

REPORT ON MACHINERY.

No. 1462

TUES. 1 JUN 1909

Port of *Bremerhaven*

Received at London Office

Survey held at *Geestemünde*

Date, first Survey *2 Dec. 1908* Last Survey *27th May 1909*

Book. *on the steel spardeck screw steamer Minneburg*

(Number of Visits)

By *D. Cellerich* Built at *Geestemünde* By whom built *Joh. C. Tecklenborg A. G.*

Tons { Gross *4748.41*
Net *3005.82*
When built *1909*

Machines made at *Geestemünde* By whom made *Joh. C. Tecklenborg A. G.* when made *1909*

Engines made at *Geestemünde* By whom made *Joh. C. Tecklenborg A. G.* when made *1909*

Registered Horse Power *427* Owners *D. J. Ges. Hansa* Port belonging to *Bremen*

Horse Power as per Section 28 *546* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

MAINES, &c.—Description of Engines *Two, both comp. and condensing* No. of Cylinders *3* No. of Cranks *3*

No. of Cylinders *26 1/4 x 42 1/2 / 70* Length of Stroke *48* Revs. per minute *65* Dia. of Screw shaft *as per rule 14 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 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 *Yes* If two

shafts are fitted, is the shaft lapped or protected between the liners *—* Length of stern bush *10' 1 1/2*

Dia. of Tunnel shaft *as per rule 13 1/4* Dia. of Crank shaft journals *as per rule 13 3/4* Dia. of Crank pin *13 3/4* Size of Crank webs *9 1/16* Dia. of thrust shaft under

bars *13 3/4* Dia. of screw *2 1/16* Pitch of Screw *2 2/4* No. of Blades *4* State whether moveable *Yes* Total surface *95 sq'*

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 1/8* Stroke *26 3/8* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *3* Sizes of Pumps *9 3/4 x 13 1/2, 9 3/4 x 5 1/2, 7 1/2 x 4 1/2* No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *4 in Engine room & stokehold a 3 1/2* In Holds, &c. *2 in each hold a 3 1/2. In the tunnel (a 3 1/2) & (a 2 1/2)*

No. of Bilge Injections *1* sizes *8* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room of size *Yes 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 *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 *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*

Dates of examination of completion of fitting of Sea Connections *31st March 09* of Stern Tube *1st April 09* Screw shaft and Propeller *5th April 1909*

Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Engine room upper grating.*

BOILERS, &c.—(Letter for record *n*) Manufacturers of Steel *Jagssen & Co. Middelheim a. d. Puck.*

Total Heating Surface of Boilers *5852 sq'* Is Forced Draft fitted *Yes* No. and Description of Boilers *2 cylindrical multibolt steel.*

Working Pressure *185 lb* Tested by hydraulic pressure to *256 lb* Date of test *20.4.1909* No. of Certificate *N. 98 v. 199*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *61.3 sq'* No. and Description of Safety Valves to

each boiler *2 spring valves* Area of each valve *12.18 sq'* Pressure to which they are adjusted *185 lb* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *15"* Mean dia. of boilers *15' 6 3/4"* Length *12' 3 3/8"* Material of shell plates *S.M. steel*

Thickness *1 1/4"* Range of tensile strength *27.9-31.7 lb* Are the shell plates welded or flanged *flanged* Descrip. of riveting: cir. seams *double*

long. seams *double butt* Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *9 1/16"* Gap of plates or width of butt straps *20 7/8"*

Per centages of strength of longitudinal joint *80.2%* Working pressure of shell by rules *199 lb* Size of manhole in shell *11 1/2" x 15 1/16"*

Size of compensating ring *8 5/8" x 1 1/2"* No. and Description of Furnaces in each boiler *3 Morrison's* Material *S.M. steel* Outside diameter *44 1/2"*

Length of plain part *top 4 9/16"* Thickness of plates *bottom 5 1/4"* Description of longitudinal joint *welded* No. of strengthening rings *corrugated*

Working pressure of furnace by the rules *207 lb* Combustion chamber plates: Material *S.M. steel* Thickness: Sides *4 3/16"* Back *3 9/16"* Top *4 3/16"* Bottom *2 9/32"*

Pitch of stays to ditto: Sides *8 1/16"* Back *7 9/32"* Top *7 7/8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *228 lb*

Material of stays *iron* Diameter at smallest part *1 3/8"* Area supported by each stay *52.7 sq"* Working pressure by rules *254 lb* End plates in steam space:

Material *S.M. steel* Thickness *1 3/4"* Pitch of stays *14 1/2" x 16 1/2"* How are stays secured *nuts* Working pressure by rules *209* Material of stays *S.M. steel*

Diameter at smallest part *2 1/16"* Area supported by each stay *247 sq"* Working pressure by rules *258 lb* Material of Front plates at bottom *S.M. steel*

