

REPORT ON MACHINERY.

Port of Hamburg

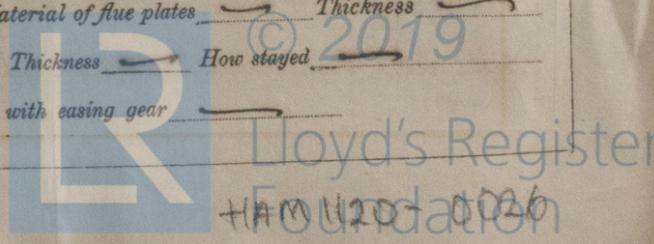
Received at London Office MON 26 JUL 1897

No. in Survey held at Stensburg Date, first Survey 10th Sept 1896 Last Survey 17th July 1897
 Reg. Book. 547 on the Steel S.S. "Meissen" (Number of Visits 14)
 Master Brahn Built at Stensburg By whom built Stensb. Schiffbau-Ges. When built 1897
 Engines made at Stensburg By whom made Stensburger Schiffbau-Ges. when made 1897
 Boilers made at Stensburg By whom made Stensburger Schiffbau-Ges. when made 1897
 Registered Horse Power 554 Owners Deutsch-Australische Exped. Port belonging to Hamburg
 Nom. Horse Power as per Section 28 554

Gross 5209
 Net 3411
 Tons

ENGINES, &c. — Description of Engines Triples compound inv. surf. cond. No. of Cylinders 3
 Diameter of Cylinders 28³ 44³ 78³ Length of Stroke 54³ Revolutions per minute 74 Diameter of Screw shaft 14³
 as per rule 13³ Diameter of Tunnel shaft 18³ as fitted 15³ Diameter of Crank shaft journals 15³ Diameter of Crank pin 15³ Size of Crank webs 10³ x 23³
 as fitted 18³ Diameter of screw 17³ 0³ Pitch of screw 18³ 6³ No. of blades 4 State whether moveable no Total surface —
 No. of Feed pumps 2 Diameter of ditto 4³ Stroke 31³ Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4³ Stroke 31³ Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 Sizes of Pumps see other side No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 - 2 off 3³ + 2 off 4³, 4 in tunnel In Holds, &c. 8 - 3³ each, and 4 - 3³ each
in lieu of handpumps. From tanks 15 - 4³ suction.
 No. of bilge injections 1 sizes 6³ Connected to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes 4³
 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 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 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock in the stocks Is the screw shaft tunnel watertight yes
 Is it fitted with a watertight door yes worked from Cylinder platform on spardeck.

