

REPORT ON MACHINERY.

No. *22 B*

(Received in London Office)

18

No. in Survey held at *Copenhagen*
Reg. Book.

Date, first Survey *8 Juli*

Last Survey *20 December 1881*

on the

S. S. "Nanna"

454.
Tons *551.*

Master

H. Schjote

Built at

Lindholmen Works

When built

1881

Engines made at

Lindholmen Works

By whom made

Motala Company when made *1881*

Boilers made at

Lindholmen Works

By whom made

Motala Company when made *1881*

Registered Horse Power

50

Owners

Johan C. Giertsen

Port belonging to

Bergen

ENGINES, &c.—

Description of Engines *Compound with Surface Condenser.*

Diameter of Cylinders *17 3/4 x 33 1/4* Length of Stroke *20 1/2* No. of Rev. per minute *100* Point of Cut off, High Pressure *1/2* Low Pressure *1/2*

Diameter of Screw shaft *5 7/8* Diameter of Tunnel shaft *5 7/8* Diameter of Crank shaft journals *5 7/8* Diameter of Crank pin *5 7/8* size of Crank webs *7 3/4 x 2 3/4*

Diameter of screw *9-6* Pitch of screw *9-9"* No. of blades *4* state whether moveable *No* total surface *70.9*

No. of Feed pumps *1* diameter of ditto *2 1/4* Stroke *10 1/4* Can one be overhauled while the other is at work *1*

No. of Bilge pumps *1* diameter of ditto *2 1/4* Stroke *10 1/4* Can one be overhauled while the other is at work *1*

Where do they pump from *Engine Rooms and Compartments*

No. of Donkey Engines *2* Size of Pumps *4 1/2 x 7 1/4 @ 3 x 5 1/2* Where do they pump from *the compartments*

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

No. of bilge injections *1* and sizes *3 1/4"* Are they connected to condenser, or to circulating pump *to circulating pumps*

How are the pumps worked *by hand from the main engine*

Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Valves*

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 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 *December 1881*

Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Main deck*

OILERS, &c.—

Number of Boilers *One* Description *Multitubular cylindrical*

Working Pressure *70 lbs* Tested by hydraulic pressure to *140 lbs* Date of test *10 November 1881*

Description of superheating apparatus or steam chest *Common dome on the top of boiler*

Can each boiler be worked separately *—* Can the superheater be shut off and the boiler worked separately *—*

No. of square feet of fire grate surface in each boiler *26.6 square feet* Description of safety valves *Adams Patent*

No. to each boiler *Two* area of each valve *9 square inches* are they fitted with easing gear *Yes*

No. of safety valves to superheater *—* area of each valve *—* are they fitted with easing gear *—*

Smallest distance between boilers and bunkers or woodwork *3"*

Diameter of boilers *10'-2 1/2"* Length of boilers *8'-3 1/2"* description of riveting of shell long. seams *double lap joints* circum. seams *double lap joints*

Thickness of shell plates *3/16"* diameter of rivet holes *7/8"* whether punched or drilled *Drilled* pitch of rivets *2 3/4"*

Lap of plating *4 1/2"* per centage of strength of longitudinal joint *69%* working pressure of shell by rules *72 lbs*

Size of manholes in shell *16" x 10"* size of compensating rings *4 x 3 1/2 x 3/8 Angle Iron*

No. of Furnaces in each boiler *2* outside diameter *34* length, top *6 feet* bottom *7 feet 8 inches*

Thickness of plates *1/2"* description of joint *Single outside Battif* rings are fitted *No* greatest length between rings *—*

Working pressure of furnace by the rules *100 lbs*

Combustion chamber plating, thickness, sides *3/16"* back *1/16"* top *1/16"*

Pitch of stays to ditto *7 1/4* sides *7 1/4* back *7 1/4* top *7 1/4*

If stays are fitted with nuts or riveted heads *riveted heads* working pressure of plating by rules *92 lbs*

Diameter of stays at smallest part *1 1/2"* working pressure of ditto by rules *—*

End plates in steam space, thickness *3/8"* pitch of stays to ditto *10 1/2"* how stays are secured *Gusset plates*

Working pressure by rules *90 lbs* diameter of stays at smallest part *2 1/4"* working pressure by rules *213 lbs*

Front plates at bottom, thickness *1/2"* Back plates, thickness *1/2"* greatest pitch of stays *7 1/4* working pressure by rules *120 lbs*

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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{1}{4}$ " thickness of tube plates, front $\frac{5}{8}$ " back $\frac{3}{4}$ "
How stayed Stay tubes pitch of stays $12\frac{3}{4}$ " width of water spaces $1\frac{1}{8}$ "
Diameter of Superheater or Steam chest $2\text{'-}5"$ length $1\text{'-}5\frac{1}{2}"$
Thickness of plates $\frac{7}{16}$ description of longitudinal joint Single lap joint diameter of rivet holes $\frac{3}{4}$ " pitch of rivets $2\frac{1}{2}$ "
Working pressure of shell by rules 94 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 $\frac{9}{16}$ How stayed Fusel plates and 2 Stays to the top of boiler
Superheater or steam chest; how connected to boiler riveted

DONKEY BOILER— Description Vertical Cylindrical with Gallows Tubes
Made at Lindholm Works By whom made Motala Company when made 1881
Where fixed Engine Room working pressure 70 lbs Tested by hydraulic pressure to 140 lbs No. of Certificate
Fire grate area 2.5 square feet Description of safety valves Common lead No. of safety valves 1 area of each 3 square
If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler Yes
Diameter of donkey boiler 41" length 7 feet 6 inches description of riveting Single Lap joint
thickness of shell plates $\frac{3}{8}"$ diameter of rivet holes $\frac{3}{4}"$ whether punched or drilled punched
pitch of rivets $2\frac{1}{4}"$ lap of plating $2\frac{1}{2}$ per centage of strength of joint 82%
thickness of crown plates $\frac{7}{16}$ stayed by the flue and curved
Diameter of furnace, top 35" bottom 35" length of furnace 3'-8"
thickness of plates $\frac{7}{16}$ description of joint Single Lap joint
thickness of furnace crown plates $\frac{1}{2}"$ stayed by the flue and curved
Working pressure of shell by rules 97 lbs working pressure of furnace by rules 96 lbs
diameter of uptake — thickness of plates — thickness of water tubes $\frac{3}{16}"$

The foregoing is a correct description,

Manufacturer.

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

The Machinery is of good construction, the material good and the workmanship well executed.

The Shellplates in the Mainboiler are Steel with drilled rivet holes, and other material is Swedish Boiler iron.

The Steel is tested in accordance with the Rules and Report.

The machinery and boilers are inspected by me from the commencement of the work until the final test of machinery under steam and found to be at this date viz 20 December 1881 in good order and safe working condition and in my opinion merits the favorable consideration of the Committee to be recorded Lloyd M.C.

This submitted that
this record is eligible to
have the notification
& signed M.C. recorded
M. 12/1/82

The amount of Entry Fee £ 2 : " : received by me,

Special £ 7 : 10 :

Survey and Test of Donkey Boilers £ 2 : 2 :

Certificate (if required) £ : 2 : 6

To be sent as per margin.

(Travelling Expenses, if any, £

£ 11 : 14 : 6

23/12/1881

Committee's Minute

Friday, January, 13th. 1882.

Robert Edmund Taylor & Son Printers, 19, Old Street, Goswell Road, London, E.C.

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

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Foundation