

REPORT ON MACHINERY.

No. 6803.
SAT 31 MAY. 1924

Received at London Office
Date of writing Report 30/4 1924 When handed in at Local Office 19 Port of Copenhagen
No. in Survey held at Elsinore Date, First Survey 3/10 1919 Last Survey 24/4 1924
Reg. Book. 03/ on the hull No. "M. C. HOLM" (Number of Visits 48)
Master Built at Elsinore By whom built Elsinore's junkits of charnibyggeri When made 1924
Engines made at Elsinore By whom made Elsinore's junkits of charnibyggeri when made 1924
Boilers made at Elsinore By whom made Elsinore's junkits of charnibyggeri when made 1924
Registered Horse Power 1200 Owners D. S. Norder Port belonging to Copenhagen
Nom. Horse Power as per Section 28 282 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yps

GINES, &c.—Description of Engines Triple expansion, surface condenser. No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 23" - 38" - 62" Length of Stroke 42" Revs. per minute 68 Dia. of Screw shaft as per rule 12.89" Material of S.M. steel.
Is the screw shaft fitted with a continuous liner the whole length of the stern tube yps. Is the after end of the liner made water tight
Is the propeller boss yps. If the liner is in more than one length are the joints burned No 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
are fitted, is the shaft lapped or protected between the liners Length of stern bush 4'-9"
Dia. of Tunnel shaft as per rule 11.48" Dia. of Crank shaft journals as per rule 12.05" Dia. of Crank pin 12'8" Size of Crank webs 9 1/2" x 8 1/2" Dia. of thrust shaft under
collars 12'8" Dia. of screw 15'-9" Pitch of Screw 15'-6" No. of Blades 4 State whether moveable No Total surface 76'0"
No. of Feed pumps 2 Diameter of ditto 4 3/4" Stroke 12" Can one be overhauled while the other is at work yps.
No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 21" Can one be overhauled while the other is at work yps.
No. of Donkey Engines 2 Sizes of Pumps 1 off 6" x 4" 6" DUPLEX No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 3 off 3", 1 off 3 1/2" In Holds, &c. No 1 hold: 2 off 3 1/2"; No 2 hold: 2 off 3"
Fund rule: 1 off 2 1/2"; Tank suction 3 1/2" - 3" - 2 1/2"; F.P. tank 3 1/2"; A.P. tank 3 1/2"
No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser, or to circulating pump No Is a separate Donkey Suction fitted in Engine room & size yps, 3"
Are all the bilge suction pipes fitted with roses yps. Are the roses in Engine room always accessible yps. Are the sluices on Engine room bulkheads always accessible No.
Are all connections with the sea direct on the skin of the ship yps. Are they Valves or Cocks Valves; cock for boiler blow off.
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yps. 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 yps. Are the Blow Off Cocks fitted with a spigot and brass covering plate yps.
That pipes are carried through the bunkers No. How are they protected
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yps.
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yps.
Is the Screw Shaft Tunnel watertight yps. Is it fitted with a watertight door yps. worked from upper deck.
END PLATES, SHELL CHAMBERS & FURNACES: PARKHEAD FORGE ROLLING MILLS - STEEL WORKS.
MANUFACTURERS OF STEEL STAYS: FROBINGHAM IRON AND STEEL WORKS.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel STAYS: FROBINGHAM IRON AND STEEL WORKS.
Total Heating Surface of Boilers 4494 sq. ft. Is Forced Draft fitted No No. and Description of Boilers 2 off, single ended, Scotch type.
Working Pressure 180 lbs. per sq. in. Tested by hydraulic pressure to 360 lbs. Date of test 9/2 1924. No. of Certificates 439 & 440.
Can each boiler be worked separately yps. Area of fire grate in each boiler 46.1 sq. ft. No. and Description of Safety Valves to
each boiler 2 off, directly spring loaded. Area of each valve 5.94 sq. in. Pressure to which they are adjusted 180 lbs. per sq. in. Are they fitted with easing gear yps.
Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 14'-10 3/4" Length 10'-7" Material of shell plates S.M. steel.
Thickness 13 1/16" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams lap, 266 riv.
Long. seams 266 butt. Diameter of rivet holes in long. seams 13 1/16" Pitch of rivets 7 7/8" Lap of plates or width of butt straps 17 3/8"
Percentage of strength of longitudinal joint rivets 95.7 Working pressure of shell by rules 180 lbs. Size of manhole in shell 12" x 16"
Size of compensating ring 26 1/2" x 36 1/2" (13 1/16" x 18 1/8") No. and Description of Furnaces in each boiler 3 off, chorion's Material S.M. steel Outside diameter 3'-9"
Length of plain part top bottom Thickness of plates 12 1/2" x 13 1/2" Description of longitudinal joint welded. No. of strengthening rings
Working pressure of furnace by the rules 182 lbs. Combustion chamber plates: Material S.M. steel. Thickness: Sides 5/8" Back 9 1/16" x 1/32" Top 5/8" Bottom 3/4"
Pitch of stays to ditto: Sides 8 1/2" x 7 3/8" Back 8" x 8" Top 8" x 9" If stays are fitted with nuts or riveted heads No Working pressure by rules 182 lbs.
Material of stays S.M. steel Area at smallest part 1.788 sq. in. Area supported by each stay 106.4 sq. in. Working pressure by rules 182 lbs. End plates in steam space:
Material S.M. steel Thickness 1 1/32" Pitch of stays 16" x 16" How are stays secured RIVETED IN BOTH PLATES. Working pressure by rules 182 lbs. Material of stays S.M. steel.
Area at smallest part 8.545 sq. in. Area supported by each stay 3.156 sq. in. Working pressure by rules 220 lbs. Material of Front plates at bottom S.M. steel.
Thickness 5 1/16" Material of Lower back plate S.M. steel. Thickness 13/16" Greatest pitch of stays 13 1/2" x 8" Working pressure of plate by rules 185.6 lbs.
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S.M. steel Thickness: Front 15 1/16" x 1/32" Back 13 1/16" x 1/32" Mean pitch of stays 11 1/4"
Pitch across wide water spaces 14 1/4" Working pressures by rules 191.5 lbs. Girders to Chamber tops: Material S.M. steel. Depth and
thickness of girder at centre 8 7/8" x 3/4" x 2 Length as per rule 2'-8" Distance apart 9" Number and pitch of stays in each 3 off, 8"
Working pressure by rules 182 lbs. 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 Schmidt's patent Date of Approval of Plan 22/2 1918 Tested by Hydraulic Pressure to 540 lbs. per sq. in.
Date of Test 23/1 1924 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yps.
Diameter of Safety Valve 2" Pressure to which each is adjusted 180 lbs. per sq. in. Is Easing Gear fitted yps.
W1360-0171

