

## REPORT ON MACHINERY.

No. 23459

Port of Glasgow.

No. in Survey held at Glasgow.

Reg. Book.

Date, first Survey 2 March 00 Last Survey 10 Jan 1906

Received at London Office

JAN 23 1906

on the

S. S. KILCHATTAN.

(Number of Visits)

Master

Built at

Glasgow

By whom built

C. Connell &amp; Co.

Tons } Gross  
Net

When built 1906.

Engines made at

Glasgow

By whom made

Dunsmuir &amp; Jackson Ltd.

when made 1906.

Boilers made at

Glasgow

By whom made

do

do

when made 1906.

Registered Horse Power

Owners

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

382

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

No

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

Triple expansion—Screw

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

25½"

42"

68"

Length of Stroke

45"

Revs. per minute

75

Dia. of Screw shaft

as per rule

13.8"

as fitted

11½"

Material of

iron

screw shaft

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

yes

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

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

Dia. of Tunnel shaft as per rule 12.54"

Dia. of Crank shaft journals as per rule 13.24"

Dia. of Crank pin 13½"

Size of Crank webs 8½" Dia. of thrust shaft under

collars 13½"

Dia. of screw 16" 6" Pitch of screw 18" 0"

No. of blades 4 State whether moveable yes Total surface 88 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3¾" Stroke 24" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines 5 Sizes of Pumps 8" 6" 4" 3" 2" 1" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four 3" dia. In Holds, &amp;c. Two 3" dia. in each Nos 1, 2,

+ 3 holds, One in No 4 hold, Tunnel well.

No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room &amp; size yes 3½"

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 valves &amp; 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 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 before launch Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from top platform.

## BOILERS, &amp;c.—

(Letter for record

(S)

Total Heating Surface of Boilers 5212 sq. ft.

Is forced draft fitted yes

No. and Description of Boilers

Two single ended

Working Pressure 180 lbs

Tested by hydraulic pressure to 260 lbs

Date of tests

26/10/05

7/11/05

Can each boiler be worked separately yes

Area of fire grate in each boiler 51.93 sq. ft.

No. and Description of safety valves to

each boiler 2 patent spring

Area of each valve

8.29"

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

15" 3"

Length 12" 0"

Material of shell plates

steel

Thickness 13/32"

Range of tensile strength 28 to 32

Are they welded or flanged no

Descrip. of riveting: cir. seams

endo-double

centre treble

long. seams

treble

Diameter of rivet holes in long. seams

17/16"

Pitch of rivets

95/8"

Lap of plates or width of butt straps

1" 9"

Per centages of strength of longitudinal joint

rivets 85

plate 89.6

Working pressure of shell by rules

207 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

McNeil's

No. and Description of Furnaces in each boiler

3 Deighton

Material steel

Outside diameter

3" 11"

Length of plain part

top

bottom

Thickness of plates

crown 19/32"

bottom 3/4"

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

201 lbs

Combustion chamber plates: Material steel

Thickness: Sides 7/16"

Back 5/8"

Top 7/16"

Bottom 15/16"

Pitch of stays to ditto: Sides

9" x 8 9/16"

Back

8 1/2" x 8 9/16"

Top

9" x 8 3/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

185 lbs

Material of stays steel

Area

at smallest part

1.76"

Area supported by each stay

78.75

Working pressure by rules

182 lbs

End plates in steam space:

Material steel

Thickness

15/16"

Pitch of stays

18 1/2" x 16 1/2"

How are stays secured

nuts

Working pressure by rules

206 lbs

Material of stays steel

Area

at smallest part

6.33"

Area supported by each stay

305 1/4"

Working pressure by rules

207 lbs

Material of Front plates at bottom

steel

Thickness 7/8"

Material of Lower back plate

steel

Thickness

7/8"

Greatest pitch of stays

13 1/2" x 8 9/16"

Working pressure of plate by rules

206 lbs

Diameter of tubes 2 1/2"

Pitch of tubes

3 3/4" x 3 3/4"

