

Rpt. 4.

REPORT "ON MACHINERY."

Leith No 11892

No. 25077

THUR. 4 APR 1907

No. in Survey held at

Glasgow 1907 Rules

Date, first Survey

2nd Dec 06

Last Survey

22 March 1907

Reg. Book
118 on the

S.S. Allan

(Number of Visits)

Master

J. C. Nielsen

Built at

Alloa

By whom built

Mackay Bros

Engines made at

Glasgow

By whom made

Dutton & Sons Ltd

Boilers made at

Glasgow

By whom made

Dutton & Sons Ltd

Registered Horse Power

Owners

Julius Christensen

Port belonging to

Aarhus

Nom. Horse Power as per Section 28

149.4

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

Tons

Gross 86.02

Net

812.57

When built

1907

when made

1907

when made

1907

ENGINES, &c.

Description of Engines

Triple expansion surface condensing

No. of Cylinders

three

No. of Cranks

3

Dia. of Cylinders

18" x 30" x 48"

Length of Stroke

33"

Revs. per minute

95

Dia. of Screw shaft

as per rule 9.27 10 1/2

Material of

steel

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

no

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

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

Length of stern bush

3' 10"

Dia. of Tunnel shaft

as per rule 9.11

Dia. of Crank shaft journals

as per rule 9.45

Dia. of Crank pin

10 1/2

Size of Crank webs

6 1/2

Dia. of thrust shaft under

collars

10 1/2

Dia. of screw

12' 3"

Pitch of Screw

13' 3"

No. of Blades

4

State whether moveable

no

Total surface

55 sq

No. of Feed pumps

2

Diameter of ditto

2 3/4"

Stroke

17"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

2 3/4"

Stroke

17"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

three

Sizes of Pumps

Ballot 7 x 8 x 10 Duplex

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

In Engine Room

Two 2" dia

In Holds, &c.

Two 2" dia

Two 2" dia

Two 2" dia

Two 2" dia

Two 2" dia

No. of Bilge Injections

1

sizes

4"

Connected to condenser, or to circulating pump

Cir. Pump

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

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

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

Dates of examination of completion of fitting of Sea Connections

12/2/07

of Stern Tube

22/2/07

Screw shaft and Propeller

22/2/07

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

top platform

BOILERS, &c. (Letter for record

S.)

Manufacturers of Steel

David Colville & Sons Ltd

Total Heating Surface of Boilers

2385 sq

Is Forced Draft fitted

no

No. and Description of Boilers

one single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

9/2/07

No. of Certificate

8437

Can each boiler be worked separately

L

Area of fire grate in each boiler

71.7 sq

No. and Description of Safety Valves to

each boiler

2 spring loaded

Area of each valve

8.29 sq

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

11"

Mean dia. of boilers

16'-0"

Length

10'-6"

Material of shell plates

Thickness

1 5/16"

Range of tensile strength

28 to 32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

2R

long. seams

3R x 2

Diameter of rivet holes in long. seams

1 7/8"

Pitch of rivets

9 1/4"

Lap of plates or width of butt straps

20 1/8"

Per centages of strength of longitudinal joint

rivets 90.9

plate 86.1

Working pressure of shell by rules

183 lbs

Size of manhole in shell

16" x 12" McNeil

Size of compensating ring

31" x 27" x 1 5/16"

No. and Description of Furnaces in each boiler

4 Deighton

Material

steel

Outside diameter

Length of plain part

top

bottom

Thickness of plates

17/32"

Description of longitudinal joint

welded

No. of strengthening rings

29

Working pressure of furnace by the rules

Pitch of stays to ditto: Sides

8" x 8"

Back

8" x 8 3/8"

Top

8" x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

Material of stays

steel

Diameter at smallest part

1 1/4"

Area supported by each stay

64 sq

Working pressure by rules

181

End plates in steam space:

Material

steel

Thickness

1 3/32"

Pitch of stays

18 x 17

How are stays secured

2N x W

Working pressure by rules

185

Material of stays

Diameter

5' 5 1/2"

Area supported by each stay

306 sq

Working pressure by rules

181

Material of Front plates at bottom

steel

Thickness

1"

Material of Lower back plate

steel

Thickness

27/32"

Greatest pitch of stays

13 3/4" x 8 3/8"

Working pressure of plate by rules

213

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/8" x 4 3/4"

Material of tube plates

steel

Thickness: Front

1"

Back

1 1/16"

Mean pitch of stays

Pitch across wide water spaces

14"

Working pressures by rules

208

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

9" x 20" x 23/32"

Length as per rule

32"

Distance apart

Working pressure by rules

188

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

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

W1020-0091

VERTICAL DONKEY BOILER—

Manufacturers of Steel

Clydebridge Steel Co. Ltd.

