disconnected yes

Water Circulating Pumps, No. and size of pumps available how worked electrically Gas Separators, No. of 4

Gas Evaporators, No. of 2 Cast iron or steel casings steel Pressure or gravity type Pressure If pressure type, are safety

valves fitted yes No. of coils in each casing 5 Material of coils steel Can each coil be readily shut off or disconnected yes

Direct Expansion or Brine Cooled Batteries, No. of 1 Are there two separate systems, so that one may be in use while the other is being

cleared of snow No. of coils in each battery 21 Material of coils steel Can each coil be readily shut off or

disconnected yes Total cooling surface of battery coils Is a watertight tray fitted under each battery yes

Air Circulating Fans, Total No. of 2 each of 12,700 P.M. cubic feet capacity, at 1675/1115 revolutions per minute

Steam or electrically driven electrically Where spare fans are supplied are these fitted in position ready for coupling up yes

Brine Circulating Pumps, No. and size of, including the additional pump 3 of 10" dia impellers 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 2 - N°4 tunnel deck port chamber, 4 - N°4 tunnel deck starboard chambers

7 - N°4 lower hold.

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

NOTE.—THE WORDS WHICH DO NOT APPLY SHOULD BE DELETED.

20112 G. (MADE AND PRINTED IN ENGLAND)



Are thermometers fitted to the outflow and to each return brine pipe yes Where the tanks are closed are they ventilated as per Rule yes
 Where the tanks are not closed is the compartment in which they are situated efficiently ventilated ✓
 Are the number and capacity of the machines and the number of pumps and sea connections in accordance with Section 2, Clause 2 of the Rules ✓
Is the exhaust steam led to the main and auxiliary condensers. ✓

HYDRAULIC AND OTHER TESTS.

DESCRIPTION.	Date of Test.	Working Pressure.	Hydraulic Test Pressure.	Air Test Pressure.	Stamped.	REMARKS.
Engine Cylinders (if tested) ...						
Gas Compressors ...						
„ Separators ...						
„ Multiple Effect Receivers ...						
„ Condenser Coils ...	September 1	✓	25.00 lbs	✓	✓	Subs factory.
„ Evaporator Coils ...	"	✓	25.00 lbs	✓	✓	do.
„ Condenser Headers and Connections						
„ Condenser Casings ...						
„ Evaporator Casings ...						
NH ₃ Condenser, Evaporator and Air Cooler Coils after erection in place						
Brine Piping after erection in place...	September 5	✓	50. lbs	✓	✓	do.

Have important steel castings and forgings been tested in accordance with the Rules ✓
 Cooling Test. Has the refrigerating machinery been examined under full working conditions, and found satisfactory yes
 Dates of test ✓ Density of Brine ✓ by ✓ hydrometer
 Temperatures (when the cargo chambers are cooled down to the required test temperatures) of delivery and return air at direct expansion or brine cooled batteries ✓ & ✓, outflow and return brine ✓ & ✓ atmosphere ✓ cooling water inlet and discharge ✓ & ✓ gas in condensers ✓ and evaporators ✓
 the average temperature of the refrigerated chambers ✓ and the rise of temperature in these chambers upon the expiration of ✓ hours time after the machinery and cooling appliances have been shut off ✓

SPARE GEAR.

Are the working parts of the machines, pumps and motors respectively, interchangeable yes
 Has the spare gear required by the Rules been supplied yes
 Additional Spare Gear Supplied:—
 2 compressor liners
 1 " connecting rod complete with bearings
 1 " main bearing
 1 brine pump impeller and shaft
 1 axis fan impeller

The foregoing is a correct description of the Refrigerating Machinery.

Manufacturer.

DESCRIPTION OF INSULATION.

