

# REPORT ON MACHINERY.

Port of *Amsterdam*

Received at London Office **TUES. FEB 26 1901**

No. in Survey held at *Groningen*  
eg. Book.

Date, first Survey *26 March 1900* Last Survey *12 February 1901*  
(Number of Visits *16*)

on the *Steel Screw Steamer No. 84*

Gross *224*  
Tons Net *124*

Master *N. N.* Built at *Groningen* By whom built *Krotje, Ensing & Co*

When built *1901*

Engines made at *Groningen* By whom made *Krotje, Ensing & Co*

when made *1901*

Boilers made at *Groningen* By whom made *Krotje, Ensing & Co*

when made *1901*

Registered Horse Power *50* Owners *Pile & Co*

Port belonging to *London*

om. Horse Power as per Section 28 *44*

Is Refrigerating Machinery fitted *No*

Is Electric Light fitted *No*

GINES, &c.—Description of Engines *Compound Surface Condensing* No. of Cylinders *two* No. of Cranks *two*

Dia. of Cylinders *13" x 18"* Length of Stroke *20"* Revs. per minute *110* Dia. of Screw shaft *5 1/2"* as per rule *5 1/2"* as fitted *5 7/8"* Lgth. of stern bush *4' 5"*

Dia. of Tunnel shaft *5 1/16"* Dia. of Crank shaft journals *5 1/16"* Dia. of Crank pin *5 9/16"* Size of Crank webs *7 1/8 x 3 1/2"* Dia. of thrust shaft under

rollers *5 9/16"* Dia. of screw *4' 6"* Pitch of screw *10"* No. of blades *4* State whether moveable *No* Total surface *20 sq feet*

No. of Feed pumps *One* Diameter of ditto *2 1/8"* Stroke *10"* Can one be overhauled while the other is at work *✓*

No. of Bilge pumps *One* Diameter of ditto *2 1/8"* Stroke *10"* Can one be overhauled while the other is at work *✓*

No. of Donkey Engines *two* Sizes of Pumps *5 1/4 x 3 1/2 x 5 - 3 x 1 1/2 x 3"* No. and size of Suctions connected to both Bilge and Donkey pumps

in Engine Room *Three. diam 2 inch* In Holds, &c. *two and One in forepeak, diam 2*

No. of bilge injections *One* sizes *2 1/2"* Connected to ~~condenser~~ circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *Yes. 2"*

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 *None*

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 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 *No tunnel*

Is it fitted with a watertight door *✓* worked from *✓*

OILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *860 sq ft* Is forced draft fitted *No*

No. and Description of Boilers *One cylindrical tubular* Working Pressure *135* Tested by hydraulic pressure to *240 lbs*

Date of test *5.12.00* Can each boiler be worked separately *✓* Area of fire grate in each boiler *33 sq ft* No. and Description of safety valves to

each boiler *two, direct spring* Area of each valve *5.9395* Pressure to which they are adjusted *135 lbs* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *14"* Mean dia. of boilers *9' 6"* Length *9' 6"* Material of shell plates *Steel*

Thickness *3/4"* Range of tensile strength *27-35 tons* Are they welded or flanged *flanged* Descrip. of riveting: cir. seams *double rivet long. seams double butt*

Diameter of rivet holes in long. seams *1"* Pitch of rivets *4"* Lap of plates or width of butt straps *10"*

Per centages of strength of longitudinal joint rivets *44.8%* plate *81.25%* Working pressure of shell by rules *136* Size of manhole in shell *12" x 16"*

Size of compensating ring *6" x 3/4"* No. and Description of Furnaces in each boiler *Two, plain* Material *Steel* Outside diameter *34 1/4"*

Length of plain part *6' 9"* Thickness of plates *5/8"* Description of longitudinal joint *Welded* No. of strengthening rings *None*

Working pressure of furnace by the rules *144 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *9/16"* Top *5/8"* Bottom *5/8"*

Pitch of stays to ditto: Sides *7 1/8 x 7 1/8"* Back *8 x 8"* Top *7 1/8 x 7 1/8"* If stays are fitted with nuts or riveted heads *Riveted & painted* Working pressure by rules *156 lbs*

