

REPORT ON MACHINERY.

No. 5573.

SAT. - 2 FEB. 1918

Received at London Office

Date of writing Report 16th Jan. 1918 When handed in at Local Office 19 Port of Copenhagen
No. in Survey held at Copenhagen Date, First Survey 11th October 1916 Last Survey 25th Decr. 1917.
Reg. Book. 1184 on the Steel S.S. "Sigrid" (Yard No. 136 Eng. No. 120). (Number of Visits 52).
Master J. M. Christensen Built at Copenhagen By whom built Akt. Kjöbenhavn Flydedk. & Skibsverft Tons { Gross 1207.31
Engines made at Copenhagen By whom made Akt. Kjöbenhavn Flydedk. & Skibsverft when made 1916-17.
Boilers made at Copenhagen By whom made Akt. Kjöbenhavn Flydedk. & Skibsverft when made 1916-17.
Registered Horse Power 98 N.H.P. Owners Dampfsejlskabet Vestenhavet (J. Lauritzen) Port belonging to Esbjerg.
Nom. Horse Power as per Section 28 98.15 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINE, &c.—Description of Engines Inverted triple expansion surface condensing No. of Cylinders 3. No. of Cranks 3.
Dia. of Cylinders 15" x 24" x 40" Length of Stroke 29" Revs. per minute 90 Dia. of Screw shaft 9.4" as per rule 9.825" Material of S.M.I. Steel
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner fitted Is the after end of the liner made water tight
in the propeller boss box fitted 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 3'-10 1/2"
Dia. of Tunnel shaft as per rule 7.475" as fitted 7 1/2" Dia. of Crank shaft journals as per rule 7.85" as fitted 8" Dia. of Crank pin 8" Size of Crank webs 5 1/2 x 15 1/4" Dia. of thrust shaft under
collars 8" Dia. of screw 12-6" Pitch of Screw 10-6" No. of Blades 4 State whether moveable No Total surface 49 sq ft
No. of Feed pumps 2 off Diameter of ditto 3 3/4" Stroke 6 3/4" Can one be overhauled while the other is at work Yes One 8 Tons Evaporator.
No. of Bilge pumps 2 off Diameter of ditto 3" Stroke 13 1/2" Can one be overhauled while the other is at work Yes One feed injector.
No. of Donkey Engines 2 off duplex Sizes of Pumps 6" x 8" x 6" and 5 1/4" x 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2 Starb. & 1 Port side, each 2 1/2" diam. One in dry tank & Port 2 1/2" In Holds, &c. In forehold 2 off each 2 1/2" diam. In after hold 2 off each 2 1/2" diam.
In funnel well on 2 1/2" diam. In fore peak tank & after peak tank one in each 3 1/2" diam. In double bottom tanks 4 1/2", 3 1/2", 3" & 2 1/2".
No. of Bilge Injections One sizes 4" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes, 2 1/2" diam.
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 None
Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves, except blow off cock from boilers.
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 None How are they protected
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 upper deck.
Boilers &c.—(Letter for record S) Manufacturers of Steel Staybars: Baillouhult bei Kallmütz 1/2. Baillouhult & and Paterson Ship & Iron Co. Glasgow.
Rivets: The Rivet, Bolt & Nut Co. Ltd. Eastbridge. Tubes: Götische Maschinen Bauwerk 9/9, Düsseldorf.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Staybars: Baillouhult bei Kallmütz 1/2. Baillouhult & and Paterson Ship & Iron Co. Glasgow.
Rivets: The Rivet, Bolt & Nut Co. Ltd. Eastbridge. Tubes: Götische Maschinen Bauwerk 9/9, Düsseldorf.
