

# Supplementary Sheet of Particulars of Wing boilers. REPORT ON MACHINERY.

No. 2825

Hpl. 11185

Port of MIDDLESBROUGH-ON-TEES.

FRI. MAY 25 1900

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No. in Survey held at Middlesbrough-Tees. Date, first Survey 3rd August 1899 Last Survey 14th March 1900

on the Steel screw steamer "Warburg"

Master J. Von Binger Built at W. Hartlepool By whom built Furness, Withey & Co. Ltd. When built 1900.

Engines made at Middlesbrough-Tees By whom made Sir C. Furness, Witzgarth & Co. when made 1900.

Registered Horse Power 1000 Owners Horddeutecher Lloyd Port belonging to Bremen

Is Refrigerating Machinery fitted  Is Electric Light fitted

## ENGINES, &c.—Description of Engines

No. of Cylinders		No. of Cranks	
Dia. of Cylinders	Length of Stroke	Revs. per minute	Dia. of Screw shaft
Dia. of Tunnel shaft	Dia. of Crank shaft journals	Dia. of Crank pin	Size of Crank webs
Dia. of screw	Pitch of screw	No. of blades	State whether moveable
No. of Feed pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work
No. of Bilge pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps	
In Engine Room			
In Holds, &c.			
No. of bilge injections	sizes	Connected to condenser, or to circulating pump	Is a separate donkey suction fitted in Engine room & size
Are all the bilge suction pipes fitted with roses		Are the roses in Engine room always accessible	Are the sluices on Engine room bulkheads always accessible
Are all connections with the sea direct on the skin of the ship		Are they Valves or Cocks	
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates		Are the discharge pipes above or below the deep water line	
Are they each fitted with a discharge valve always accessible on the plating of the vessel		Are the blow off cocks fitted with a spigot and brass covering plate	
What pipes are carried through the bunkers		How are they protected	
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times			
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges			
When were stern tube, propeller, screw shaft, and all connections examined in dry dock		Is the screw shaft tunnel watertight	

Is it fitted with a watertight door worked from WING OILERS, &c. (Letter for record S.) Total Heating Surface of Boilers 1=2104 1=2125 Is forced draft fitted yes.

No. and Description of Boilers 2 cyl. mult. single ended. Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs.

Date of test 5.2.00 Can each boiler be worked separately yes. Area of fire grate in each boiler 54.3 No. and Description of safety valves to each boiler 2: Spring loaded Area of each valve 9.62 Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear yes.

Smallest distance between boilers or uptakes and bunkers or woodwork to side bunkers Mean dia. of boilers 14.0 Length 12.0 Material of shell plates S.

Thickness 1 5/16 Range of tensile strength 28-32 Are they welded or flanged no. Descrip. of riveting: cir. seams lap. long. seams all straps.

Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9 1/2 4 3/4 Lap of plates or width of butt straps 1 9/16 x 1 5/16

Per centages of strength of longitudinal joint 88.3 Working pressure of shell by rules 203.64 Size of manhole in shell 16" x 12"

Size of compensating ring 3 1/2 x 29 x 1 5/16 No. and Description of Furnaces in each boiler 3: Right Material S. Outside diameter 44 1/2

Length of plain part 8' 3" Thickness of plates 9/16 Description of longitudinal joint 3: held No. of strengthening rings 1

Working pressure of furnace by the rules 198. Combustion chamber plates: Material S. Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 17/16

Pitch of stays to ditto: Sides 7 3/8 x 4" Back 4 3/4 x 4 3/4 Top 4 1/2 x 4 1/2 If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 203.

Material of stays S. Diameter at smallest part 1 3/8 Area supported by each stay 60 Working pressure by rules 199.3 End plates in steam space: Material S. Thickness 17/16 Pitch of stays 15" x 15" How are stays secured S.N.W. Working pressure by rules 237.6 Material of stays S.

Diameter at smallest part 2 1/2 Area supported by each stay 225 Working pressure by rules 224.4 Material of Front plates at bottom S. Thickness 3/16 Material of Lower back plate S. Thickness 13/16 Greatest pitch of stays 13 x 7 3/4 Working pressure of plate by rules 199.2

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates S. Thickness: Front 27/32 Back 27/32 Mean pitch of stays 4 1/2

Pitch across wide water spaces 13 1/2 Working pressures by rules 13.453.6 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8 1/2 x 1 1/2 Length as per rule 29 Distance apart 4 1/8 Number and pitch of Stays in each 2: 7 3/8

Working pressure by rules 223.8 Superheater or Steam chest; how connected to boiler how 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**— No. Description

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

strength 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 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:—

The foregoing is a correct description,  
Manufacturer.

Dates of Survey while building

During progress of work in shops - -

During erection on board vessel - -

Total No. of visits

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

“ “ “ donkey “ “ “

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

*See accompanying sheet -*

The amount of Entry Fee. . . £ : : When applied for, . . . 18. . .

Special . . . . . £ : : When received, . . . 18. . .

Donkey Boiler Fee . . . . . £ : : . . . . .

Travelling Expenses (if any) £ : : . . . . .

Committee's Minute

Assigned

TUES. MAY 29 1900

*Dialer & Co.*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register Foundation

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