Material of tube plates

steel

Thickness: Front

1" + 7/8"

Back

3/4"

Mean pitch of stays

9 3/8"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

180 lbs

Girders to Chamber tops: Material iron

Depth and

thickness of girder at centre

9 1/2" x 2-1"

Length as per rule

2" 10 5/8"

Distance apart

9"

Number and pitch of Stays in each

3-8 3/4"

Working pressure by rules

201 lbs

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

yes

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

yes

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



**DONKEY BOILER—** No. *One* Description *single ended, horizontal.*  
 Made at *Glasgow* By whom made *Dunsmuir & Jackson Ltd* When made *1905* Where fixed on *main deck.*  
 Working pressure *100* tested by hydraulic pressure to *200* lbs. No. of Certificate *7770* Fire grate area *30* <sup>sq</sup> ft. Description of safety valves *patent spring*  
 No. of safety valves *2* Area of each *5.94* <sup>sq</sup> ft. Pressure to which they are adjusted *105* lbs. If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *10' 6"* Length *9' 6"* Material of shell plates *steel* Thickness *5/8"* Range of tensile strength *28-32* Descrip. of riveting long. seams *treble riv<sup>d</sup> lap* Dia. of rivet holes *7/8"* Whether punched or drilled *drilled* Pitch of rivets *4 3/16"*  
 Lap of plating *6 3/4"* Per centage of strength of joint Rivets *78* <sup>top end</sup> Thickness of shell ~~crown~~ plates *7/8"* Radius of do. *✓* Pitch *4 3/16"* No. of Stays to do. *14 1/2 x 16*  
 Dia. of stays. *2 1/4" = 3.43* Diameter of furnace ~~Top~~ *3' 3 1/2"* Bottom *✓* Length of furnace *6' 1"* Thickness of furnace plates *9/16"* <sup>plain</sup> Description of joint *welded* Thickness of furnace crown plates *9/16"* Stayed by *✓* Working pressure of shell by rules *100* lbs.  
 Working pressure of furnace by rules *118* lbs. Diameter of ~~uptake~~ *tubes* *3"* Thickness of ~~uptake~~ *C.C. plates* *1/2" + 1/32"* Thickness of ~~water tubes~~ *tube plates* *1" + 5/8"*

**SPARE GEAR.** State the articles supplied:— *Two top end & two bottom end connecting rod bolts, two main bearing bolts, one set of coupling bolts, one set of feed & bilge pump valves, &c.*

The foregoing is a correct description,

*Jas. P. Adam* pro Manufacturer. *Dunsmuir & Jackson. Ltd*

Dates of Survey while building { During progress of work in shops— *1905. Mar. 3. 10. 27. Apr. 5. 12. 20. 28. May 2. 9. 26. June 2. 13. 22. 28. July 3. 12.*  
 { During erection on board vessel— *Aug. 17. 22. 28. Sep. 5. 19. 21. 20. Oct. 9. 16. 23. 26. Nov. 7. 9. 16. 21. 29. Dec. 5. 12. 19. 22. 1906. Jan. 27.*  
 Total No. of visits *27* Is the approved plan of main boiler forwarded herewith *yes.*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under Special Survey, the materials & workmanship are of good quality, it has been securely fitted on board tried under steam & found satisfactory.*

*In my opinion, it is eligible to be classed in the Register Book with the record of L.M.C. 1.06.*

It is submitted that this vessel is eligible for THE RECORD.

*J.D.*

*+ LMC 1.06*

*RS*  
23.1.06

*23/1/06*

The amount of Entry Fee.. £ *3* : : When applied for, *22 JAN 1906*  
 Special .. .. £ *29* : *2* :  
 Donkey Boiler Fee .. .. £ : :  
 Travelling Expenses (if any) £ : : When received, *25/1/06*

Committee's Minute

*Glasgow 22 JAN 1906*

Assigned

*+ LMC 1.06.*

MACHINERY CERTIFICATE  
WRITTEN. 23.1.06

*J. W. Dimmock*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



© 2020

Lloyd's Register  
Foundation