

## REPORT ON MACHINERY.

Port of *Glasgow*

Received at London Office 18

No. in Survey held at *Supplementary Report* Date, first Survey

Last Survey 18

Reg. Book.

(Number of Visits )

on the *Single ended hailleurs S.S. Kangawa Maru*Tons <sup>Gross</sup>  
<sub>Net</sub>

Master

Built at

By whom built

When built

Engines made at

By whom made

when made

Boilers made at *Glasgow*By whom made *A & W Henderson*when made *1896*

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

Is Electric Light fitted

## ENGINES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

Diameter of Cylinders

Length of Stroke

Revolutions per minute

Diameter of Screw shaft as per rule

Diameter of Tunnel shaft as per rule

Diameter of Crank shaft journals

Diameter of Crank pin

Size of Crank webs

Diameter of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

In Holds, &amp;c.

No. of bilge injections

sizes

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room &amp; size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship

Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

How are they protected

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

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

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

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

worked from

## BOILERS, &amp;c.—

(Letter for record *S*)Total Heating Surface of Boilers *See other report*

Is forced draft fitted

No. and Description of Boilers *2 Single ended hailleurs*Working Pressure *200 lbs*Tested by hydraulic pressure to *400 lbs*Date of test *10.9.96* Can each boiler be worked separately *Yes*Area of fire grate in each boiler *50 sq ft*

No. and Description of safety valves to

each boiler *2 Spring loaded*Area of each valve *4.9 sq in*Pressure to which they are adjusted *205 lbs* Are they fittedwith easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *Stand clear*Mean diameter of boilers *159"*Length *10' 0"*Material of shell plates *Steel*Thickness *1 1/16"*Description of riveting: circum. seams *Laps 2 Rivets*long. seams *Double Butt. 5 Rivets*Diameter of rivet holes in long. seams *1 7/16"*Pitch of rivets *9 5/8"*Lap of plates or width of butt straps *21 3/4" x 1 7/16"*

Per centages of strength of longitudinal joint

rivets *87.3*Working pressure of shell by rules *225 lbs*

Size of manhole in shell

*12' x 16"*Size of compensating ring *McKeils*No. and Description of Furnaces in each boiler *3 Morrisons*Material *Steel*Outside diameter *41 1/2"*

Length of plain part

top *7' 1"*

Thickness of plates

crown *9/16"*Description of longitudinal joint *weld*No. of strengthening rings *Carving*Working pressure of furnace by the rules *213 lbs*Combustion chamber plates: Material *Steel*Thickness: Sides *5/16"*Back *21/32"*Top *1/16"*Bottom *7/16"*Pitch of stays to ditto: Sides *9"*Back *8 1/2"*Top *9 x 7 1/2"*If stays are fitted with nuts or riveted heads *Nuts*Working pressure by rules *202 lbs*Material of stays *Steel*Diameter at smallest part *2' 31/4"*Area supported by each stay *89.2 sq in*Working pressure by rules *233 lbs*

End plates in steam space:

Material *Steel*Thickness *7/16"*Pitch of stays *18" x 1 1/4"*How are stays secured *Double Nuts & locking clips*Working pressure by rules *214*Material of stays *Steel*Material of Front plates at bottom *Steel*Diameter at smallest part *7' 50"*Area supported by each stay *310 sq in*Thickness *7/8"*Material of Lower back plate *Steel*Thickness *7/8"*Greatest pitch of stays *12 1/4"*Working pressure of plate by rules *202 lbs*Diameter of tubes *3 1/4"*Pitch of tubes *4 1/16" to 4 7/8" x 4 3/8"*Material of tube plates *Steel*Thickness: Front *1"*Back *25/32"*Mean pitch of stays *10' 2"*Pitch across wide water spaces *14"*Working pressures by rules *approx*Girders to Chamber tops: Material *Steel*

Depth and

thickness of girder at centre *8' x 2 x 1"*Length as per rule *25 3/4"*Distance apart *9"*Number and pitch of Stays in each *2 x 7 1/2"*Working pressure by rules *299 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



14870 90

DONKEY BOILER— Description

Made at By whom made When made Where fixed  
Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves  
No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear If steam from main boilers can enter the donkey boiler  
Diameter of donkey boiler Length Material of shell plates Thickness  
Description of riveting long. seams Diameter of rivet holes Whether punched or drilled Pitch of rivets  
Type of plating Per centage of strength of joint Rivets Plates Thickness of shell crown plates Radius of do. No. of Stays to do.  
Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint  
Thickness of furnace crown plates Stayed by Working pressure of shell by rules  
Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied :—

The foregoing is a correct description,

James W. Henderson & Co. Manufacturer D.

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

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

See attached report  
Ch. Schromeyer

Certificate (if required) to be sent to  
The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee..	£	:	:	When applied for,
Special .. .. .	£	:	:	.....18.....
Donkey Boiler Fee .. .. .	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	.....18.....

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

Committee's Minute

UES 22 DEC 1896

Assigned



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Foundation