

# REPORT ON MACHINERY.

No. 11789

Port of Hamburg

Received at London Office \_\_\_\_\_ 19\_\_

No. in Survey held at Breslau & Hamburg Date, first Survey 14<sup>th</sup> Aug. Last Survey 12<sup>th</sup> Decr. 1910

Reg. Book. on the Shel double La Ferryboat "No 12" (Number of Visits 10)

Master \_\_\_\_\_ Built at Breslau By whom built Caesar Wallheim When built 1910 12

Engines made at Breslau By whom made Caesar Wallheim when made 1910

Boilers made at Breslau By whom made Caesar Wallheim when made 1910

Registered Horse Power 19 Owners Societe de Navigation a vapeur sans la corne d'or. Port belonging to Constantinople

Nom. Horse Power as per Section 28 19 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

## ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 8 1/2 x 15" Length of Stroke 9" Revs. per minute 85 Dia. of Screw shaft 3 7/16" Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner fitted the after end of the liner made water tight in the propeller boss — 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 13 7/8"

Dia. of Tunnel shaft 3 3/8" Dia. of Crank shaft journals 3 1/2" Dia. of Crank pin 3 3/8" Size of Crank webs 2 x 4 1/8" Dia. of thrust shaft under collars 3 3/8" Dia. of screw 3 1/0" Pitch of Screw 4 1/11" No. of Blades 4 State whether moveable no Total surface 5.5 sq ft.

No. of Feed pumps 1 Diameter of ditto 1 3/4" Stroke 4 3/8" Can one be overhauled while the other is at work —

No. of Bilge pumps 1 Diameter of ditto 1 3/4" Stroke 4 3/8" Can one be overhauled while the other is at work —

No. of Donkey Engines 1 Injector Sizes of Pumps Dupl. dbl. ect. 1 3/4" dia. 3 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 off In Holds, &c. 2 off - 2"

No. of Bilge Injections 1 sizes 2" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size no

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 no

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 yes

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 18/10 10 of Stern Tube 18/10 10 Screw shaft and Propeller 18/10 10

Is the Screw Shaft Tunnel watertight — Is it fitted with a watertight door — worked from —

## BOILERS, &c.—(Letter for record S) Manufacturers of Steel Gewerkschaft Grillo, Funke & Co, Schenk-Schalke

Total Heating Surface of Boilers 225.5 sq ft Is Forced Draft fitted no No. and Description of Boilers 1 single ended multitubular

Working Pressure 170 lbs Tested by hydraulic pressure to 340 lbs Date of test 1/11. 10 No. of Certificate 134

Can each boiler be worked separately — Area of fire grate in each boiler 13.5 sq ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 4.5 sq" Pressure to which they are adjusted 170 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 6 1/4" Length 8 7/8" Material of shell plates Steel

Thickness 5/8" Range of tensile strength 28,37 tons Are the shell plates welded or flanged — Descrip. of riveting: cir. seams lay, dbl. riv.

long. seams dbl. riv. quad. riv. Diameter of rivet holes in long. seams 8 5/8" Pitch of rivets 11.18" Lap of plates or width of butt straps 19.12 x 8 5/8"

Per centages of strength of longitudinal joint rivets 91.6% plate 92.2% Working pressure of shell by rules 183.5 lbs Size of manhole in shell 15.75 x 11.75"

Size of compensating ring 6 1/2 x 1 1/2" No. and Description of Furnaces in each boiler 1. Harrison Material Steel Outside diameter 33.5"

Length of plain part 5" Thickness of plates 5" Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 225.5 lbs Combustion chamber plates: Material Steel Thickness: Sides 6 26" Back 6 26" Top 6 26" Bottom 6 26"

Pitch of stays to ditto: Sides 7.8" Back 6 3/4 x 7" Top 7.8" If stays are fitted with nuts or riveted heads nuts riveted Working pressure by rules 204.1 lbs

Material of stays Steel Diameter at smallest part 1.5" Area supported by each stay 49.29 sq" Working pressure by rules 289.0 lbs End plates in steam space:

Material Steel Thickness 8" Pitch of stays 14" How are stays secured dbl. nuts & washers Working pressure by rules 180 lbs Material of stays Steel

