

REPORT ON MACHINERY.

519

No. 519

(Received at London Office 30th SEP 1882)

No. in Survey held at Reg. Book.

Rostock

Date, first Survey *3rd April*

Last Survey *18th Sept 1882*

on the

S. S. Nordstjernen

821,93 BR

Tons 602,25 NR

Master

A. Juell

Built at

Rostock

When built

1882

Engines made at

M. Berlin

By whom made

A. Borsig when made 1882

Boilers made at

Rostock

By whom made

Actingesellschaft; when made 1882

Registered Horse Power

100 HP

Owners

Bergensk Dampskibsselskab Port belonging to Bergen - Norway

ENGINES, &c.—

Description of Engines *Compound inverted direct acting machine with surface condenser.*

Diameter of Cylinders *31 1/2" & 59"* Length of Stroke *35 1/2"* No. of Rev. per minute *70* Point of Cut off, High Pressure *0.45* Low Pressure *0.45*

Diameter of Screw shaft *10 1/4"* Diameter of Tunnel shaft *9 1/16"* Diameter of Crank shaft journals *10 1/4"* Diameter of Crank pin *10 1/4"* size of Crank webs *11 3/4" x 6"*

Diameter of screw *11" 6"* Pitch of screw *1 7/8" 6"* No. of blades *4* state whether moveable *no* total surface *350"*

No. of Feed pumps *2* diameter of ditto *3"* Stroke *17 3/4"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* diameter of ditto *3"* Stroke *17 3/4"* Can one be overhauled while the other is at work *yes*

Where do they pump from *Sea all holds, bilge and water ballast tanks.*

No. of Donkey Engines *1* Size of Pumps *3" diam & 8" diam* Where do they pump from *all tanks & bilge pumps.*

1 Port Pump delivering 130 Tons water per hour, pumps from engine room and water ballast tanks.

Are all the bilge suction pipes fitted with roses *yes* Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*

No. of bilge injections *1* and sizes *5"* Are they connected to condenser, or to circulating pump *to circulating pump.*

How are the pumps worked *from the balancier and low pressure crosshead.*

Are all connections with the sea direct on the skin of the ship *no on casing* Are they Valves or Cocks *all valves without blow off 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 *feed and suction through the crosshead* How are they protected *iron casing*

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *yes*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *upper Deck.*

BOILERS, &c.—

Number of Boilers *2* Description *Multitubular with two furnaces and one combustion chamber.*

Working Pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* Date of test *11 July 1882*

Description of superheating apparatus or steam chest *Cylindrical vertical*

Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *no*

No. of square feet of fire grate surface in each boiler *33 1/2 sq ft* Description of safety valves *System Adamson*

No. to each boiler *2* area of each valve *150"* Are they fitted with easing gear *yes*

No. of safety valves to superheater *none* area of each valve *—* are they fitted with easing gear *—*

Smallest distance between boilers and bunkers or woodwork *20"*

Diameter of boilers *11" 9"* Length of boilers *9' 6"* description of riveting of shell long. seams *5 rows* circum. seams *double riveted*

Thickness of shell plates *0.87"* diameter of rivet holes *15/16"* whether punched or drilled *punched* pitch of rivets *5" (shell long.)*

Lap of plating *8 5/8" s. l.* per centage of strength of longitudinal joint *80%* working pressure of shell by rules *84 lbs.*

Size of manholes in shell *11" x 15"* size of compensating rings *—*

No. of Furnaces in each boiler *2* outside diameter *35 3/4"* length, top *7' 2"* bottom *7' 2"*

Thickness of plates *1/2"* description of joint *single riveted* if rings are fitted *1* greatest length between rings *3' 10 1/2"*

