Rpt. 5.

REPORT ON BOILERS.

No. 10368 a

Port of Hamburg

Received at London Office MUN 27 JUL 1908

No. in Reg. Book. Survey held at Flensburg Date, first Survey 3rd January Last Survey 8th July 19 08 (Number of Visits 9)

Yapp. 32 on the Steel S.s. "Niagara" Tons Gross 6655 Net 4119

Master B. Schau Built at Flensburg By whom built Flensburger Schiffsbau Ges. When built 1908 - 7

Engines made at Flensburg By whom made Flensburger Schiffsbau Ges. when made 1908

Boilers made at Flensburg By whom made Flensburger Schiffsbau Ges. when made 1908

Registered Horse Power 620 Owners Deutsch-Amerika Petroleum Ges. Port belonging to Hamburg

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MULTITUBULAR BOILERS ~~MAIN, AUXILIARY OR~~ DONKEY.—Manufacturers of Steel Messrs Thyssen & Cie, Leeds Forge &c

(Letter for record S) **Total Heating Surface of Boilers** 1200 sq ft. Is forced draft fitted no **No. and Description of Boilers** 1 single ended multitubular **Working Pressure** 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 22.2.08

No. of Certificate — Can each boiler be worked separately yes **Area of fire grate in each boiler** 37.32 sq ft. No. and Description of safety valves to each boiler 2 spring loaded Area of each valve 8.25 sq in. Pressure to which they are adjusted 180 lbs

Are they fitted with easing gear yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no washers: Hard. 9/32 Iron 5/16

Smallest distance between boilers or uptakes and bunkers ~~or woodwork~~ 26" Mean dia. of boilers 11'-0" Length 11'-8"

Material of shell plates Steel Thickness .94" Range of tensile strength 28-32 tons Are the shell plates welded or flanged —

Descrip. of riveting: cir. seams lap. dbl riv. long. seams dbl. butt. trip. riv. Diameter of rivet holes in long. seams 1.2" Pitch of rivets 7.7"

Lap of plates or width of butt straps 17.4" Per centages of strength of longitudinal joint rivets 111.8 % plate 84.7 % Working pressure of shell by rules 181.1 lbs Size of manhole in shell 11.8 x 15.75" Size of compensating ring 8.6 x 1.87"

No. and Description of Furnaces in each boiler 2 Morrisons Material Steel Outside diameter 72.9" Length of plain part top 4" bottom 11" Thickness of plates crown / bottom .6"

Description of longitudinal joint welded No. of strengthening rings none Working pressure of furnace by the rules 220.1 lbs Combustion chamber plates: Material Steel Thickness: Sides .625" Back .6" Top .625" Bottom 1" Pitch of stays to ditto: Sides 7.8" Back 7.7"

Top 7.8" If stays are fitted with nuts or riveted heads both Working pressure by rules 221.3 lbs Material of stays Steel Diameter at smallest part 1.5" Area supported by each stay 32 sq" Working pressure by rules 232.2 lbs End plates in steam space: Material Steel Thickness 1.03"

Pitch of stays 15" How are stays secured dbl. nuts & washers. Working pressure by rules 210.5 lbs Material of stays Steel Diameter at smallest part 2.75" Area supported by each stay 113 sq in. Working pressure by rules 272.7 lbs Material of Front plates at bottom Steel Thickness 1.03" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 17" Working pressure of plate by rules 251.8 lbs Diameter of tubes 3.25"

Pitch of tubes 4.4" Material of tube plates Steel Thickness: Front 1.03" Back .9" Mean pitch of stays 8.8" Pitch across wide water spaces 14.4" Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9" Length as per rule 34" Distance apart 7.5" Number and pitch of Stays in each 3 — 8.875"

Working pressure by rules 231.6 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 —

VERTICAL DONKEY BOILER— No. Description Manufacturers of steel

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 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 Radius of do. Stayed by Diameter of uptake Thickness of uptake plates Thickness of water tubes

The foregoing is a correct description,

Flensburger Schiffsbau-Gesellschaft, Manufacturer.

Dates of Survey while building — During progress of work in shops: 3/1., 9/1., 14/2, 13/3., 2/4., 29/4. 08

During erection on board vessel: 15/6., 3/7., 8/7. 08

Total No. of visits 9 Is the approved plan of main boiler forwarded herewith —

" " " donkey " " " yes

W594-0124

GENERAL REMARKS (*State quality of workmanship, opinions as to class, &c.*

Materials and workmanship of this Donkey Boiler are of best description. The Steel Materials have been tested as per Rules
The Safety valves have been set to 180 lbs. on the 7th July 1908.
For further particulars please see Main Report on this vessels 1st Entry.

W. Rennoldson
J Köhler

(*The Surveyors are requested not to write on or below the space for Committee's Minute.*)

Certificate (if required) to be sent to

The amount of Entry Fee... £ : : When applied for, 19
Special ... ... £ : :
Donkey Boiler Fee ... £ : : When received, 19
Travelling Expenses (if any)) £ : :

TUES 28 JUL 1908

Committee's Minute

Assigned

W. Rennoldson
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.
J. Köhler