

# REPORT ON OIL ENGINE MACHINERY.

No. 9699.

Received at London Office 11 SEP 1935

4b.

Writing Report 6<sup>th</sup> Sept. 1935 When handed in at Local Office

Port of Copenhagen

Date, First Survey 18<sup>th</sup> January Last Survey 29<sup>th</sup> August 1935

Number of Visits 62

Survey held at Copenhagen

Tons Gross 4906.27 Net 2964.54

on the <sup>Single</sup> ~~Double~~ <sup>Triple</sup> ~~Quadruple~~ Screw vessel

"HÖEG CARRIER"

at Copenhagen

By whom built Messrs. Burmeister & Wain's

Yard No. 614 When built 1935

made at Copenhagen

By whom made Messrs. Burmeister & Wain's

Engine No. 2368 When made 1935

Boilers made at Copenhagen

By whom made Messrs. Burmeister & Wain's

Boiler No. 1899 When made 1935

Horse Power 3400

Owners Skibs A/S "Christen"

Port belonging to Oslo

Horse Power as per Rule 646 Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

for which vessel is intended General cargo, ocean service

ENGINES, &c. Type of Engines Vertical Diesel engine, solid injection 2 or 4 stroke cycle 2 Single or double acting double

pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 450 mm Length of stroke 1200 mm No. of cylinders 6 No. of cranks 6

indicated Pressure 7 kg/cm<sup>2</sup> Is there a bearing between each crank yes

Revolutions per minute 115 Crank, measured from inner edge to inner edge 852 mm

Shaft, dia. of journals as fitted 360 mm Crank pin dia. 360 mm - 115 mm

Intermediate Shafts, diameter as fitted 335 mm

Screw Shaft, diameter as fitted 380 mm

Liners, thickness in way of bushes as fitted 21 mm

boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

ner 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 yes

liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube

er, dia. 16'-9" Pitch 10'-3" No. of blades 4 Material bronze whether Moveable no Total Developed Surface 105 sq. feet

of reversing Engines Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when disconnected yes Means of lubrication

Thickness of cylinder liners 34 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with

ducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

g Water Pumps, No. 2 off - 130 l/h. each Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Pumps worked from the Main Engines, No. 2 Diameter 160 mm Stroke 175 mm Can one be overhauled while the other is at work yes

connected to the Main Bilge Line No. and Size 1 off - 150 l/hour (Bellows), 1 off (big - running p) 2 x 26 l/hour 2 off (engine bilge p) 2 x 25 l/hour

How driven by electromotors

ooling water led to the bilges overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

ments -

t Pumps, No. and size 1 off - 150 l/hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 off - 110 l/hour each

independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size: - In Machinery Spaces 2 off 3" + 1 off 3" portable hose suction + 1 off 3" in tunnel In Pump Room

Is, &c. Hold No. 1 - 3 x 4 - 2 off 3" each side, Hold No. 2 - 2 off 3 1/2", DEEP TANKS: 1 off 3 1/2" each tank

endent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off 7", 1 off 6", 2 off 4", 2 off 3"

the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces

n easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks. valves

y fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line above

y 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

How are they protected

Have they been tested as per Rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Is it fitted with a watertight door yes worked from upper platform

ood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. 3 No. of stages 2 Diameters 280 - 250 mm Stroke 190 mm Driven by Auxiliary engine

ary Air Compressors, No. 3 No. of stages 2 Diameters 110 - 45 mm Stroke 70 mm Driven by hand

all Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 130 mm Stroke 70 mm Driven by main engine

enging Air Pumps, No. 2 - 126 m<sup>3</sup>/min. each Diameter 150 mm

liary Engines crank shafts, diameter as per Rule 130 mm as fitted 150 mm

Position engine room, floor level

Lloyd's Register

W172-0156(1/2)



# AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule. *yes*

Can the internal surfaces of the receivers be examined and cleaned *yes* Is a drain fitted at the lowest part of each receiver *yes*  
**High Pressure Air Receivers, No. 1** Cubic capacity of each *100 litres* Internal diameter *305 mm* thickness *6.5*  
 Seamless, lap welded or riveted longitudinal joint *Seamless* Material *Steel* Range of tensile strength *30.24/0* Working pressure by Rules *37*  
**Starting Air Receivers, No. 2 off** Total cubic capacity *2 x 350 cfm* Internal diameter *6'-0* thickness *1"*  
 Seamless, lap welded or riveted longitudinal joint *Seamless* Material *Steel* Range of tensile strength *29.94/0* Working pressure by Rules *27*  
 Actual *25*

IS A DONKEY BOILER FITTED? *yes* If so, is a report now forwarded? *yes*

Are approved plans forwarded herewith for Shallowing (If not, state date of approval) *yes* Receivers *yes* Separate Fuel Tanks *yes*  
 Donkey Boilers *yes* General Pumping Arrangements *yes* Pumping Arrangements in Machinery Space *yes*  
 Oil Fuel Burning Arrangements *no*

## SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*  
 State the principal additional spare gear supplied *one spare propeller shaft & one spare cast iron propeller*

The foregoing is a correct description,  
**BURMEISTER & WAINSLASHEN-OGSKIBBYGGERI**  
*H. Klemmer*

Manufacturer.