Total Heating Surface of Boilers 1604 Is Forced Draft fitted No No. and Description of Boilers 2 off single ended (Scotch type).
Working Pressure 185 lbs. per sq. in. Tested by hydraulic pressure to 370 lbs. per sq. in. Date of test 16th February 1917 No. of Certificate 383 & 384.
Can each boiler be worked separately Yes Area of fire grate in each boiler 24 sq ft No. and Description of Safety Valves to
each boiler 2 off direct spring loaded Area of each valve 3.976 sq in. Pressure to which they are adjusted 185 lbs. per sq. in. Are they fitted with easing gear Yes.
Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 10 3/8" x 1/32" Length 16' 8" Material of shell plates S.B. Steel.
Thickness 7/8" + 1/32" Range of tensile strength 28-32 Tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams double riveted.
long. seams triple riveted Diameter of rivet holes in long. seams 15/16" Pitch of rivets 6 3/8" Lap of plates or width of butt straps 1 1/4"
Per centages of strength of longitudinal joint rivets 88-7 Working pressure of shell by rules 189.8 lbs. Size of manhole in shell 12" x 16"
Size of compensating ring 25 1/8" x 29 5/8" x 7/8" No. and Description of Furnaces in each boiler 2 off corrugated Material S.B. & Steel Outside diameter 3' 4 1/4"
Length of plain part top bottom Thickness of plates crown 1 1/2" + 1/32" bottom 1 1/2" + 1/32" Description of longitudinal joint welded No. of strengthening rings
Working pressure of furnace by the rules 203 lbs. Combustion chamber plates: Material S.B. & Steel Thickness: Sides 5/8" Back 5/8" Top 7/16" Bottom 5/8"
Pitch of stays to ditto: Sides 8 1/2" x 7 1/4" Back 8 1/2" x 7 1/4" Top 8" x 7 1/4" If stays are fitted with nuts or riveted heads riveted outside except Working pressure by rules 187.5 lbs.
Material of stays S.M. Steel Area at smallest part 1.759" Area supported by each stay 67.4 sq in. Working pressure by rules 232 lbs. End plates in steam space:
Material S.B. Steel Thickness front 5/16" Pitch of stays 16" x 14 3/4" How are stays secured 1/16" rivets and nuts Working pressure by rules 187.5 lbs. Material of stays S.M. Steel.
Area at smallest part 2.509" Area supported by each stay 236 sq in. Working pressure by rules 216 lbs. Material of Front plates at bottom S.B. Steel.
Thickness 5/16" Material of Lower back plate S.B. Steel Thickness 7/8" + 1/32" Greatest pitch of stays 15 1/4" x 7 3/8" Working pressure of plate by rules 189 lbs.
Diameter of tubes 3 1/4" Pitch of tubes 7 1/16" x 4 1/2" Material of tube plates S.B. & Steel Thickness: Front 5/16" Back 13/16" + 1/32" Mean pitch of stays 11 1/32"
Pitch across wide water spaces 13 3/4" Working pressures by rules 190 lbs. Girders to Chamber tops: Material S.B. Steel Depth and
thickness of girder at centre 6 1/4" x 5 1/8" x 2" Length as per rule 22 1/2" Distance apart 8" Number and pitch of stays in each 2 off 7 1/4"
Working pressure by rules 190 lbs. Steam dome: description of joint to shell No steam dome % 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 23rd December 1917 Tested by Hydraulic Pressure to 500 lbs. per sq. in.
Date of Test 15th November 1915 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes.
Diameter of Safety Valve 0.99 sq. in. each Pressure to which each is adjusted 185 lbs. per sq. in. Is Easing Gear fitted Yes.
Wille - 0098

