

REPORT ON MACHINERY.

No. 269

(Received at London Office) Rec'd 16th JULY, 1883.

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

Date, first Survey *24/11/82* Last Survey *5th July 1883*
(Number of Visits)

on the *SS Saint Rognvald*

Tons *450.98*

Master *James Mason*

Built at *Aberdeen*

When built *1883*

Engines made at *Aberdeen*

By whom made *Hall Russell & Co* when made *1883*

Boilers made at *Aberdeen*

By whom made *Hall Russell & Co* when made *1883*

Registered Horse Power *250*

Owners *North of Scotland & Orkney* Port belonging to *Aberdeen*
Shetland Steam Nav. Co.

ENGINES, &c.—

Description of Engines *Direct Acting Compound Invol. Eys Surface Condensing*
Diameter of Cylinders *36" & 70"* Length of Stroke *48"* No. of Rev. per minute *65* Point of Cut off, High Pressure *8 1/2"* Low Pressure *1/2"*
Diameter of Screw shaft *12"* Diameter of Tunnel shaft *12"* Diameter of Crank shaft journals *13"* Diameter of Crank pin *13"* size of Crank webs *10" x 19"*
Diameter of screw *13" 2"* Pitch of screw *23" 0"* No. of blades *4* state whether moveable *both* total surface *58.6 feet*
No. of Feed pumps *two* diameter of ditto *3 3/4"* Stroke *29"* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *two* diameter of ditto *3 3/4"* Stroke *29"* Can one be overhauled while the other is at work *yes*
Where do they pump from *all compartments*
No. of Donkey Engines *one* Size of Pumps *8" x 10" x 4 1/2"* Where do they pump from *all compartments, Sea*
Helwell - to boilers. Also Condenser, ship side and on Deck
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 *one* and sizes *4 1/2"* Are they connected to condenser, or to circulating pump *circulating*
How are the pumps worked *by levers from after engine*
Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*
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 *before launch*
Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *upper deck*

BOILERS, &c.—

Number of Boilers *two* Description *Steel Circular Tubular fired from one end*
Working Pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* Date of test *6th June 1883*
Description of ~~boilers~~ steam chest *Horizontal drums*
Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *✓*
No. of square feet of fire grate surface in each boiler *72 feet* Description of safety valves *Direct Spring Load Cumballs*
No. to each boiler *2* area of each valve *19.63"* 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 *9"*
Diameter of boilers *5' 0"* Length of boilers *10' 5"* description of riveting of shell long. seams *Butt S.R.* circum. seams *2 lap S.R.*
Thickness of shell plates *4 1/8"* diameter of rivet holes *1 1/4"* whether punched or drilled *drilled* pitch of rivets *5"*
Lap of plating *12" x 5"* per centage of strength of longitudinal joint *75-80%* working pressure of shell by rules *100 lbs*
Size of manholes in shell *16" x 13 1/2"* size of compensating rings *5" x 3 1/2" x 7/8"*
No. of Furnaces in each boiler *4* outside diameter *40"* length, top *7' 0"* bottom *7' 0"*
Thickness of plates *7/16"* description of joint *Butt S.R.* if rings are fitted *no* greatest length between rings *—*
Working pressure of furnace by the rules *101 lbs*
Combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*
Pitch of stays to ditto, sides *8 3/4" x 8 3/4"* back *8 3/4" x 8 3/4"* top *round*
If stays are fitted with nuts or riveted heads *nuts both ends* working pressure of plating by rules *101 lbs*
Diameter of stays at smallest part *1 1/8" steel* working pressure of ditto by rules *6954 lbs*
End plates in steam space, thickness *3/5"* pitch of stays to ditto *16" x 16"* how stays are secured *this ends nuts*
Working pressure by rules *97 lbs* diameter of stays at smallest part *2 1/8" steel* working pressure by rules *6582 lbs*
Front plates at bottom, thickness *3/4"* Back plates, thickness *3/4"* greatest pitch of stays *12 x 8 3/4"* working pressure by rules *7875 lbs*
1 1/2" stay steel

3469 ABn.

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{5}{8}$ " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{3}{4}$ "
 How stayed *tubes stay* pitch of stays $9\frac{1}{2}$ " x $9\frac{1}{2}$ " width of water spaces $1\frac{3}{8}$ "
 Diameter of ~~Superheater~~ Steam chest $3\frac{1}{2}$ " length $7\frac{1}{2}$ "
 Thickness of plates $\frac{1}{2}$ " description of longitudinal joint *lap S.R.* diameter of rivet holes $\frac{1}{2}$ " pitch of rivets $2\frac{1}{8}$ "
 Working pressure of shell by rules $17\frac{1}{2}$ lbs Diameter of flue $\frac{1}{2}$ " thickness of plates $\frac{1}{2}$ "
 If stiffened with rings $\frac{1}{2}$ " distance between rings $\frac{1}{2}$ " Working pressure by rules $\frac{1}{2}$ "
 End plates of ~~superheater~~ steam chest; thickness $\frac{3}{4}$ " How stayed *disked and one $2\frac{3}{4}$ " bolt stay*
~~Superheater~~ steam chest; how connected to boiler *by one malleable neck riveted to shells*
 DONKEY BOILER— Description *one Round vertical*
 Made at *Aberdeen* By whom made *Hall Russell & Co* when made *1883*
 Where fixed *on deck* working pressure 90 lbs Tested by hydraulic pressure to 180 lbs No. of Certificate *263*
 Fire grate area 14 feet Description of safety valves *direct S.V.* No. of safety valves *one* area of each $7\frac{1}{2}$ "
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler $5\frac{1}{2}$ " length $9\frac{1}{2}$ " description of riveting *lap S.R. in lap S.R.*
 thickness of shell plates $\frac{1}{2}$ " diameter of rivet holes $\frac{3}{4}$ " whether punched or drilled *punched*
 pitch of rivets $2\frac{3}{4}$ " lap of plating $\frac{1}{2}$ " per centage of strength of joint 72%
 thickness of crown plates $9\frac{1}{2}$ " *doubling plate inside stayed by $2\frac{1}{2}$ " bolt stays two tops of boiler & furnace*
 Diameter of furnace, top $3\frac{1}{2}$ " bottom $4\frac{1}{2}$ " length of furnace $5\frac{1}{2}$ "
 thickness of plates $\frac{1}{2}$ " description of joint *lap S.R.*
 thickness of furnace crown plates $7\frac{1}{2}$ " stayed by *as above*
 Working pressure of shell by rules 90 lbs working pressure of furnace by rules $87\frac{1}{2}$ lbs
 diameter of uptake $1\frac{1}{2}$ " thickness of plates $\frac{1}{2}$ " thickness of water tubes $5\frac{1}{16}$ "

The foregoing is a correct description,

Hall Russell & Co Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines and Boilers of this vessel have been built under special survey. The material and workmanship are of the best description. The boilers have been tested under steam and the safety valves set to 90 lbs working pressure, and the engines seen at work. and in my opinion all are in good and safe working order, and eligible to be entered into the Register Book with the distinctive mark* L.M.C. 7.83)

It is submitted that this vessel is eligible to have the notification + L.M.C. 7.83 recorded
D. G.
16/7/83

The amount of Entry Fee .. £ 3 : 0 : 0 received by me,
 Special £ 32 : 10 : 0
 Certificate (if required) .. £ . : 5 : 0 18
 To be sent as per margin.
 (Travelling Expenses, if any, £ 5.9.6)

Committee's Minute TUESDAY 17 JULY 1883 18

John Sturrock
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Sunderland District