Diameter at smallest part 2.37" Area supported by each stay 196.29 sq. in. Working pressure by rules 233.4 lbs Material of Front plates at bottom Steel

Thickness 9" Material of lower back plate Steel Thickness 8" Greatest pitch of stays 9" Working pressure of plate by rules 490.9 lbs

Diameter of tubes 3.4" Pitch of tubes 4.12" Material of tube plates Steel Thickness: Front 9" Back 8" Mean pitch of stays 8.3"

Pitch across wide water spaces 8.3" Working pressures by rules 298.2 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 5.5 x 1.6" Length as per rule 18.5" Distance apart 7" Number and pitch of stays in each one

Working pressure by rules 192.6 lbs 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 —

Lloyd's Register Foundation  
W1551-208

VERTICAL DONKEY BOILER— Manufacturers of Steel *No Donkey Boiler fitted*

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:— *2 Propeller, 2 connecting rod top end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts & nuts, 2 set coupling bolts, 1 set feed pump valves, 1 set bilge pump valves, 1 set packing rings for each piston, 6 condenser tubes with 12 ferrules, 6 plain tubes for boiler, 1 set fire bars, various bolts, nuts, iron bars & plates assorted.*

The foregoing is a correct description,  
 Der Director: *U. Bernward* Manufacturer.

Dates of Survey while building	During progress of work in shops - -	<i>14/11, 19/11, 20/11, 18/10, 1/11, 19/10</i>
	During erection on board vessel - -	<i>17/11, 5/12, 6/12, 9/12, 12/12, 19/10</i>
	Total No. of visits	<i>10</i>

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

Dates of Examination of principal parts—

Cylinders	<i>20/9. 10</i>	Slides	<i>20/9. 10</i>	Covers	<i>20/9. 10</i>	Pistons	<i>18/10. 10</i>	Rods	<i>19/10. 10</i>
Connecting rods	<i>20/9. 10</i>	Crank shaft	<i>20/9. 10</i>	Thrust shaft	<i>18/10. 10</i>	Tunnel shafts	<i>1/11. 10</i>	Screw shaft	<i>1/11. 10</i>
Stern tube	<i>18/10. 10</i>	Steam pipes tested	<i>17/11. 10</i>	Engine and boiler seatings	<i>1/11. 10</i>	Engines holding down bolts	<i>17/11. 10</i>		
Completion of pumping arrangements	<i>17/11. 10</i>	Boilers fixed	<i>1/11. 10</i>	Engines tried under steam	<i>6/12. 10</i>				
Main boiler safety valves adjusted	<i>9/12. 10</i>	Thickness of adjusting washers	<i>2 5/32" Post 78."</i>						

Material of Crank shaft *Steel* Identification Mark on Do. *—* Material of Thrust shaft *Steel* Identification Mark on Do. *—*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *—* Material of Screw shafts *Steel* Identification Marks on Do. *—*  
 Material of Steam Pipes *Copper* Test pressure *340 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Material and workmanship of these Engines and Boiler are of very good description, the outfit is adequate for the service intended as a Ferry boat.*

*The Material has been tested by the Surveyors to the Society as prescribed by the Rules and has been manufactured at Steelworks approved by the Committee.*

*I attended a satisfactory trial trip on the 6<sup>th</sup> December 1910.*

*The Machinery of this vessel having been constructed under Special Survey in accordance with Rules of the Society, I beg to recommend that she be classed and ~~to~~ **L.M.C. 12.10** be entered against her name in the Register Book, also that a Certificate be issued.*

Certificate (if required) to be sent to Manufacturing Office.

The amount of Entry Fee..	<i>44. 21.</i>	When applied for,	<i>15/12. 19. 10</i>
Special .. .. .	<i>4. 33 6.</i>		
Donkey Boiler Fee .. . £	:	When received,	<i>20/12. 19. 10</i>
Travelling Expenses (if any) £	:		

*M. Bernward*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned  
 TUE. 10 JAN 1911  
 FRI. AUG. 18. 1911  
*+ L.M.C. 12. 10*

MACHINERY CERTIFICATE WRITTEN