Thickness *1 1/2"* Material of Lower back plate *S.M. steel* Thickness *6 3/4"* Greatest pitch of stays *7 9/32"* Working pressure of plate by rules *34 1/2 lb*

Diameter of tubes *2 1/2"* Pitch of tubes *3 25/32"* Material of tube plates *steel* Thickness: Front *1 1/32"* Back *2 9/32"* Mean pitch of stays *7 9/16"*

Pitch across wide water spaces *13 3/8"* Working pressures by rules *212 lb* Girders to Chamber tops: Material *S.M. steel* Depth and

thickness of girder at centre *9 27/32" x 4 3/16"* Length as per rule *35 1/16"* Distance apart *8 1/16"* Number and pitch of stays in each *3 a 7 9/8"*

Working pressure by rules *186 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

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

If 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 *—*

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description		When made		Where fixed
Made at	By whom made		No. of Certificate		Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	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	
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, 2 propeller blades, 1 crank pin brass, 1 cross head & 2 cross head bolts & nuts, 2 crank pin brass bolts & nuts, 2 main bearing bolt & nuts, 1 set of coupling bolts & nuts, 1 set of springs for each piston, 1 spindle for each slide valve, 1 piston rod and one set of valves for air pumps, 1 piston & rod for circulating pump, 1 set of valves for feed and belt pumps, 2 sets of link brackets, 1 eccentric sheave and strap complete, 1 set of safety valve spindles, 10% of each sort of cylinder cover, slide valve casing and piston bolts, 2% of condenser tubes, 2% of boiler tubes and stay tubes, 1 set of check valves, 1 set of fire bars, 6 sets of gages & glasses, Bolts & nuts, iron bars & plates of various sizes etc.

The foregoing is a correct description,
JOH. C. TECKLENBOGG A-G Manufacturer.
 Schiffbau und Maschinenfabrik.

Dates of Survey while building: During progress of work in shops—*2.12/15.12.08/5.1/16.1/27.1/30.1/4.2/9.2/17.2/27.2/4.3/18.3.*
 During erection on board vessel—*31.3/5.4/24.4/28.4/8.5/14.5/22.5/27.5.1909.*
 Total No. of visits

Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders *19.2 & 12.3* Slides *19.2 & 12.3* Covers *31.3* Pistons *31.3* Rods *31.3*
 Connecting rods *4.3* Crank shaft *4.3* Thrust shaft *9.3* Tunnel shafts *9.3* Screw shaft *24.3* Propeller *28.4*
 Stern tube *1.4* Steam pipes tested *8.5* Engine and boiler seatings *5.3* Engines holding down bolts *12.3*
 Completion of pumping arrangements *19.5* Boilers fixed *27.4* Engines tried under steam *22.5.09*
 Main boiler safety valves adjusted *22.5.09* Thickness of adjusting washers *Port boiler: pt valve 39" stb. valve 34" H. valve 34"*
 Material of Crank shaft *S.M. steel* Identification Mark on Do. *4242. K. 412.08* Material of Thrust shaft *S.M. steel* Identification Mark on Do. *4426. K. 13.09*
 Material of Tunnel shafts *S.M. steel* Identification Marks on Do. *4158. K. 411.08* Material of Screw shafts Identification Marks on Do. *4150. K. 11.08*
 Material of Steam Pipes *Steel* Test pressure *370 lb*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These Engines & Boilers have been built under special survey of good material and good workmanship. All castings are sound and close grained and all cylinders, slide valve casings, condensers, pumps and all other hollow vessels have been tested by hydraulic and found quite tight. All feed and steam pipes have been tested by double working pressure = 370 lb per sq. in. and found tight. All shafting is of Siemens Martin steel manufactured, at approved works and tested by the Surveyors at Dusseldorf.*

The boilers are built of Siemens Martin steel according to approved drawings of good material tested as per rule.

The have been tested in compliance with the owners request, according to the requirements of the German law with 256 a and found quite tight showing no alteration of form.

The steamer has been tried on a 9 hours trial trip, during which the Engines worked very well, the Boilers were quite tight and the safety valves lifted freely at 185 lb they are therefore eligible in my opinion to be classed with notation of L.M.C. 5.09.

The amount of Entry Fee..	£ 3	When applied for,
Special ..	£ 47 6	28.5.1909
Donkey Boiler Fee ..	£ 2 2	When received,
Travelling Expenses (if any) £		29.5.1909

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

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

Committee's Minute **WED. 2 JUN 1909**
 Assigned *Hme 5.09* MACHINERY CERTIFICATE WRITTEN.

It is submitted that this vessel is eligible for THE RECORD. L.M.C.S.09 ELEC LIGHT F.D.
 Lloyd's Register Foundation
 11/6/09