Dates of Survey while building  
 During progress of work in shops--*JAN. 18-31-FEB. 4-5-6-7-13-16-19-21-26-27-28-MARCH 6-13-15-16-20-22-26-27-APR. 1-2-5-8-9-11-MAY 4-7-9-11-13-14*  
 During erection on board vessel--*MAY 23-21-JUNE 24-JULY 23-29-AUGUST 1-2-5-15-20-21-24-27-28-29*  
 Total No. of visits *62*

Dates of Examination of principal parts—Cylinders *3/1-2/2-29/28* Covers *3/1-6/2-22/2* Pistons *13/1-5/2-20/3* Rods *7/1-14/2-29/3* Connecting rods *7/2-19/3*  
 Crank shaft *4/2-12/3-9/4* Flywheel shaft *16/2-24/4* Thrust shaft *16/2-24/4* Intermediate shafts *24/14-8/4-1/6* Tube shaft *29/7*  
 Screw shaft *4/1-14/3-2/6* Propeller *2/1-15/8* Stern tube *2/1-5-3/1-6* Engine seatings *23/3-3/5-24/2-29/7* Engines holding down bolts *29/7*  
 Completion of fitting sea connections *23/5-29/7* Completion of pumping arrangements *23/7-27/8-29/8* Engines tried under working conditions *18/2-21/2-27/6*  
 Crank shaft, Material *Steel* Identification Mark *BN 9.4.35* Flywheel shaft, Material *Steel* Identification Mark *BN 9.4.35*  
 Thrust shaft, Material *Steel* Identification Mark *BN 9.4.36* Intermediate shafts, Material *Steel* Identification Mark *BN 9.4.36*  
 Tube shaft, Material *Steel* Identification Mark *BN 21/6* Screw shaft, Material *Steel* Identification Mark *BN 21/6*

Is the flash point of the oil to be used over 150° F. *yes*  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *no* If so, have the requirements of the Rules been complied with *yes*  
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *no*  
 Is this machinery duplicate of a previous case *no* If so, state name of vessel *no*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been constructed fitted outboard under special survey and in accordance with the Rules & approved plans and the requirements contained in the Secretary's letters dated 12/12-13/12-1934 1/1-14/1-19/1-17/1-14/2-28/2-1935.*

The material used in construction has been tested as per Rules either by or as per certificate produced, and the workmanship is good.

On completion the machinery was tested under full power working condition & the manoeuvring of the main engine was tested & found satisfactory.

Recommend the vessel's machinery to have notation in the Register Book *LMC-8.35-OL ENGINES - C.L. DB-90 lbs.*

The amount of Entry Fee *£134.40* When applied for, *10-9-35*  
 Special *£2403.52*  
 Fitting Donkey Boiler Fee *£50.00* When received, *16-10-35*  
 2 Shallowing Air Receivers *£188.16*  
 Travelling Expenses (if any) *£14.00*

Committee's Minute *TUE. 17 SEP 1935*  
 Assigned *+ LMC 8.35: Oil Engines C.L. DB-90 lbs*

Rpt. 9a.

Port of *Copenhagen*

Continuation of Report No. 7677 dated 6<sup>th</sup> September 1935 on the

## Single Screw Motor Vessel "HÖEGH CARRIER"

### List of the Auxiliary Machinery.

2 centrifugal cooling water pumps, 1304/hour each.  
 2 spiral screw lubricating oil pumps, 1104/hour each.  
 1 duplex ballast pump, 1504/hour, 220 mm cyl. dia x 250 mm stroke.  
 2 bilge & sanitary pumps 264/hour each.  
 1 rotary "Pron" deep tank cargo oil pump.  
 1 cog wheel oil fuel transfer pump, 304/hour.  
 Driven by *Electromotors*

Two 2 cylinder & one 1 cylinder 2 S.C.S.F. Diesel engines with solid injection, 220 mm cyl. diam x 370 mm stroke x 320 R.P.M. working respectively 2-66 KW and 1-33 KW compound wound dynamos giving current at 220 volts pressure for the following purposes:—

2 of 40 HP shunt wound electromotors for amts. cooling w. & lubr. oil pumps  
 1 " 20 " " " for ballast pump.  
 1 " 10 " " " " bilge & sanitary pump.  
 1 " 10 " " " " oil fuel transfer pump.  
 1 " 8 " series " " " turning engine  
 3 " 2.5 " shunt " " " lubr. & fuel oil separators  
 1 " 3 " " " " valve  
 1 " 2 " " " " drilling machine  
 1 " 0.33 " compound " " " emergency wheel  
 1 " 15 " " " " deep tank cargo oil pump  
 1 " 18 " " " " steering machine  
 1 " 5 " shunt " " " CO<sub>2</sub> compressor (provision)  
 2 " 2 " " " " oil fuel circulating pumps  
 1 " 42 " compound " " " mudlass  
 9 " 25 " " " " 9.3 tons winches  
 2 " 33 " " " " 2 5 tons winches  
 1 " 0.5 " " " " CO<sub>2</sub> cooling water pump.  
 1 " 6 KW. water heater  
 3 " 15 KW. oil heaters  
 and current for the whole electric light installation

Further a 4 K.W. auxiliary light generator, 220 volts x 18.2 amper x 1800 R.P.M. driven by a 2 cylinder 4 S.C.S.F. petrol engine has been placed in deck house and connected to the light switch board by a change over switch.

The above is a correct description.

**BURMEISTER & WAINSLASHEN-OGSKIBBYGGERI**  
*H. Klemmer*

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 with publication