

REPORT ON MACHINERY

THUR. FEB 8 1900

Port of *Copenhagen*

Received at London Office 18

No. in Survey held at *Elsinore*
Reg. Book.Date, first Survey *14th December 1898* Last Survey *1st February 1899*(Number of Visits *26*)Suppl. No. 30 on the *Steamer "Katie"*Tons { Gross *2102.20*
Net *1322.11*Master *W. Russow*. Built at *Elsinore*. By whom built *Helsingør's Færnskibs- & Maskinbyggeri* When built *1900*Engines made at *Elsinore* By whom made *Helsingør's Færnskibs- & Maskinbyggeri* when made *1900*Boilers made at *Elsinore* By whom made *Helsingør's Færnskibs- & Maskinbyggeri* when made *1900*Registered Horse Power *215* Owners *Russische-Baltische Dampfschiffahrt Gesellschaft* Port belonging to *Riga*Nom. Horse Power as per Section 28 *215*Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Inverted treble Expansion, Surf Condensing* No. of Cylinders *3* No. of Cranks *3*

Diameter of Cylinders *20 1/2" x 35" x 57"* Length of Stroke *39"* Revolutions per minute *72* Diameter of Screw shaft as per rule *10.27*

Diameter of Tunnel shaft as fitted *10.00* Diameter of Crank shaft journals *10 1/2"* Diameter of Crank pin *10 1/2"* Size of Crank webs *13 1/8" x 6 7/8"*

Diameter of screw *14'-0"* Pitch of screw *16'-6"* No. of blades *4* State whether moveable *no* Total surface *62.15* \square feet.

No. of Feed pumps *2* Diameter of ditto *3"* Stroke *19 1/2"* Can one be overhauled while the other is at work *Yes* { *1 Feed Injector & 1 small*

No. of Bilge pumps *2* Diameter of ditto *4"* Stroke *19 1/2"* Can one be overhauled while the other is at work *Yes* { *Feed Pumps for Sundquist*

No. of Donkey Engines *2 Worthington* Sizes of Pumps *8" x 12" x 10" 5 1/4" x 3 1/2" 5 No.* and size of Suctions connected to both Bilge and Donkey pumps
(For Ballast) (Service Donkey)

In Engine Room *3 off a 3"* In Holds, &c. in Forehold *2 off a 3"* in Mainhold *2 off a 3 1/2"*

in Aft hold 2 off a 3" & in Tunnel 1 off 3" Tank suction *main 6"* Suctions from Tanks *4" x 3" & 2 1/2"*

No. of bilge injections *1* sizes *4 3/4* Connected to condenser, or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *Yes 1 off 3"*

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

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 *all pipes to fore & mainhold* How are they protected *with strong woodboxes*

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

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *While building* Is the screw shaft tunnel watertight *Yes*

Is it fitted with a watertight door *Yes* worked from *Main Deck*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *3247* \square feet Is forced draft fitted *No*

No. and Description of Boilers *2 horizontal cylindrical return tubular* Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs*

Date of test *27/12 99* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *38* \square feet No. and Description of safety valves to each boiler *2 Spring Safety valves (Adams patent)* Area of each valve *11.04* \square " Pressure to which they are adjusted *180 lbs* Are they fitted with easing gear *Yes* Smallest distance between boilers *9"* Mean diameter of boilers *13'-6"*

Length *10'-4 1/2"* Material of shell plates *SB Steel* Thickness *1 1/4" + 1/2"* Description of riveting: circum. seams *(at middle treble)* long. seams *(double butt straps)*

Diameter of rivet holes in long. seams *1 3/16" + 1/32* Pitch of rivets *7 9/16" in outer rows* Lap of plates or width of butt straps *16"*

Per centages of strength of longitudinal joint rivets *95.12* plate *83.88* Working pressure of shell by rules *190 lbs* Size of manhole in shell *12" x 16"*

Size of compensating ring *McNeil's 6" Flange* No. and Description of Furnaces in each boiler *3 Furnaces ribbed* Material *SB & Steel* Outside diameter *3'-3 1/4"*

Length of plain part *top 9" between rivets* Thickness of plates *bottom 1 1/2" + 1/32* Description of longitudinal joint *✓* No. of strengthening rings *✓*

Working pressure of furnace by the rules *193 lbs* Combustion chamber plates: Material *SB & Steel* Thickness: Sides *5/8"* Back *9/16"* Top *5/8"* Bottom *3/4"*

Pitch of stays to ditto: Sides *7 3/4" x 8 3/8"* Back *7 1/2" x 8"* Top *7 1/8" x 8 3/8"* If stays are fitted with nuts or riveted heads *nuts all over* Working pressure by rules *181 lbs*

Material of stays *Steel* Diameter at smallest part *1.384"* Area supported by each stay *64.2* \square " Working pressure by rules *185 lbs* End plates in steam space: Material *SB Steel* Thickness *1 1/4" + 1/32* Pitch of stays *14 1/4" x 13 1/2"* How are stays secured *double nuts & riveted washers* Working pressure by rules *189 lbs* Material of stays *Steel*

Diameter at smallest part *2.257"* Area supported by each stay *192.375* \square " Working pressure by rules *187 lbs* Material of Front plates at bottom *SB & Steel*

Thickness *1 1/2" + 1/32* Material of Lower back plates *SB Steel* Thickness *1 3/16"* Greatest pitch of stays *13 1/2" x 7 1/2"* Working pressure of plate by rules *191 lbs*

