

REPORT ON MACHINERY, No. 2248.

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of Kobe.

No. in Survey held at
Reg. Book.

Innoshima

Date, First Survey

December 11th

Last Survey

April 30th 1918

(Number of Visits)

16

Gross 3192.58.

Net 1991.53.

Master K. Kabolā.

Built at Innoshima.

By whom built Osaka Iron Works.

Innoshima branch.

When built 1918.

Engines made at

Innoshima.

By whom made

Osaka Iron Works.

when made 1918.

Boilers made at

Osaka

By whom made

Osaka Iron Works.

when made 1918.

Registered Horse Power

Owners Kobe Towa Kisen Kabushiki Kaisha

Port belonging to Kobe (Innoshima)

Nom. Horse Power as per Section 28

288.

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

Yes.

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

22", 37", 61"

Length of Stroke

42

Revs. per minute

70

Dia. of Screw shaft

as per rule 12.8

Material of screw shaft

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes.

Is the after end of the liner made water tight

in the propeller boss Yes. If the liner is in more than one length are the joints burned

✓

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

✓

If two

liners are fitted, is the shaft lapped or protected between the liners

✓

Length of stern bush

4'-8 3/4"

Dia. of Tunnel shaft

as per rule 11.2

Dia. of Crank shaft journals

as per rule 11.77

Dia. of Crank pin

12"

Size of Crank webs

7 3/8" x 23"

Dia. of thrust shaft under

collars

12

Dia. of screw

16'-0"

Pitch of Screw

16'-0"

No. of Blades

4

State whether moveable

no

Total surface

80 sq. ft.

No. of Feed pumps

Two

Diameter of ditto

3 1/4"

Stroke

24"

Can one be overhauled while the other is at work

Yes.

No. of Bilge pumps

Two

Diameter of ditto

3 1/4"

Stroke

24"

Can one be overhauled while the other is at work

Yes.

No. of Donkey Engines

Two

Sizes of Pumps

Ballast 7 1/2" x 8 1/2" x 9"

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

In Engine Room

1 @ 4"

In tunnel well

1 @ 2 1/2"

In Holds, &c.

Two @ 3" in each hold.

No. of Bilge Injections

1

size

4"

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes 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

✓

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

Yes.

Are they Valves or Cocks

Larger valves, smaller Cocks.

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

✓

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.

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes.

worked from Upper plating in Engine Room.

OILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Lukens Steel Co., Cambria Steel Co.,
Shepherd's Patent Steel Co., Reading Iron Co.

Total Heating Surface of Boilers

3824 sq. ft.

Is Forced Draft fitted

Yes

No. and Description of Boilers

Two Single ended.

Working Pressure

180 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

1st April 1918

No. of Certificate

LLOYD'S
HYDRO TEST
360 LBS.
1st April 1918.
A.L.S.

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

45 sq. ft.

No. and Description of Safety Valves to

each boiler

Two Spring loaded

Area of each valve

3 1/4" dia

Pressure to which they are adjusted

180 lbs.

Are they fitted with easing gear

Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork

About 12"

Mean dia. of boilers

13'-7 3/16"

Length

11'-6"

Material of shell plates

Steel.

Thickness

1 3/16"

Range of tensile strength

26-29

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DRL

long. seams

DRTBS

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 3/8"

Lap of plates or width of butt straps

18 1/2"

Per centages of strength of longitudinal joint

rivets 91.7

plate 85.3

Working pressure of shell by rules

180 lbs.

Size of manhole in shell

12" x 16"

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3 Brighton

Material

Steel

Outside diameter

40 1/4"

Length of plain part

top

bottom

Thickness of plates

crown 1/2"

bottom

Description of longitudinal joint

weld

No. of strengthening rings

7/8"

Working pressure of furnace by the rules

187 lbs.

Combustion chamber plates: Material

Steel

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

7/8"

Pitch of stays to ditto: Sides

9.5

Back

9.3

Top

9.75

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

214.

Material of stays

Steel

Area at smallest part

2.10 sq. in.

Area supported by each stay

90 sq. in.

Working pressure by rules

210

End plates in steam space:

Material

Steel

Thickness

1 3/8"

Pitch of stays

25" x 19"

How are stays secured

DN & W.

Working pressure by rules

180

Material of stays

Steel

Area at smallest part

10.12 sq. in.

Area supported by each stay

475 sq. in.

Working pressure by rules

180

Material of Front plates at bottom

Steel

Thickness

Material of Lower back plate

Steel

Thickness

1 1/16"

Greatest pitch of stays

14"

spaces

Working pressure of plate by rules

180.

Material of tube plates

Steel

Thickness

Front 1"

Back 1 1/16"

Diameter of tubes

3"

Pitch of tubes

4.3"

Material of tube plates

Steel

Thickness

Front 1"

Back 1 1/16"

Mean pitch of stays

10 1/2"

Pitch across wide water spaces

14"

Working pressures by rules

180 lbs.