IS A DONKEY BOILER FITTED?

No. ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— 1 propeller, 2 connecting rod top end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts & nuts, 1 set of coupling bolts & nuts, 1 piston ring for each piston, 1 slide valve spindle, 1 pair of connecting rod top end brasses, 1 pair of connecting rod bottom end brasses, 1 set of Proell's patent packing for H.P. piston rod, 1 air pump rod, 1 set of air pump valves, 1 set of circulating pump valves, 1 set of feed pump valves, 1 set of feed check valves on boilers, 1 set of bilge pump valves, 6 junkering bolts, 12 condenser tubes & 24 screw ferrules, 2 springs for main boiler safety valves, 12 boiler tubes, 1 set of fire bars for one furnace, 8 water gauge glasses, 3 patent tube stoppers. A quantity of assorted bolts and nuts. Iron of various sizes.

The foregoing is a correct description.
Jan. 17th. 1918. **AKTIESELSKABET.**

KJØBENHAVNS FLYDEDOK OG SKIBSVÆRET.

A. Uggerløse.

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 11 & 26 Octbr. 7 & 21 Novbr. 15 & 22 Decbr. 1916. 3, 11 & 20 Jan. 15 & 16 Febr. 26, 22 & 28 March, 12 & 24 April 5, 25 & 29 May 7 & 27 June 6, 16 & 20 July, 30 Aug. 4, 19 & 28 Sept. 4, 6, 7, 10, 11, 18, 22, 26, 29 & 31 Oct. 1, 7, 13, 15, 17, 20, 27, 28 Novbr. 3, 12, 22, & 25 Decbr. 1917.
During erection on board vessel --
Total No. of visits **52.**

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

Dates of Examination of principal parts: Cylinders 2/3, 22/3 & 12/4-17. Slides 2/3, 27/4, 5/5 & 29/5-17. Covers 4/3, 12/4-17. Pistons 2/4, 25/5 & 27/6-17. Rods 7/6 & 4/7-17.
Connecting rods 16/7, 29/7-17. Crank shaft 2/4 & 4/1-17. Thrust shaft 20/3 & 4/10-17. Tunnel shafts 17/7, 4/10-17. Screw shaft 4/1, 17/7 & 4/10-17. Propeller 27/7 & 10/10-17.
Stern tube 6/7, 4/10 & 7/10-17. Steam pipes tested 1st Novbr. 17. Engine and boiler seatings 4/10 & 6/10-17. Engines holding down bolts 26/10 & 29/10-17.
Completion of pumping arrangements 17th Novbr. 1917. Boilers fixed 22nd Oct. 1917. Engines tried under steam 28/11, 22/12 & 25/12-17.
Completion of fitting sea connections 9th Octbr. 17. Stern tube 9th Oct. 17. Screw shaft and propeller 10th Oct. 1917.
Main boiler safety valves adjusted 25th Decbr. 1917. Thickness of adjusting washers No washers - check nuts fitted.
Material of Crank shaft S.M.I. Steel. Identification Mark on Do. R. 1-17 A.F.C. Material of Thrust shaft S.M.I. Steel. Identification Mark on Do. R. 10-17 A.F.C.
Material of Tunnel shafts S.M.I. Steel. Identification Marks on Do. R. 15-17 A.F.C. Material of Screw shafts S.M.I. Steel. Identification Marks on Do. R. 10-17 A.F.C.
Material of Steam Pipes Seamless drawn steel pipes as per approved plan. Test pressure 555 lbs. per square inch.
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

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

S.S. Anna Yard No. 120 Gun. Rpt. No. 4257.
" Carman " - 131 " " - 4793.
" Esfer " - 132 " " - 5327.
" Ingeborg " - 133 " " - 5375.
" Karen " - 134 " " - 5387.
" Margrete " - 135 " " - 5497. ✓

In accordance with the Rules for Special Survey we have examined the material and workmanship from the commencement of construction until the final trial under steam and found it sound and good in every respect. The dimensions are as specified and in accordance with the Rules, the approved plans and the requirements contained in the London letters E dated the 16th Septbr. 4th 8th & 23rd Decbr. 1913 respecting the builders' yard No. 120, S.S. "Anna", Gun. Rpt. No. 4257, - and letters M dated the 20th Octbr. and 18th Novbr. 1917.

The material used in the construction of the engines and boilers has been tested as required by the Rules or as per London letter S dated the 11th February 1915 as per certificates produced.

The Schmidt's patent superheating arrangements have been fitted to the boilers, - the arrangements are manufactured by Messrs. J. Sebeck & Søn, Gæstehavn, - constructed according to the approved plan, - the material used in the construction has been tested as required, - and the finished arrangements have been tested by hydraulic pressure to 50 kg. per cm. as per certificate produced, as per letter S dated the 11th February 1915.

On the trial trip the engines and boilers worked satisfactorily.

Recommend the vessel's machinery to have notation of **L.M.C-12.17.** **THE RECORD.**

It is submitted that this vessel is eligible for

THE RECORD.

The amount of Entry Fee ... £. 18 : 20 :
Special ... £. 254 : 80 :
Donkey Boiler Fee ... £. : :
Travelling Expenses (if any) £. : :
When applied for, 16-1-1918.
When received, 27-2-1918.

A. F. Sebeck & Søn.
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUE. 5 FEB. 1918

+ L.M.C. 12.17.

MACHINERY CERTIFICATE
WRITTEN.



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Foundation