Working pressure of furnace by the rules *160 lbs.*

Combustion chamber plating, thickness, sides *5/8"* back *5/8"* top *5/8"*

Pitch of stays to ditto sides *7 3/8"* back *6 3/8"* top *11 3/4"*

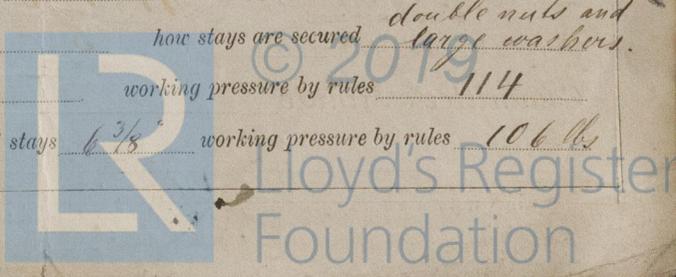
If stays are fitted with nuts or riveted heads *riveted heads* working pressure of plating by rules *—*

Diameter of stays at smallest part *1"* working pressure of ditto by rules *106*

End plates in steam space, thickness *1/16" + 1/48"* pitch of stays to ditto *16"* how stays are secured *double nuts and large washers.*

Working pressure by rules *80.5 lbs* diameter of stays at smallest part *2 1/4"* working pressure by rules *114*

Front plates at bottom, thickness *1/16" + 1/48"* Back plates, thickness *1/16" + 1/48"* greatest pitch of stays *6 3/8"* working pressure by rules *106 lbs*



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Diameter of tubes *each* 3" pitch of tubes 4 1/4" x 4" thickness of tube plates, front 1 1/16" + 1/4" back 1 1/16" + 1/4"
 How stayed *solid stays* pitch of stays 1 1/2" x 12" width of water spaces 1 1/4"
 Diameter of Superheater or Steam chest 5'-0" length 8'-2 3/8"
 Thickness of plates 9/16" description of longitudinal joint *double* diameter of rivet holes 1 3/16" pitch of rivets 2 3/4"
 Working pressure of shell by rules 102 lbs Diameter of flue — thickness of plates —
 If stiffened with rings — distance between rings — Working pressure by rules —
 End plates of superheater, or steam chest; thickness 1 1/16" + 1/4" How stayed *5 bolts stays and 2 double angle iron.*
 Superheater or steam chest; how connected to boiler *with copper steam pipes.*

DONKEY BOILER— Description *Vertical cross tube boiler.*
 Made at *Halle a/S* By whom made *F. Schmidt* when made *1882*
 Where fixed *in stokehold* working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* No. of Certificate
 Fire grate area *6 sq ft* Description of safety valves *with lever* No. of safety valves *1* area of each *4.43 sq in*
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *yes*
 Diameter of donkey boiler *55"* length *11"* description of riveting *long seams double, cir. seams single*
 thickness of shell plates *7/16"* diameter of rivet holes *0.825"* whether punched or drilled *drilled*
 pitch of rivets *3 1/8" in l.s.* lap of plating *4 1/2"* per centage of strength of joint *70%*
 thickness of crown plates *1/16"* stayed by *uptake*
 Diameter of furnace, top *48"* bottom — length of furnace *7'-4"*
 thickness of plates *9/16"* description of joint —
 thickness of furnace crown plates *1/16"* stayed by *uptake*
 Working pressure of shell by rules *85 lbs* working pressure of furnace by rules *80, 8*
 diameter of uptake *16"* thickness of plates *5/16"* thickness of water tubes *5/16"*

The foregoing is a correct description,
F. Schmidt Manufacturer.

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

The Engine and Boilers of this vessel are of very good material and workmanship and in my opinion entitle the vessel to be marked with
⊕ L.M.C. 9.82. in the Registered books.
The Boilers have been tested with hydraulic pressure and were found tight and the safety valves adjusted under steam.

*Inspected by the Engineer
 J. A. Libbert
 30/9/82*

The amount of Entry Fee £ 1 : 10 : received by me,
 Special £ 24 : 0 :
 Certificate (if required) .. £ : 5 : 18
To be sent as per margin.
 (Travelling Expenses, if any, £ 0. 0. 0)

J. A. Libbert
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *Tuesday, 10th October, 1882.*
J. A. Libbert

