

REPORT ON MACHINERY.

SAT 19

DEC 1896

Port of

Glasgow

Received at London Office

18

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey

1st May

Last Survey

14 Dec 1896

(Number of Visits)

66

on the

Twin S. S. Kangawa Maru

Master

John McKinnis

Built at

Glasgow

By whom built

D & W Henderson

When built

1896

Engines made at

Glasgow

By whom made

D & W Henderson

when made

1896

Boilers made at

Glasgow

By whom made

D & W Henderson

when made

1896

Registered Horse Power

Owners

Nippon Yusen Kaisha

Port belonging to

Tokio

Nom. Horse Power as per Section 28

550

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines *Twin Triple expansion* No. of Cylinders *6* No. of Cranks *6*
Diameter of Cylinders *20" 33" 56"* Length of Stroke *48* Revolutions per minute *75* Diameter of Screw shaft *as per rule 11.4"*
Diameter of Tunnel shaft *as per rule 10.8"* Diameter of Crank shaft journals *12 1/2"* Diameter of Crank pin *12 1/2"* Size of Crank webs *8 1/4" x 23 3/4"*
Diameter of screw *15' 0"* Pitch of screw *18' 3"* No. of blades *4* State whether moveable *yes* Total surface *68 sq ft.*
No. of Feed pumps *2* Diameter of ditto *5"* Stroke *24"* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *2* Diameter of ditto *5"* Stroke *24"* Can one be overhauled while the other is at work *yes*
No. of Donkey Engines *4 duplex* Sizes of Pumps *10" x 8" x 24" Weir - 7" x 5" x 6" Caruthers* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *Three 3 1/2"* In Holds, &c. *Forward, sea 3 1/2"; aft sea 3 1/2"*
No. of bilge injections *2* sizes *6 3/4"* Connected to condenser, or to circulating pump *Cirp.* Is a separate donkey suction fitted in Engine room & size *3 1/2"*
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 *both* Are they Valves or Cocks *yes*
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 *below*
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 *forward bilge pipes* How are they protected *cased in*
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 *27. 11. 96* Is the screw shaft tunnel watertight *apparently*
Is it fitted with a watertight door *yes* worked from *upper deck*

BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *9157 in 4 boilers* Is forced draft fitted *no*
No. and Description of Boilers *2 Double Ended 2 Single Ended* *See attached report* Working Pressure *200 lbs* Tested by hydraulic pressure to *400 lbs*
Date of test *18. 9. 96* Can each boiler be worked separately *yes* Area of fire grate in each boiler *100 sq ft* No. and Description of safety valves to each boiler *two spring loaded* Area of each valve *9' 62 sq in* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *21"* Mean diameter of boilers *159"*
Length *17' 0"* Material of shell plates *Steel* Thickness *23/16"* Description of riveting: circum. seams *lap 2 x 3 rivets* long. seams *Double Butt 5 Rivets*
Diameter of rivet holes in long. seams *1 1/16"* Pitch of rivets *9 7/8"* Lap of plates or width of butt straps *21 3/4" x 1 1/16"*
Per centages of strength of longitudinal joint *87.4* Working pressure of shell by rules *225 lbs* Size of manhole in shell *12 x 6*
Size of compensating ring *McNeils* No. and Description of Furnaces in each boiler *6 Morrison's* Material *Steel* Outside diameter *41 1/2"*
Length of plain part *top 7' 1" over plates bottom 7' 1"* Thickness of plates *crown 9/16" bottom 7/8"* Description of longitudinal joint *weld* No. of strengthening rings *Corrugated*
Working pressure of furnace by the rules *213 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *45/64"* Back *none* Top *1/16"* Bottom *7/8"*
Pitch of stays to ditto: Sides *9"* Back *none* Top *8 x 9* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *202 lbs*
Material of stays *Steel* Diameter at smallest part *1' 99 sq in* Area supported by each stay *81 sq in* Working pressure by rules *221 lbs* End plates in steam space: Material *Steel* Thickness *1 1/16"* Pitch of stays *16 x 17 1/4"* How are stays secured *Double nuts & doubling straps* Working pressure by rules *214 lbs* Material of stays *Steel*
Diameter at smallest part *7' 54 sq in* Area supported by each stay *311 sq in* Working pressure by rules *217 lbs* Material of Front plates at bottom *Steel*
Thickness *7/8"* Material of Lower back plate *none* Thickness *—* Greatest pitch of stays *—* Working pressure of plate by rules *—*
Diameter of tubes *3 1/4"* Pitch of tubes *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 *approved* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *7' x 2 x 1* Length as per rule *36"* Distance apart *9"* Number and pitch of Stays in each *4 x 8"*
Working pressure by rules *approved* 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

4870 g/s

DONKEY BOILER—

Description

None

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

Lap 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:—

One third Crank, 2 tailshafts, 4 propeller blades & Shafts etc. 1 piston rod, 3 Valve rods, a set of main and connecting-rod brasses, 4 Guide shoes, 2 Eccentric rods & Straps 1 Set of Thrust shoes.

The foregoing is a correct description,

David Henderson & Co. Manufacturers

Dates
of Survey
while
building

During progress of
work in shops—
During erection on
board vessel—
Total No. of visits

1896 May 4, 12, 19, 26, 28 June 2, 3, 5, 8, 10, 12, 15, 14, 22, 24, 26, 29 July 2, 4, 8, 10, 14, 29, 31 August 4, 6, 11, 13, 18, 21, 31 Sept 1, 2, 8, 10, 14, 18, 23, 25 Oct 8, 9, 12, 12, 14, 19, 20, 21 Nov 1, 3, 6, 7, 11, 13, 16, 17, 18, 19, 23, 26, 29 Dec 3, 4, 10, 12, 14.

General Remarks

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

These engines & shafts have

been built under the condition of special survey of good material & workmanship. They have been securely fitted on board & satisfactorily tested under steam.

It is submitted that this vessel is eligible for the Record + L.M.C. 12.96.

It is submitted that
this vessel is eligible for
THE RECORD, + L.M.C. 12.96

Dec. Light.

19.12.96

R.B.
19/12/96.

The amount of Entry Fee..

£ 3 : " : "

When applied for.

Special

£ 44 : 10 : "

15/12/96

Donkey Boiler Fee

£ " : " : "

When received.

Travelling Expenses (if any)

£ " : " : "

14/12/96

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

C. E. Schreyer

Committee's Minute

1005 22 DEC 1896

Assigned

+ L.M.C. 12.96
Dec. Light



© 2019

Lloyd's Register
Foundation