Girders to Chamber tops: Material

Steel

Thickness of girder at centre

10" x 1 1/8"

Length as per rule

32"

Distance apart

10 1/2"

Number and pitch of stays in each

2 @ 9"

Working pressure by rules

202 lbs.

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Foundation

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Foundation

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

If so, is a report now forwarded?

Complete Set of piston rings

Set of Crank Pin and Crosshead Gears.

2 'Crosshead' bolts and nuts.

2 Crank pin bolts and nuts.

Set of Coupling bolts and nuts.

2 main bearing bolts and nuts.

Assorted bolts and nuts

Steel Plate Assorted

Set of feed and bilge pump valves.

Propeller.

L. G. Zerrinda

Manufacturer.

Dates of Survey while building	During progress of work in shops - -		During erection on board vessel - - -		Total No. of visits
	1	2	3	4	
1870					
1871					
1872					
1873					
1874					
1875					
1876					
1877					
1878					
1879					
1880					
1881					
1882					
1883					
1884					
1885					
1886					
1887					
1888					
1889					
1890					
1891					
1892					
1893					
1894					
1895					
1896					
1897					
1898					
1899					
1900					
1901					
1902					
1903					
1904					
1905					
1906					
1907					
1908					
1909					
1910					
1911					
1912					
1913					
1914					
1915					
1916					
1917					
1918					
1919					
1920					
1921					
1922					
1923					
1924					
1925					
1926					
1927					
1928					
1929					
1930					
1931					
1932					
1933					
1934					
1935					
1936					
1937					
1938					
1939					
1940					
1941					
1942					
1943					
1944					
1945					
1946					
1947					
1948					
1949					
1950					
1951					
1952					
1953					
1954					
1955					
1956					
1957					
1958					
1959					
1960					
1961					
1962					
1963					
1964					

December 4th, 7th, 18th, 1917

Jan'y 14th 25th, 27th Feb 3rd 6th March 14th, 20th, 26th, 27th

April 12th, 20th, 25th, 30th
16

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders Dec 4th/17 Slides Dec 4th Covers Dec 11th Pistons Dec 4th Rods March 14th

Connecting rods March 14th Crank shaft March 14th Thrust shaft March 14th Tunnel shafts March 14th Screw shaft Oct 27/17 Propeller Apr 25th

Stern tube April 20th Steam pipes tested April 15th Engine and boiler seatings March 27th Engines holding down bolts April 20th

Completion of pumping arrangements April 25th Boilers fixed April 20th Engines tried under steam April 26th

Completion of fitting sea connections April 25th Stern tube April 25th Screw shaft and propeller April 25th

Main boiler safety valves adjusted	June 25 th	Thickness of adjusting washers	Lock nuts.	
		HP. IP. LP.		LLOYD.

Material of Crank shaft	Steel	Identification Mark on Do.	LLO YDS. 20-3-18. A.B.	Material of Thrust shaft	Steel	Identification Mark on Do.	26-10-17. A.B. R.
-------------------------	-------	----------------------------	------------------------------	--------------------------	-------	----------------------------	-------------------------

Material of Tunnel shafts	Steel	Identification Marks on Do.		Material of Screw shafts	Steel	Identification Marks on Do.	LLOYDS
Material of Gun	Pt-Fe		Lloyds 1-10, 17, ALJ, IR " 9, 9, 7 ALJ, R.	Tank pressure	540 lbs	36 7 1/2 ft	7, 10, 17 ALJ, R.

Material of Steam Pipes $\frac{1}{2}$ in. } 26. 0.7 ALI R. test pressure 570 lbs per sq in.
27. 2.18 ALI R. "
27. 2.18 ALI R. "
Is an installation fitted for burning oil fuel? } No
Is the flash point of the oil to be used over 150°F .? } Yes

Have the requirements of Section 49 of the Rules been complied with ☒

Is this machinery duplicate of a previous case. *Yes.* If so, state name of vessel *Pekin Maru, Tencho Maru, Yutei Maru*

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

The machinery has been made and fitted under special survey in accordance with the requirements of the Rules and the materials and workmanship have been found good.

The Machinery is eligible in my opinion for the record of + L M C 4. 18.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 4.18 F.D.

13-8-18

918 JK

The amount of Entry Fee ...	£	20.00	When applied for,
Special ...	£	516.00	Apr 7 1918
Donkey Boiler Fee ...	£	:	When received,
Travelling Expenses (if any) £	:	:	May 2 1918

Committee's Minute

Assigned

THE 13 AUG. 1918

+ L.C. 4:18 I.D.

R. B. Batchelor.

Engineer Surveyor to Lloyd's Register of Shipping.

© 2020

Lloyd's Register
Foundation