

REPORT ON MACHINERY.

No. 32704
THU. 30 JUN. 1921

Received at London Office

Date of writing Report

When handed in at Local Office

29.6.21 Port of Hull

No. in Survey held at Hull

Date, First Survey 9.6.21

Last Survey 28.6 1921

(Number of Visits 8)

5740 on the S.S. DADG. 76. now "CESARIO"

Tons Gross

Net

Master Built at Hamburg

By whom built Blohm & Voss

When built 1919

Engines made at Hamburg

By whom made Blohm & Voss

when made 1919

Boilers made at

By whom made

when made 1919

Registered Horse Power 502

Owners David S.S. Co. Ltd.

Port belonging to London

Nom. Horse Power as per Section 28 582.5

856

Is Refrigerating Machinery fitted for cargo purposes no.

Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Quadruple expansion

No. of Cylinders 4

No. of Cranks 4

Dia. of Cylinders $28\frac{5}{16} \times 40\frac{1}{8} \times 57\frac{7}{16} \times 82\frac{5}{16}$ Length of Stroke $55\frac{1}{16}$ Revs. per minute

Dia. of Screw shaft

Material of screw shaft

Is the 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

Is the propeller boss yes If the liner is in more than one length are the joints burned ✓

If the liner 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 ✓

If two

liners are fitted, is the shaft lapped or protected between the liners ✓

Length of stern bush 6-0

Dia. of Tunnel shaft

as per rule 15.375

as fitted 15.53

Dia. of Crank shaft journals

as per rule 16.15

as fitted 16.31

Dia. of Crank pin 16.2

Size of Crank webs

Dia. of thrust shaft under

Collars $16\frac{5}{8}$

Dia. of screw 19-6

Pitch of Screw 17-9

No. of Blades 4

State whether moveable no

Total surface 124 sq ft

No. of Feed pumps 2

Diameter of ditto $4\frac{23}{32}$

Stroke 27.11

Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps 2

Diameter of ditto $4\frac{11}{16}$

Stroke 27.11

Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines 3

Sizes of Pumps

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 P & 2 S, $3\frac{1}{2}$ dia ✓

In Holds, &c. one $3\frac{1}{2}$ on port & starboard side of No. 1

No. of Bilge Injections 1

sizes 12"

Connected to condenser, or to circulating pump pump

Is a separate Donkey Suction fitted in Engine room & size

See Ham. 14902.

Are all 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 ✓

Are all connections with the sea direct on the skin of the ship yes ✓

Are they Valves or Cocks both ✓

Are they 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 ✓

Are they 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 ✓

What pipes are carried through the bunkers for! suction

How are they protected wood casing

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

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

Is the Screw Shaft Tunnel watertight yes

Is it fitted with a watertight door yes

worked from engine room top platform

OILERS, &c.—(Letter for record)

Manufacturers of Steel

Each boiler 2940 sq ft = 3218.5 sq ft

Total = 12874 sq ft

Total Heating Surface of Boilers 12874 sq ft

Is Forced Draft fitted yes

No. and Description of Boilers 4 Single ended.

Working Pressure 225 lbs.

Tested by hydraulic pressure to

Date of test 6.21.21

No. of Certificate

Can each boiler be worked separately yes

Area of fire grate in each boiler 66.85 sq ft

No. and Description of Safety Valves to

each boiler 2 spring loaded

Area of each valve 13.36 sq ft

Pressure to which they are adjusted

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2-0

Mean dia. of boilers 190.55

Length 144.85

Material of shell plates S

Thickness 1.496

Range of tensile strength 29.21/34.29 tons

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams DR

long. seams Q.R.D.B.S

Diameter of rivet holes in long. seams 1.614

Pitch of rivets 19.685

Lap of plates or width of butt straps 804 mm

Working pressure of shell by rules 225 lbs

Size of manhole in shell 19.68 x 15.75

Per centages of strength of longitudinal joint

rivets 112.7

plate 91.8

Size of compensating ring 13.38 x 1.299

No. and Description of Furnaces in each boiler 3 Corrugated

Material S

Outside diameter 46.65

Length of plain part

Thickness of plates

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 216.5

Combustion chamber plates: Material S

Thickness: Sides 7.087

Back 7.087

Top 7.087

Bottom 7.087

Pitch of stays to ditto: Sides 7.87

Back 7.87

Top 7.87

If stays are fitted with nuts or riveted heads other N+W

Working pressure by rules 190.3

Material of stays S

Area at smallest part 1.578

Area supported by each stay 61.80

Working pressure by rules 246 lbs

End plates in steam space:

Material S

Thickness 1.1

Pitch of stays 15.75 x 14.96

How are stays secured D.N.W.