IS A DONKEY BOILER FITTED? *yes.*

If so, is a report now forwarded? *yes.*

SPARE GEAR. State the articles supplied:—1 cast iron propeller, 1 propeller shaft, 1/3 crank shaft, 1 pair of crank pin brasses, 2 pair of crosshead brasses (=1 set), 2 HP piston rings, 1 IP & 1 LP piston ring, 1 air pump rod, 1 impeller & impeller shaft for circulating pump, 1 slide valve spindle, 1 link block, 2 crank pin bolts w. nuts, 4 crosshead bolts w. nuts, 2 main bearing bolts w. nuts, 1 set coupling bolts w. nuts, 1 set air pump valves, 2 feed pump valves, 2 big pump valves, 4 valves for donkey boiler pump, 2 feed check valves & 2 shut off valves, 2 safety valve springs, 2 expansion tubes, 18 boiler tubes, 12 water gauge glasses, a number of assorted bolts & nuts, superheater coils, iron bars &c.

The foregoing is a correct description,

AKTIESELSKABET
Helsingørs Jernskibs- og Maskinbyggeri

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 3/10, 5/11, 10/11, 22/12, 19, 28/2, 7/3, 15/3, 22/3, 11/4, 29/6, 5/7, 9/7, 6/9, 13/9, 19/9, 22/9, 28/9, 5/10, 25/10, 1/12, 13/12, 21/12, 28/12, 23, 21/1, 10/1, 16/1, 23/1, 26/1, 9/2, 9/2, 24.
During erection on board vessel - - 16/1, 23/1, 26/1, 29/1, 31/1, 6/2, 9/2, 12/2, 15/3, 18/3, 25/3, 4/4, 8/4, 9/4, 24/4, 24.
Total No. of visits 48.

Is the approved plan of main boiler forwarded herewith *yes.*

" " " donkey " " " *yes.*

Dates of Examination of principal parts—Cylinders 10/1, 16/1, 24. Slides 15/3, 21/12, 23. Covers 15/3, 23. Pistons 15/3, 23. Rods 6/9, 23.
Connecting rods 6/9, 23. Crank shaft 3/10, 19, 22/3, 23. Thrust shaft 15/6, 20/6, 23. Tunnel shafts 5/10, 19, 7/8, 24, 26/8, 1/12, 23, 7/17, 23, 1/2, 24. Propeller 6/1, 29/2, 24.
Stern tube 29/6, 23. Steam pipes tested 15/3, 18/3, 24. Engine and boiler seatings 29/2, 24. Engines holding down bolts 18/3, 24.
Completion of pumping arrangements 18/3, 24. Boilers fixed 18/3, 24. Engines tried under steam 25/3, 4/4, 8/4, 9/4, 24.
Completion of fitting sea connections 26/1, 24. Stern tube 9/2, 24. Screw shaft and propeller 9/2, 24.
Main boiler safety valves adjusted 8/4, 24. Thickness of adjusting washers No washers, check nuts fitted.

Material of Crank shaft S.M. steel Identification Mark on Do. 22-3-23. Material of Thrust shaft S.M. steel Identification Mark on Do. 20-6-23.
Material of Tunnel shafts S.M. steel Identification Marks on Do. 1-12-23. Material of Screw shafts S.M. steel Identification Marks on Do. 1-2-24.
Material of Steam Pipes Steel, seamless, solid drawn. Test pressure 540 lbs. per sq. in. (SPARE: LLOYDS No 6760, 8-4-24)

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 *yes.* If so, state name of vessel *S/S Linderborg (year No 158)*

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

This machinery has been built under special survey and in accordance with the Rule requirements, the approved plans and letters & dates 13/9 1916, 28/2 1918 and 9/5 & 11/9 1923. The material used in the construction has been used as required by the Rules or as per letter & dates 11/2 1915, and the workmanship is of good description throughout. On the trial trip the machinery and boiler were tested under full working power and were found to work satisfactorily in every respect.

Recommend the vessel's machinery to have notation of *LMC-4-24, C.L.*

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 4.24. CL.

The amount of Entry Fee ... *£ 103. 00* : When applied for, 26.5.1924.
Special ... *£ 1432. 98* :
Donkey Boiler Fee ... *£ 108. 15* :
Travelling Expenses (if any) *£ 451. 10* : When received, 17/5/24.

Committee's Minute WED. 11 JUN 1924

Assigned

+ L.M.C. 4.24
C.L.

CERTIFICATE WRITTEN



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