

REPORT ON MACHINERY.

No. 1501

Port of Bremerhaven

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No. in Survey held at *Geestemünde*Date, first Survey *17 June*Last Survey *5 October* 19 *09*

Reg. Book.

(Number of Visits *26*)*8 in Log on the Engines & Boilers of the S. S. Sagenturm*Master *A. Fischbeck* Built at *Geestemünde* By whom built *Joh. C. Tecklenborg A. G.*Tons { Gross *5000.49*
Net *3159.65*Engines made at *Geestemünde* By whom made *Joh. C. Tecklenborg A. G.*When built *1909*Boilers made at *Geestemünde* By whom made *Joh. C. Tecklenborg A. G.*when made *1909*Registered Horse Power *474* Owners *D. D. Ges. Hansa*Port belonging to *Bremen*Nom. Horse Power as per Section 28 *599*Is Refrigerating Machinery fitted for cargo purposes *No*Is Electric Light fitted *Yes*ENGINES, &c.—Description of Engines *Two quadr. comp. surf. condensing* No. of Cylinders *4* No. of Cranks *4*Dia. of Cylinders *22 1/4 x 31 1/2 x 48 x 70 7/8* Length of Stroke *51 1/2* Revs. per minute *75* Dia. of Screw shaft *14 1/2* as per rule *14 1/2* as fitted *15 1/2* Material of *S.M. steel*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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *Yes* If twoliners are fitted, is the shaft lapped or protected between the liners *—* Length of stern bush *8' 4 3/8"*Dia. of Tunnel shaft *12 3/4* as per rule *12 3/4* Dia. of Crank shaft journals *12 3/4* as per rule *12 3/4* Dia. of Crank pin *14 3/4* Size of Crank webs *9 1/2* Dia. of thrust shaft undercollars *14 3/4* Dia. of screw *18 8/16* Pitch of Screw *19' 4 5/16* No. of Blades *4* State whether moveable *Yes* Total surface *77 3/4*No. of Feed pumps *2* Diameter of ditto *3 3/4* Stroke *26 3/8* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2* Diameter of ditto *4 5/8* Stroke *26 3/8* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *3* Sizes of Pumps *13 1/2 x 5 1/2, 9 1/2 x 5 1/2, 5 1/2 x 4 1/2* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *4* *2 x 3 1/2 in Engine & boiler room* In Holds, &c. *2 in each hold 2 x 3 1/2 and 1 x 3 1/2 in tunnel*No. of Bilge Injections *1* sizes *8"* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *3 1/2"*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 *Yes*Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Valves and Cocks*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 *Bilge suction pipes* How are they protected *Wooden boxes*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*Dates of examination of completion of fitting of Sea Connections *30.8* of Stern Tube *30.8* Screw shaft and Propeller *24.8*Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *above deck in Engine room*BOILERS, &c.—(Letter for record *in*) Manufacturers of Steel *F. Krupp in Essen, Germania Stahl & Eisenwerk.*Total Heating Surface of Boilers *6324* Is Forced Draft fitted *Yes* No. and Description of Boilers *3 cylindrical multitubular*Working Pressure *213 lb* Tested by hydraulic pressure to *285 lb* Date of test *16.8 & 30.8* No. of Certificate *105/106/107*Can each boiler be worked separately *Yes* Area of fire grate in each boiler *50 sq ft* No. and Description of Safety Valves toeach boiler *1 double spring valve* Area of each valve *12.18* Pressure to which they are adjusted *213 lb* Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean dia. of boilers *13' 9 3/4"* Length *11' 9 1/2"* Material of shell plates *S.M. steel*Thickness *1 3/8"* Range of tensile strength *27.9-33 tons* Are the shell plates welded or flanged *flanged* Descrip. of riveting: cir. seams *double*Long. seams *double* Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *9 1/2"* Lap of plates or width of butt straps *21 1/4"*Percentages of strength of longitudinal joint rivets *22.5%* Working pressure of shell by rules *251 lb* Size of manhole in shell *11 1/2 x 15 1/2*Size of compensating ring *9 1/2 x 1 3/8"* No. and Description of Furnaces in each boiler *3 Morrison* Material *S.M. steel* Outside diameter *38 1/4"*Length of plain part top *8 3/4"* bottom *8 1/4"* Thickness of plates crown *4 1/2"* bottom *4 1/4"* Description of longitudinal joint *welded* No. of strengthening rings *4*Working pressure of furnace by the rules *269 lb* Combustion chamber plates: Material *S.M. steel* Thickness: Sides *1 1/8"* Back *1 1/8"* Top *1 1/8"* Bottom *5 3/4"*Pitch of stays to ditto: Sides *8 1/4 x 6 1/2"* Back *7 1/4 x 6 1/2"* Top *7 7/8 x 6 1/2"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *264 lb*Material of stays *Iron* Diameter at smallest part *1 1/4"* Area supported by each stay *56.8* Working pressure by rules *298 lb* End plates in steam space:Material *S.M. steel* Thickness *1 3/8"* Pitch of stays *13 1/4 x 16 1/4"* How are stays secured *nuts* Working pressure by rules *235 lb* Material of stays *S.M. steel*Diameter at smallest part *2 1/4"* Area supported by each stay *224* Working pressure by rules *296 lb* Material of Front plates at bottom *S.M. steel*Thickness *1 3/8"* Material of Lower back plate *S.M. steel* Thickness *3 1/2"* Greatest pitch of stays *8 1/4 x 16 1/2"* Working pressure of plate by rules *302 lb*Diameter of tubes *2 1/2"* Pitch of tubes *3 3/4"* Material of tube plates *S.M. steel* Thickness: Front *1 3/8"* Back *5 9/16"* Mean pitch of stays *7 1/2"*Pitch across wide water spaces *13 3/8"* Working pressures by rules *220 lb* Girders to Chamber tops: Material *S.M. steel* Depth andThickness of girder at centre *2 x 10 1/4 x 1 1/2"* Length as per rule *35 1/4"* Distance apart *6 7/8"* Number and pitch of stays in each *3 x 7 7/8"*Working pressure by rules *226 lb* Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

