

REPORT ON MACHINERY.

No. 24411

Received at London Office

TUE NOV. 21. 1911

Date of writing Report

10

When handed in at Local Office

20. 11. 10 Port of Hull

No. in Survey held at

Hull

Date, First Survey

Apr 12th

Last Survey

Nov. 11th 1911.

Reg. Book.

28/4/11 on the

S/S *Hawley* AQUAMARINE

(Number of Visits 37)

Tons

Gross

333

Net

134

Master

Built at

Selly.

By whom built

Lockhart & Son

When built

1911

Engines made at

Hull.

By whom made

Amos Smith & Co.

when made

5

Boilers made at

5

By whom made

5

when made

5

Registered Horse Power

Owners *Kingsley & Son*

Port belonging to

Hull

Nom. Horse Power as per Section 28

84.

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Three triple expansion

No. of Cylinders

No. of Cranks

Dia. of Cylinders

13-22 $\frac{1}{2}$ -37

Length of Stroke

26

Revs. per minute

115

Dia. of Screw shaft

as per rule 7.83

Material of

Iron

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

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

42

Dia. of Tunnel shaft

as per rule 7.01

Dia. of Crank shaft journals

as per rule 7.36

Dia. of Crank pin

7.5

Size of Crank webs

47 $\frac{1}{2}$ x 42

Dia. of thrust shaft under

collars

7.5

Dia. of screw

9-6

Pitch of Screw

11-3

No. of Blades

4

State whether moveable

No

Total surface

33 ft.

No. of Feed pumps

one

Diameter of ditto

3

Stroke

13

Can one be overhauled while the other is at work

No. of Bilge pumps

one

Diameter of ditto

3

Stroke

13

Can one be overhauled while the other is at work

No. of Donkey Engines

one

Sizes of Pumps

6 x 3 x 6

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

In Engine Room

2-2 $\frac{1}{2}$

(4 in - 4 ft)

In Holds, &c.

4-2 $\frac{1}{2}$

(4 in - 4 ft) (4 in - 4 ft) (4 in - 4 ft)

No. of Bilge Injections

one

sizes

3 $\frac{1}{2}$

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

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

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

Cold Suctions

How are they protected

With casing

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

Dates of examination of completion of fitting of Sea Connections

16. 8. 11

of Stern Tube

16. 8. 11

Screw shaft and Propeller

16. 8. 11

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

Yes

worked from

No

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

*Powers & Co.**Grills & Co.**Grills & Co.*

Total Heating Surface of Boilers

1340 ft²

Is Forced Draft fitted

No

No. and Description of Boilers

1. S. E. Multitubular

Working Pressure

200 lb.

Tested by hydraulic pressure to

400 lb.

Date of test

13. 10. 11.

No. of Certificate

1847

Can each boiler be worked separately

No

Area of fire grate in each boiler

46.25

No. and Description of Safety Valves to

each boiler

2 Spring loaded

Area of each valve

4.9

Smallest distance between boilers or uptakes and bunkers or woodwork

8

Mean dia. of boilers

13-6

Length

10-6

Material of shell plates

Steel

Thickness

1 $\frac{1}{2}$

Range of tensile strength

29-33

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

S. E. 24

long. seams

S. E. 24

Diameter of rivet holes in long. seams

1 $\frac{1}{2}$

Pitch of rivets

8 $\frac{1}{2}$

Lap of plates or width of butt straps

18 $\frac{1}{2}$

Per centages of strength of longitudinal joint

rivets 86.3

plate 86.2

Working pressure of shell by rules

207 lb.

Size of manhole in shell

16 x 12

Size of compensating ring

40 x 30 x 1 $\frac{1}{2}$

No. and Description of Furnaces in each boiler

3 plain

Material

Steel

Outside diameter

3'2 $\frac{1}{2}$

Length of plain part

top 6.8

Thickness of plates

crown 1.25

Description of longitudinal joint

Welded

No. of strengthening rings

No

Working pressure of furnace by the rules

25 lb.