No. one Description Cochrane Vertical (see Report from this office No 24812)

Made at Annan By whom made Cochran & Co Annan Ltd When made 1907 Where fixed in stockhold

Working pressure 80 lbs tested by hydraulic pressure to 160 Date of test 11/1/07 No. of Certificate 8687 Fire grate area 20 1/2 Description of Safety

Valves spring loaded No. of Safety Valves 2 Area of each 4.9 Pressure to which they are adjusted 80 lbs Date of adjustment 22/3/07

If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 6'-0" Length 12'-6"

Material of shell plates steel Thickness 5/32" 7/32" Range of tensile strength 27-32 Descrip. of riveting long. seams 2 R 4/4

Dia. of rivet holes 7/32" Whether punched or drilled — Pitch of rivets 2 3/16" Lap of plating 4 1/2" Per centage of strength of joint 72

Working pressure of shell by rules 108 Thickness of shell crown plates 7/16" Radius of do. 3'-0" No. of stays to do. — Dia. of stays —

Radius — Diameter of furnace Top 2'-6" Bottom 5' Length of furnace 2'-6" Thickness of furnace plates 10/16" Description of joint which asked plates

Working pressure of furnace by rules 112 1/2 Thickness of furnace crown plates 10/16" Stayed by —

Diameter of uptake 13 x 1 1/2 Thickness of uptake plates 9/16" Thickness of water tubes plates 1 1/2" 1 1/4" Dates of survey

SPARE GEAR. State the articles supplied:— 2 main bearing bolts, 2 crosshead bolts, 2 crank pin bearing bolts, one set coupling bolts, 1 set feed & bilge pump valves, assorted nuts bolts & iron

The foregoing is a correct description,

Manufacturer.

FOR HUTSON & SONS, LTD.

Wm Fairfoul.

Dates of Survey while building { During progress of work in shops - { 1906 Dec 3 1907 Jan 30 Feb 9 12 22 March 7 16 22
During erection on board vessel - { 1907 Feb 12, 22, 28, Mch 16, 22, 25, 26
Total No. of visits 7 (Leith) 8 (Glasgow) Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " No

Dates of Examination of principal parts—Cylinders 30/1/07 Slides 30/1/07 Covers 30/1/07 Pistons 30/1/07 Rods 30/1/07

Connecting rods 30/1/07 Crank shaft 30/1/07 Thrust shaft 30/1/07 Tunnel shafts 12/2/07 Screw shaft 12/2/07 Propeller 12/2/07

Stern tube 22/2/07 Steam pipes tested 9/3/07 Engine and boiler seatings 12/2/07 Engines holding down bolts 16/3/07

Completion of pumping arrangements 22/3/07 Boilers fixed 16/3/07 Engines tried under steam 22/3/07

Main boiler safety valves adjusted 22/3/07 Thickness of adjusting washers Port 3/8" base Star 3/8" base

Material of Crank shaft steel Identification Mark on Do. 8LOYDS No 3/53 12/3/07 CS Material of Thrust shaft steel Identification Mark on Do. same as Crank

Material of Tunnel shafts steel Identification Marks on Do. as above Material of Screw shafts steel Identification Marks on Do. — " —

Material of Steam Pipes Solid drawn Copper Test pressure 360 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery for this vessel)

has been built under special survey in accordance with the rules and

approved plans, and the material and workmanship are of a good

character. The machinery was forwarded to Leith and fitted on board

under the survey of the Leith Surveyors.

In my opinion the machinery of this vessel is eligible to

receive notation of + LMC 3.07 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + L. M. C. 3.07.

JFC 4/4/07

The amount of Entry Fee.. £ 2 : : When applied for.
Special £ 18 : : 24 Mch 1907
Donkey Boiler Fee £ 7 : : 13/4/07
Travelling Expenses (if any) £ 1 : 16 : 6 28/3/07
Committee's Minute £ 26 3 6 Glasgow - 3 APR 1907
Assigned + L.M.C. 3.07.

Charles Stewart & J. Graham
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI. 5 APR 1907

+ L.M.C. 3.07

Lloyd's Register

MACHINERY CERTIFICATE

WRITTEN

(Subject to classification of hull)

Certificate (if required) to be sent to

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