W 815 - 0005

VERTICAL DONKEY BOILER

Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR.

State the articles supplied: 1 Crank shaft, 1 Propeller shaft, 1 Propeller blade, 1 crank pin brass, 1 crosshead brass, 2 crosshead bolts & nuts, 2 crank pin brass bolts & nuts, 1 set of coupling bolts, 2 slide valve spindles, 1 piston rod for air pump, 1 set of valves for air pump, 1 fan with shaft, 1 brass with nuts for each screw, 1 slide valve spindle for centrifugal pump, 1 set of feed pump valves, 1 set of belt pump valves, 2 set of links complete, 2% condenser tubes with stuffing boxes, 2% boiler tubes for all boilers, 1 safety valve spring for each boiler, 6 set of gauge glasses, 10% cylinder cover bolts, 10% slide valve cover bolts, 10% piston bolts, 1 complete eccentric strap, 1 set of piston rings for each piston, 1 set of fire bars and nuts bolts washers and iron of different sizes.

The foregoing is a correct description,

JOH. C. TECKLENBORG A.-G.

Schiffswerft und Maschinenfabrik

Manufacturer.

Dates of Survey while building: During progress of work in shops - 3.6/17.6/23.6/29.6/9.7/20.7/29.7/2.8/4.8/6.8/10.8/16.8/24.8/30.8/ During erection on board vessel - 3.9/4.9/7.9/9.9/10.9/18.9/22.9/25.9/27.9/2.10/4.10/5.10/1909 Total No. of visits 26

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 30.7 Slides 30.7 Covers 30.7 Pistons 30.7 Rods 30.7

Connecting rods 4.8 Crank shaft 4.8 Thrust shaft 6.8 Tunnel shafts 10.8 Screw shaft 10.8 Propeller 16.8

Stern tube 24.8 Steam pipes tested 30.9 Engine and boiler seatings 24.8 Engines holding down bolts 3.9

Completion of pumping arrangements 22.9 Boilers fixed 18.9 Engines tried under steam 5.10

Main boiler safety valves adjusted 5.10 Thickness of adjusting washers 2. boiler 1 1/2" 49" 1 1/2" 48" 1 1/2" 48" 1 1/2" 48" 1 1/2" 48" 1 1/2" 48"

Material of Crank shaft L.H. steel Identification Mark on Do. 419274 Material of Thrust shaft L.H. steel Identification Mark on Do. 438727 H.

Material of Tunnel shafts L.H. steel Identification Marks on Do. 3106-7 P. 5. 4943-44 H. 2. Material of Screw shafts L.H. steel Identification Marks on Do. 636827 H.

Material of Steam Pipes Steel Test pressure 42.65 psi

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines and Boilers have been

built under special Survey in accordance with the rules and approved tracings.

The workmanship is good and the material of best quality, manufactured at approved works and tested as per rule

The cylinders, slide valve casing and all other cast iron vessels have been tested by hydraulic up to one and half working pressure and all steam and delivery pipes, which work under pressure have been tested by double the working pressure and found quite tight.

The boilers have been built of best material, manufactured at approved works and tested as per rule, the workmanship is good.

The boilers have been tested by hydraulic pressure up to 28.5% in compliance with German law and found quite tight showing no alteration of form.

Under steam the boilers are tight and the engines work well.

In my opinion these Engines and Boilers are eligible to be classed in this Society with notation of L. M. C. 10.09.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.09

The amount of Entry Fee. £ 3 : : When applied for, Special £ 49 : 13 : 9.10.1909 Donkey Boiler Fee £ 2 : 2 : When received, Travelling Expenses (if any) £ : : 9.10.1909 F. H.

J. Thomson. Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 19 OCT 1909

Assigned + L.M.C. 10.09

MACHINERY CERTIFICATE WRITTEN.

Lloyd's Register Foundation