	IN LOWER HOLD CHAMBERS.					IN 'TWEEN DECK CHAMBERS.				
	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.
Frame No. (Fore Peak) A										
Frame No. F										
Frame No. A										
Frame No. F										
Frame No. A										
Frame No. (Boiler Room) F										
Frame No. 67 (Engine Room) A			Gran conr Silicate slabs	10" ✓ 4" ✓	Double 7/8" T99			Gran conr Silicate slabs	10" ✓ 4" ✓	Double 7/8" T99
Frame No. 52 F			Gran conr	12" ✓	ditto			Gran conr	12" ✓	ditto
Frame No. A			Slab conr	3" ✓				Slab conr	3" ✓	ditto
Frame No. F										
Frame No. A										
Frame No. F										
Frame No. A										
Frame No. (After Peak) F										
Sides ...			Gran conr	14 3/4" ✓	ditto			Gran conr	14 3/4" ✓	ditto
Overheading ...			Gran conr	13" ✓	ditto			Gran conr	13" ✓	ditto
Floors of Chambers ...			Slab conr	9" ✓				Slab conr	5" x 3" ✓	
Trunk Hatchways ...										
Thrust Recess, Sides and Top ...			Gran conr Silicate slabs	10" ✓ 4" ✓	ditto			Gran conr	10" ✓ 4" ✓	ditto
Tunnel Sides and Top ...			Gran conr	10" ✓	ditto			Gran conr	10" ✓	ditto
Tunnel Recess, Front and Top ...										
Frames or Reverse Frames, Face			slab conr							
Bulkhead Stiffeners, Top										
Bulkhead Stiffeners, Bottom										
and Face										
Ribband on Top of Decks										
Side Stringers, Top										
Side Stringers, Bottom										
and Face										
Web Frames, Sides										
and Face										
Brackets, Top			Slabs of cast iron							
Brackets, Bottom										
and Face										
Insulated Hatches, Main			8" conr - 2-1/4" T99 top & bottom		Bilge 7" conr - 2-1/4" T99 top & bottom			Manhole 6" conr 7/8" T99 top & bottom		
Hatchway Coamings, Main			12" x 6" pine		Bilge			pine		
Hold Pillars			6" slab conr - 2-1/4" T99 corners fitted with gash plate.							
Masts										
Ventilators										
Are insulated plugs fitted to provide easy access to bilge suction roses			yes		yes			yes		yes
Are insulated plugs fitted to ventilators			yes		yes			yes		yes
Are insulated plugs fitted to cargo ports			yes		yes			yes		yes
Are insulated plugs fitted to side lights			yes		yes			yes		yes
Is the insulation of the lower hold floor and tunnel top in way of the hatchways protected			yes		yes			yes		yes
Oil Storage Tanks, where adjacent to the insulated chambers, state what provision has been made for ventilating the air space between the insulation and the bulkhead plating										
and for draining the tank top										
Fireproof Insulation. Is the insulation and woodwork fireproof in way of bunkers or any surfaces exposed to excessive heat			Eng. bulkhead							
Where Cooling Pipes pass through watertight bulkheads or deck plating, are the fittings and packing of the stuffing boxes both watertight and fireproof			✓							
Cargo Battens, Dimensions and spacing, sides			3" x 3" x 24"		floors			tunnel top		3" x 3" x 24"
Are screens fitted over the brine grids at chamber sides			yes		yes			yes		yes
Are screens permanently fixed			yes		yes			yes		yes
Thermometer Tubes, No. and position in each chamber			N ^o 4 'tween deck - 2 each Port & Starboard, N ^o 4 lower hold - 5-2 each							
Are they fitted in accordance with Section 4, Clause 8			yes		yes			yes		yes
Protection of Pipes. Are all pipes, including air and sounding pipes, which pass through or into insulated chambers, well insulated			✓							
Draining Arrangements. What provision is made for draining the inside of the chambers			Keyp scupper to Port & Starboard & Rued bilges							
Where sluices, scupper pipes, and drain pipes are fitted are means provided for blanking them off			yes							
What provision is made for draining the refrigerating machinery room			Drain to Rued bilge							
brine return room			Temporary spare fan room							
water circulating pump room			Drain to ER bilge							
Are all air spaces behind insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers			✓							

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Sounding Pipes, No. and position in each chamber situated below the load water line. *3 in N^o 4 lower bulk - 1 in 1/2 upper bulk - 1 in 1/2 upper bulk - 1 in 1/2 upper bulk*

Diameter..... Are all sounding pipes in way of insulated chambers fitted in accordance with Section 44, Clause 4

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.

Air Trunkways in Chambers. Are the arrangements satisfactory and in accordance with the approved plans. *yes*

Are they permanently fixed or collapsible, or portable. *(Portable & collapsible) And.*

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. *yes* Where are the doors worked from. *lower bulk*

Cooling Pipes in Chambers, diameter. *1 1/2" I.O. battery* Minimum thickness. *7 swg.* Are they galvanised externally. *yes*

How are they arranged in the chambers. *all sides & over head (1 large brine cooled battery at aft end of chambers)*

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

Steam brine heater fitted

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

Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery and Insulation (If not, state date of approval)

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

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

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

This vessel's refrigerating machinery and Appliances as seen are in efficient condition and will be eligible in all opinions to be classed in the Register Book with notation RMC 10-51 " to maintain temp 10°F with sea temp 90°F max.

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.						System of (1) Refrigerating (2) Insulating the Chambers.	Ice melting capacity per 24 hours. Tons.	Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.	No.				Capacity. Cubic ft.	
<i>2</i>	<i>4</i>	<i>Genbank</i>	<i>4 pool Refrig Co.</i>	<i>1933</i>	<i>(1) Brine & air (2) Gen & Seal CAR</i>	<i>-</i>	<i>yes</i>	<i>2</i>	<i>44,836</i>	

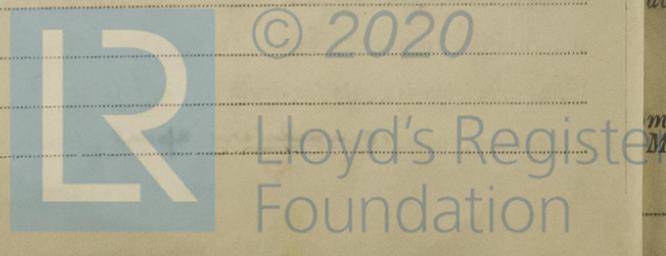
Fee *Ref. to Sept 18.* : Fee applied for, 19.

Travelling Expenses £ : Received by me, 19.

J. Moore
Surveyor to Lloyd's Register.

Committee's Minute *LIVERPOOL 23 OCT 1951*

Assigned *cc Minute on Sept. 18.*



Certificate to be sent to

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