Combustion chamber plates: Material

Steel

Thickness: Sides

23

Back

76

Top

11

Bottom

Pitch of stays to ditto: Sides

9 x 8 $\frac{1}{2}$

Back

8 $\frac{1}{2}$ x 8 $\frac{1}{2}$

Top

8 $\frac{1}{2}$ x 8 $\frac{1}{2}$

If stays are fitted with nuts or riveted heads

No

Working pressure by rules

213

Material of stays

Steel

Diameter at smallest part

2 $\frac{1}{2}$

Area supported by each stay

76.3

Working pressure by rules

243

End plates in steam space:

Material

Steel

Thickness

1 $\frac{1}{2}$

Pitch of stays

20 $\frac{1}{2}$ x 18 $\frac{1}{2}$

How are stays secured

By nuts & washers

Working pressure by rules

217

Material of stays

Diameter at smallest part

8.46

Area supported by each stay

376

Working pressure by rules

234

Material of Front plates at bottom

Steel

Thickness

1

Material of Lower back plate

Steel

Thickness

2 $\frac{1}{2}$

Greatest pitch of stays

13 $\frac{1}{2}$ x 8 $\frac{1}{2}$

Working pressure of plate by rules

211

Diameter of tubes

3 $\frac{1}{2}$

Pitch of tubes

4 $\frac{1}{2}$ x 5

Material of tube plates

Steel

Thickness: Front

1

Back

7

Mean pitch of stays

Pitch across wide water spaces

13 $\frac{1}{2}$

Working pressures by rules

203 lb.

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

10 x 1 $\frac{1}{2}$

Length as per rule

3'0 $\frac{1}{2}$

Working pressure by rules

195

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

No

VERTICAL DONKEY BOILER—

Manufacturers of Steel

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

SPARE GEAR. State the articles supplied:— Two top & two bottom end connecting rods & bolts & nuts. Two main bearing bolts & nuts. One set of coupling bolts & nuts. One set of feed & bilge pump valves. One set of air pump valves. One main & one donkey feed check valve, assorted bolts & nuts etc.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1911: Apr. 12, 27, May 2, 11, 31, June 13, 16, July 3, 7, 15, 27, Aug 3, 8, 10, 12, 14, 16, 17, Sep 5, 12, 19, 21, 26, 27, Oct 3, 5, 9, 13, 14, 16, 19, 25, 27, 30, Nov 2, 7, 11. During erection on board vessel -- 37. Total No. of visits 37. Secretary.

Is the approved plan of main boiler forwarded herewith R/L 24410

Dates of Examination of principal parts—Cylinders 5.10.11 Slides 16.10.11 Covers 16.10.11 Pistons 16.10.11 Rods 13.10.11 Connecting rods 13.10.11 Crank shaft 9.10.11 Thrust shaft 14.8.11 Tunnel shafts Screw shaft 12.8.11 Propeller 12.8.11 Stern tube 12.8.11 Steam pipes tested 27.10.11 Engine and boiler seatings 16.8.11 Engines holding down bolts 30.10.11 Completion of pumping arrangements 7.11.11 Boilers fixed 30.10.11 Engines tried under steam 2.11.11 Main boiler safety valves adjusted 2.11.11 Thickness of adjusting washers 8 7/8 P 1/2. Material of Crank shaft Steel Identification Mark on Do. 813 9.10.11 Material of Thrust shaft Steel Identification Mark on Do. 813 14.8.11 Material of Tunnel shafts Identification Marks on Do. 514 Material of Screw shafts Iron Identification Marks on Do. 813 12.8.11 Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery & boiler of this vessel have been constructed under Special Survey. All of good material & workmanship & have been fitted & secured on board in accordance with the Rules.

During the trial of the machinery a crack about 6" long developed on the Port forward end of the condenser. This has been patched and accepted by the owner and in my opinion is quite efficient. The machinery now being in good working condition is respectfully submitted as being eligible in my opinion to have record of T.L.M.C. 11-11 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 11.11.

The amount of Entry Fee .. £ 1 : 0 : 0 When applied for, Special .. £ 12 : 12 : 0 10-11-1911 Donkey Boiler Fee .. £ : : : When received, Travelling Expenses (if any) £ : 8 : 2 30.11.11

Committee's Minute

FRI. NOV. 24 1911

Assigned

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



Lloyd's Register
Foundation

MACHINERY CERTIFICATE

MAILED

Certificate (if required) to be sent to Hull

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