

REPORT ON MACHINERY.

No. 176

Received at London Office

THU. NOV. 14. 1912

Date of writing Report 10th Nov 1912 When handed in at Local Office

Port of Bremen

No. in Survey held at Geestemünde

Date, First Survey March 8th

Last Survey Nov. 4th 1912

Reg. Book.

Sup 53 on the *Stell Se 2* "STURMFELS".

(Number of Visits 22)

Gross 5660

Net 3554

When built 1912

Master L. Schmidt Built at Geestemünde By whom built Joh. G. Tecklenburg A.G.

when made 1912

Engines made at Geestemünde By whom made Joh. G. Tecklenburg A.G.

when made 1912

Boilers made at Geestemünde By whom made Joh. G. Tecklenburg A.G.

Registered Horse Power 510 Owners Deutsche Dampfschiffahrtsges. Bremen Port belonging to Bremen

Nom. Horse Power as per Section 28 510 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Quad. compound surface condensing No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 24 1/2, 34 1/2, 50 3/8, 74 1/2 Length of Stroke 53 1/2 Revs. per minute 75 Dia. of Screw shaft as per rule 16 1/2 as fitted 16 3/16 Material of screw shaft M. Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is 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 121 3/2 Dia. of Tunnel shaft as per rule 13 1/2 as fitted 13 3/16 Dia. of Crank shaft journals as per rule 14 3/16 as fitted 14 3/4 Dia. of Crank pin 14 3/4 Size of Crank webs 9 27/32 Dia. of thrust shaft under collars 14 3/4 Dia. of screw 22 8 3/8 Pitch of Screw 240 3/16 No. of Blades 4 State whether moveable yes Total surface 103.940

No. of Feed pumps 2 Diameter of ditto 33 3/4 Stroke 27 1/16 Can one be overhauled while the other is at work yes No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 27 1/16 Can one be overhauled while the other is at work yes No. of Donkey Engines 3 Sizes of Pumps 11 1/32 x 7 7/8, 13 25/32 x 15 3/4, 7 3/32 x 4 23/32 and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 - 3 1/2 dia In Holds, &c. 2 in each hold 3 1/2 dia 1 in tunnel 3 1/2 dia

No. of Bilge Injections 1 sizes 8" Connected to condenser to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3 1/2 dia 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 pipes How are they protected wooden casings 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 23rd Sep of Stern Tube 23rd Sep Screw shaft and Propeller 23rd Sep Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Engine room platform above deck Manufacturers of Steel Friedr. Krupp, Essen, Rheinische Stahlwerke