Working pressure by rules 238.2

Material of stays S

Area at smallest part 3"

Area supported by each stay 235.60

Working pressure by rules 285.5

Material of Front plates at bottom S

Thickness 1.06

Material of Lower back plate S

Thickness 1.06

Greatest pitch of stays 7.87 x 13.5

Working pressure of plate by rules 333 lbs

Diameter of tubes 3.126

Pitch of tubes 4.29 x 4.29

Material of tube plates S

Thickness: Front 1.06

Back .826

Mean pitch of stays 8.58 x 8.58

Pitch across wide water spaces 14.17

Working pressures by rules 256.5 lbs

Girders to Chamber tops: Material S

Depth and 200 mm

Thickness of girder at centre 10.63 x 1.417

Length as per rule 35.12

Distance apart 7.87

Number and pitch of stays in each Area 7.87

Working pressure by rules 269.5

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type ✓

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

2019

Lloyd's Register

Foundation

4195-0043

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? no

SPARE GEAR. State the articles supplied:

Two top end bolts and nuts. Two bottom end bolts and nuts. Two main bearing bolts and nuts. One set of Coupling bolts. One pair of top end bearings. One pair of bottom end bearings. One HP Valve spindle. One set of piston rings each piston. 8 jink ring bolts. 8 cylinder cover studs. 6 valve cover studs. One set of pump link bars. One air pump rod. 18 Boiler tubes. 25 Tube stoppers. 4 auxy pump valves. 4 main feed pump valves and seats. 4 sanitary pump valves and seats. One set of Ballast pump valves. One safety valve spring. Two main check valves and seats. Two auxy check valves and seats. 30 Condenser tubes. 2 feed pump valves and seats. 6 Bilge pump valves and seats. A quantity of assorted bolts and nuts, and iron of various sizes, etc.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- During erection on board vessel -- Total No. of visits

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 15-6-21 Slides 15-6-21 Covers 15-6-21 Pistons 15-6-21 Rods 15-6-21

Connecting rods 15-6-21 Crank shaft 15-6-21 Thrust shaft 20-6-21 Tunnel shafts 20-6-21 Screw shaft 9-6-21 Propeller 9-6-21

Stern tube 9-6-21 Steam pipes tested Engine and boiler seatings 17-6-21 Engines holding down bolts 17-6-21

Completion of pumping arrangements Boilers fixed Engines tried under steam

Completion of fitting sea connections 9-6-21 Stern tube 9-6-21 Screw shaft and propeller 9-6-21

Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.

Material of Steam Pipes Steel Test pressure

Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case If so, state name of vessel

General Remarks

(State quality of workmanship, opinions as to class, &c) The machinery of this Ex-German vessel was constructed under Germanischer Lloyd Survey, and has now been submitted to the Survey of this Society. The 3 after bills have been examined throughout. The cylinders, pistons, slides, crank thrust, and intermediate shafts, all journals and cuttings, condenser, screw shaft, stern tube, propeller, sea connections and fastenings have been examined. The dimensions of cylinders, shafting etc. and scantlings of boilers have been verified and found to be as stated in the report. The bilge arrangement has been examined and found to be in accordance with the Society's requirements, except that a separate suction in engine room is not yet fitted. The distance between the German Vices of stern tube and top of after bearing of screw shaft is 18". The boiler examined were found in good condition, and in safe condition for a W.P. of 225 lbs per sq. in. The bottom generally were found in good condition, except crank bearings, which require remetalting. To complete the survey, the forward bilge and its mounting to be examined, crank shaft to be lifted and bearings remetalled. Fore thrust shaft bearing to be removed and bottom half examined. A separate bilge suction to be fitted in engine room from bilge and ballast pump. The main and auxiliary machinery and pump sections to be tried under working conditions, and safety valves of all boilers to be adjusted under steam to 225 lbs per sq. in. The owner's superintendent states that this will be done at Rotterdam when the vessel is now going. The Rotterdam surveyors have been notified. In our opinion this vessel will be eligible for the Record of LMC 6-21 on completion of the survey as above.

Certificate (if required) to be sent to the Surveyors are requested not to write on or obliterate the space for Committee's Minute.

Table with columns for fee types (Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses) and amounts.

John Robertson, P. Fitzgerald. Engineer Surveyor to Lloyd's Register of Shipping.

TUE MAR 28 1922

Committee's Minute Assigned