Material of stays *Steel* Diameter at smallest part *1 3/16"* Area supported by each stay *64* Working pressure by rules *138* End plates in steam space:

Material *Steel* Thickness *3/4"* Pitch of stays *13 1/8 x 12 1/8"* How are stays secured *Riveted & painted* Working pressure by rules *164 lbs* Material of stays *Steel*

Diameter at smallest part *1 1/8"* Area supported by each stay *178.64* Working pressure by rules *139.8* Material of Front plates at bottom *Steel*

Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *64* Working pressure of plate by rules *225 lbs*

Diameter of tubes *3"* Pitch of tubes *4 1/4"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *12" x 8"*

Pitch across wide water spaces *15 1/4"* Working pressures by rules *210 & 154* Girders to Chamber tops: Material *Steel* Depth and

thickness of girder at centre *6 1/2" x 28 1/2"* Length as per rule *24"* Distance apart *7 1/8"* Number and pitch of Stays in each *two. 7 1/8"*

Working pressure by rules *181 lbs* Superheater or Steam chest; how connected to boiler *✓* 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 *✓*

74-00-55710



**DONKEY BOILER—** No. Description *Vertical boiler*  
 Made at *Groningen* By whom made *Krotje, Ensing & Co* When made *1900* Where fixed *In machinery space*  
 Working pressure *100* tested by hydraulic pressure to *200* No. of Certificate *25* Fire grate area *9.59* Description of safety valves *direct spring*  
 No. of safety valves *One* Area of each *6.49* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *4' 0"* Length *7' 9"* Material of shell plates *Iron* Thickness *1/16"* Range of tensile strength *✓* Descrip. of riveting long. seams *double riveted lap* Dia. of rivet holes *3/4"* Whether punched or drilled *drilled* Pitch of rivets *1 1/2"*  
 Lap of plating *3 3/4"* Per centage of strength of joint Rivets *46 1/2* Thickness of shell crown plates *1/16"* Radius of do. *12' 0"* No. of Stays to do. *5*  
 Dia. of stays. *1" bottom* Diameter of furnace Top *36"* Bottom *42"* Length of furnace *45"* Thickness of furnace plates *1/2"* Description of joint *Welded* Thickness of furnace crown plates *1/2"* Stayed by *Five stays, double nuts* Working pressure of shell by rules *118 lbs*  
 Working pressure of furnace by rules *✓ 150 lbs* Diameter of uptake *18"* Thickness of uptake plates *3/8"* Thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *Spare propeller, 6 Condensor tubes, One set main and donkey check valves & set of feed and bilge pumps valves, One set of Coupling bolts, One set top and bottom end bolts, Two main bearing bolts, a quantity of bolts & nuts assorted.*

The foregoing is a correct description, p.p. *Krotje Ensing & Co.*  
 Manufacturer.

Dates { During progress of work in shops - -  
 of Survey { During erection on board vessel - -  
 while building { Total No. of visits

*26<sup>th</sup> of March 1900 till the 12<sup>th</sup> of February 1901*

Is the approved plan of main boiler forwarded herewith *Yes.*  
 " " " donkey " " " *Yes.*

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

*The machinery of this vessel has been surveyed during construction and material & workmanship throughout good, all castings sound. Cylinders and Condensor tested by hydraulic pressure. General pumping and pipe arrangement according to rules and in good working condition.*

*Main and donkey boilers have been made according to the approved plans which are now in London Office and to the Societys' rules, material duly tested as required, Workmanship throughout good, boilers tested to double the working pressure, found same perfectly tight and no settling. Safety valves adjusted while under steam to their respective working pressures.*

*The machinery examined under steam found same in a good working condition and all pumps working satisfactory from the different compartments.*

*I am of opinion that this vessel's machinery should be recorded in the Register Book with*

**LMC-2, 1901**

It is submitted that this vessel is eligible for THE RECORD. **LMC.2.01**

The amount of Entry Fee, £ *1 : 0 :* When applied for,  
 Special £ *8 : 0 :* 18.....  
 Donkey Boiler Fee £ *2 :* When received,  
 Travelling Expenses (if any) £ *6 : 5 : 6* 18.....

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

Committee's Minute

TUES. MAR 5 1901

FRI. 27 DEC 1901

Assigned

*+ LMC 2.01*



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