BOILERS, &c.—(Letter for record R) Total Heating Surface of Boilers 6780 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 26.7.12 No. of Certificate 25, 26, 27 Can each boiler be worked separately yes Area of fire grate in each boiler 53.80 No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 12.180 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 14" Mean dia. of boilers 14 4/8 Length 12.3 1/16 Material of shell plates M. steel Thickness 1 5/32 Range of tensile strength 27.9-31.7 tons Are the shell plates welded or flanged flanged Descrip. of riveting: cir. seams double long. seams Triple Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9 4/32 Lap of plates or width of butt straps 21 1/4 Per centages of strength of longitudinal joint rivets 84.6% plate 84.1% Working pressure of shell by rules 225 lb Size of manhole in shell 14 13/16 x 15 3/4 Size of compensating ring 41 3/8 No. and Description of Furnaces in each boiler 3 morison Material M. steel Outside diameter 43 5/16 Length of plain part top 27 1/8 bottom 23 1/8 Thickness of plates crown 41 6/4 Description of longitudinal joint welded No. of strengthening rings 63 6/4 Working pressure of furnace by the rules 257 lb Combustion chamber plates: Material M. steel Thickness: Sides 43 6/4 Back 43 6/4 Top 43 6/4 Bottom 63 6/4 Pitch of stays to ditto: Sides 8 5/8 x 8 5/8 Back 6 5/8 x 7 3/2 Top 7 7/8 x 6 5/8 If stays are fitted with nuts or riveted heads yes Working pressure by rules 238 lb End plates in steam space: Material of stays Iron Diameter at smallest part 1 9/16 Area supported by each stay 48.80 Working pressure by rules 219 lb Material of Front plates at bottom M. steel Thickness 1 3/4 Pitch of stays 14 1/4 x 14 1/4 How are stays secured double nuts Working pressure of plate by rules 240 lb Thickness 1 3/2 Material of Lower back plate M. steel Thickness 6 3/4 Greatest pitch of stays 13 x 7 9/32 Working pressure of tube plates M. steel Thickness: Front 13 3/32 Back 5 9/64 Mean pitch of stays 7 1/2 Diameter of tubes 2 1/2 Pitch of tubes 3 1/4 Material of tube plates M. steel Thickness: Front 13 3/32 Back 5 9/64 Mean pitch of stays 7 1/2 Pitch across wide water spaces 13 3/8 Working pressures by rules 231 lb Girders to Chamber tops: Material M. steel Depth and thickness of girder at centre 10 1/4 x 4 1/6 Length as per rule 37 Distance apart 6 7/8 Number and pitch of stays in each 3 x 7 7/8 Working pressure by rules 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 _____
 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 Say _____
 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 _____ Rivets _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ 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 _____ Radius of do. _____ 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 crank pin bar, 1 crosshead bar, 2 connecting rods, 2 connecting rod bottom end bolts, with, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bridge pump valves, 1 set of piston rings, 2 propeller blades, 1 eccentric strap complete, 1 piston rod for cylinder, 1 ditto for air & circulating pump, 1 valve spindle, 2% condenser tubes, 1 set of safety valve springs, & quantities of assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,

W. H. Brown Manufacturer.

Dates of Survey while building { During progress of work in shops --- 19/12. March 8, 20. April 10, 30. May 10, 21, 24, 29. July 17, 26, 30. Aug 22, Sep 4, 23.
 { During erection on board vessel --- Sep 4, 23, 30. Oct 7, 9, 17, 23, 24, 31. Nov. 5.
 Total No. of visits 22.

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

Dates of Examination of principal parts—Cylinders *20/4, 23/4, 8* Slides *8/3, 21/5* Covers *8/3, 24/8* Pistons *8/3, 24/8* Rods *20/3*
 Connecting rods *30/4* Crank shaft *30/4* Thrust shaft *29/5* Tunnel shafts *17/7* Screw shaft *26/7, 23/9* Propeller *30/7, 23/4*
 Stern tube *24/5, 4/9, 24/5* Steam pipes tested *23/10* Engine and boiler seatings *4/9* Engines holding down bolts *22/8, 30/4*
 Completion of pumping arrangements *23/10* Boilers fixed *7/10* Engines tried under steam *31/10*
 Main boiler safety valves adjusted *31/10* Thickness of adjusting washers *8/3, 24/8, 23/9, 30/7, 23/4*
 Material of Crank shaft *Steel* Identification Mark on *44, 4, 12, 2, 12* Material of Thrust shaft *Steel* Identification Mark on *Do. 877*
 Material of Tunnel shafts *Steel* Identification Marks on *Do. 874, 8, 90, 2, 337, 8* Material of Screw shafts *Steel* Identification Marks on *Do. 4, 8, 12, 11, 4, 1, 12*
 Material of Steam Pipes *Steel* Test pressure *640 lb.*

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

These Engines and Boilers have been manufactured in accordance with the approved plans, the Secretary's letter and otherwise in conformity with the Rules.

The material and workmanship are good.

They are eligible in my opinion to be classed in the Society's Register Book with the notations of **LMC 11, 12.**

It is submitted that this vessel is eligible for THE RECORD, + LMC 11, 12.
 F.D.

J.W.P.
 19/11/12

A. H. C. P. O. M.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee *Mk 62.-*
 Special *935.-*
 Donkey Boiler Fee *43.-*
 Travelling Expenses (if any) *30.-*
 When applied for, *6. 11. 12*
 When received, *12. 11. 12*

Committee's Minute

Assigned

NOV. 19. 1912

+ LMC 11, 12



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