BOILERS, &c. — (Letter for record 0) Total Heating Surface of Boilers 9800 sq. ft.
 No. and Description of Boilers 4 single ended cylinder multi-tubed Working Pressure 165 lb. Tested by hydraulic pressure to 230 lbs.
 Date of test 30th 97 Can each boiler be worked separately yes Area of fire grate in each boiler 46.3 sq. ft. No. and Description of safety valves to
 each boiler 2 spring loaded Area of each valve 9.6 sq. in. Pressure to which they are adjusted 165 lbs. Are they fitted
 with easing gear yes Smallest distance between boilers or uptakes and bunkers 2.3³ Mean diameter of boilers 14.5³
 Length 4.9³ Material of shell plates Steel Thickness 1.29 Description of riveting: circum. seams lap, triple riv long. seams double butt, triple
 Diameter of rivet holes in long. seams 1.27 Pitch of rivets 4.62 Lap of plates or width of butt straps 18.1
 Per centages of strength of longitudinal joint rivets 88.8% Working pressure of shell by rules 188.9 lbs. Size of manhole in shell 15³ 4³ x 11³ 8³
 plate 84.3% Size of compensating ring 7.9³ x 1.29³ No. and Description of Furnaces in each boiler 3 ribbed Material Steel Outside diameter 3³ 7.2³
 Length of plain part top 8.55³ bottom 8.55³ Thickness of plates top 1.55³ bottom 1.55³ Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 181.5 lbs. Combustion chamber plates: Material Steel Thickness: Sides .59³ Back .59³ Top .59³ Bottom .86³
 Pitch of stays to ditto: Sides 7.87³ Back 7.87³ Top 7.87³ If stays are fitted with nuts or riveted heads with nuts Working pressure by rules 196 lbs.
 Material of stays Steel Diameter at smallest part 1.5³ Area supported by each stay 61.9 sq. in. Working pressure by rules 227.5 lbs. End plates in steam space:
 Material Steel Thickness .98³ Pitch of stays 15.4³ How are stays secured double nuts & washers Working pressure by rules 186.5 lbs. Material of stays Iron
 Diameter at smallest part 2.75³ Area supported by each stay 246.5 sq. in. Working pressure by rules 111 lbs. Material of Front plates at bottom Steel
 Thickness .86³ Material of Lower back plate Steel Thickness .86³ Greatest pitch of stays 7.87³ Working pressure of plate by rules 257.2 lbs.
 Diameter of tubes 3.8³ Pitch of tubes 4.9³ Material of tube plates Steel Thickness: Front .92³ Back .88³ Mean pitch of stays 4.8³
 Pitch across wide water spaces 14.17³ Working pressures by rules 174.6 lbs. Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7.87³ x 1.41³ Length as per rule 26.9³ Distance apart 7.87³ Number and pitch of Stays in each 2 - 7.87³
 Working pressure by rules 176 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 —



DONKEY BOILER— Description *No Donkey Boiler fitted.*

Made at _____ By whom made _____ When made _____ Where fixed _____
Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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 _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *1/2" crank shaft, 1 propeller, 1 propeller shaft, 1 valve spindle to fit all these shafts, 1 pair cone rod bottom and brass, 1 set top and brass, 1 pump link complete, 1 air pump rod, 1 circulating pump rod, 2 valves for air pumps, 1 set circulating pump valves, 2 valves & seats for feed pumps, 2 set for bilge pumps, 1 valve & seat for feed donkey pumps, 1 set coupling bolts, 2 main bearing bolts, 2 cone rod top & 2 bottom end bolts, 1 spring for main safety valves, 20 condenser tubes, 40 screw glands for same, 75 boiler tubes, 1/2 set fire bars, Iron bolts, nuts, studs, rivets &c. assorted.*

The foregoing is a correct description,
Flensburger Schiffbau-Gesellschaft Manufacturer.

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

Dates of Survey while building
During progress of work in shops: *10/9, 26/10, 3/11, 17/11, 11/12, 20/12 1896, 16/1, 28/1, 10/2, 14/2, 17/2, 24/2, 27/2, 29/2, 30/2 1897*
During erection on board vessel: *30/6, 8/7, 17/7 1897.*
Total No. of visits: *19.*

Materials and workmanship of these Engines and Boilers are of very good description, the outfit is ample and substantial. I attended a satisfactory trial trip on the 14th July 1897 when the Engines gave every satisfaction and I found the Safety valves correctly adjusted to 165 lbs.

The copies of the invoices of the Fuel Boiler materials, signed by the testing officers are in my hands, the Forging Certificate of shafting will be found attached.

The approved plans of the Boilers are returned herewith.

The Engines and Boilers of this vessel are in my opinion eligible for a vessel classed in the Society's Register Book and I beg to recommend that she be classed, and that * L.M.C. 7.97 be entered.

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 7.97*

Certificate (if required) to be sent to *Hamburg Office.*

The amount of Entry Fee... £ *3: 0: 0* When applied for,
Special... £ *47: 14: 0* *24/7 1897*
Donkey Boiler Fee... £ : : : When received,
Travelling Expenses (if any) £ *11: 18: 0* *24/7 1897*

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

Committee's Minute **FRI 30 JUL 1897** MACHINERY CERTIFICATE WRITTEN.

Assigned *+ L.M.C. 7.97*