Diameter of tubes *3 3/8"* Pitch of tubes *4 7/8"* Material of tube plates *SB & Steel* Thickness: Front *5/16" + 1/32* Back *7/8"* Mean pitch of stays *11 9/16"*

Pitch across wide water spaces *14 1/4"* Working pressures by rules *189 lbs* Girders to Chamber tops: Material *SB Steel* Depth and thickness of girder at centre *7 3/4" x 3 1/4" x 2"* Length as per rule *2'-6 5/16"* Distance apart *7 1/8"* Number and pitch of Stays in each *2 off a 8 3/8"*

Working pressure by rules *187 lbs* Superheater or Steam chest; how connected to boiler *none* 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—

Description *Vertical return tubular, Cochran's patent*Made at *Elsinore*By whom made *Helsingors Jernskibs- og Maskinbyggeri*When made *1900*Where fixed in *Process in Stockholm*Working pressure *90 lb* tested by hydraulic pressure to *180 lb* No. of Certificate *153* Fire grate area *20 5'* Description of safety valves *Spring safety valves (Alm)*No. of safety valves *2* Area of each *1 7/8* Pressure to which they are adjusted *90 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *6'-0"* Length *13'-0"* Material of shell plates *S.B. Steel* Thickness *1/2"*Description of riveting long. seams *Double riveted, lap joint* Diameter of rivet holes *3/4"* Whether punched or drilled *drilled* Pitch of rivets *2 1/2"*Lap of plating *4 1/2"* Per centage of strength of joint *66.66* Rivets *66.66* Thickness of shell crown plates *1/2"* Radius of do. *3'-0"* No. of Stays to do. *2*Dia. of stays *1 1/2"* Diameter of furnace Top *5'-2"* Bottom *5'-2"* Length of furnace *spherical* Thickness of furnace plates *1/2"* Description of joint *single riveted lap* Thickness of furnace crown plates *1/2 + 1/32* Stayed by *spherical*Working pressure of furnace by rules *✓* Diameter of uptake *5'-2 1/2"* Thickness of uptake plates *9/16"* Working pressure of shell by rules *108.3 lb* Thickness of *stay* tubes *1/4"* *July 11. 1900*

SPARE GEAR.

State the articles supplied:—

1 Propeller, 1 Sliderod, 1 Airpump, 1 Circulating pump rod, 1 pair of connecting rod brasses, 1 pair of crosshead brasses, 1 set valve for Circulating & for Airpump, 2 Check valves, 4 valves for Donkey and Ballast pump, 1 set Springs for each Cylinder piston, 2 Feed & 2 Pelgipump valves, 20 Condenser & Feedwater tubes, 2 Connecting rod bolts Staped, 2 Connecting rod bolts bottom end, 2 Main bearing bolts, 1 set coupling bolts, 18 piston tubes, 1/2 set packers, 2 springs for safety valves, 12 Water gauge glasses, 1 linklok, 1 Excentric strapliner, assorted bolts nuts and plates and bar iron.

The foregoing is a correct description,

Manufacturer.

Helsingors Jernskibs- og Maskinbyggeri

E. Allernup

Dates of Survey while building { During progress of work in shops - Sundry dates from 14th December 1898 on Boilers Materials and in the Machine shop and on board from 30th October 1899 on lining up of the shafts, fittings, sea cocks, pumps &c.
Total No. of visits untill completion on 1st February 1900 - 26 Visits. -

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

I have examined the material

and Workmanship as per Rules for Special Survey - from the Commencement until the final under Steam and found it good in every respect. - The Engines have 3 Cranks. The Shafts are forged by "Georgs Marine Jernverks and Støtten Verin" in Copenhague. I have examined them before & after rough turning & when finished and found them sound & good; piston rods and Connecting rods and smaller forgings are also of steel & are sound. - The bearings of good metal and Dimensions, Castings good. - The Sea connections are fastened as per Rules. - The Boiler material is of Steel from The Steel Co. of Scotland. Lin. and the Glasgow Iron & Steel Co. Lin. - the Furnaces from Atlas Steel & Iron Works, is tested as required by the Rules, as per test notes received & I have besides tested it hot & cold and found same of good quality; the Workmanship is good, the scantling as specified & in accordance with the approved plans forwarded 21st Novbr 1899 with my Gen Report N^o 1285 on the Sister ship, Erika - and the Boilers are tested by hydraulic pressure and no alterations in form, found, & are tight. - The safety valves are adjusted to working pressure under Steam, - the Steam gauges are correct. - Engine and packing are strong and all well fastened. -

On the trial trip the Engines worked well and no defects found at the Boilers. -

The Machinery of *S/S Kori* is in my opinion now in good efficient & safe working Condition, so I would respectfully submit the Vessel eligible to have the record of *L.M.C. 2. 1900* in the Register Book and a corresponding Certificate. -

It is submitted that

this vessel is eligible for

L.M.C. 2.00

The amount of Entry Fee.. £2-4-0

Special .. £30-15-0

Donkey Boiler Fee .. £2-2-0

Travelling Expenses (if any) £2-4-0

When applied for,

5/2 1900

When received,

5/2 1900

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

Committee's Minute

FRI. 9 FEB 1900

Assigned

+ L.M.C. 2.00

CERTIFICATE

WRITTEN



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