

REPORT ON MACHINERY.

Port of

Glasgow

HUR10

DEC 1896

Received at London Office

18

No. in Survey held at

Glasgow

Date, first Survey

14th April

Last Survey

10th October 1896

Reg. Book. 347

(Number of Visits 29)

46. on the

S. S. Ceres

Master J. Allan

Built at

Port Glasgow

By whom built

Russell & Co

Engines made at

Greenock

By whom made

Kincaid & Co

when made

1896

Boilers made at

Glasgow

By whom made

Anderson & Lyall

when made

1896

Registered Horse Power 211

Owners

Ceres S.S. Coy. (Lim^d)

Port belonging to

Newcastle on Tyne

Nom. Horse Power as per Section 28 288.

Is Electric Light fitted no

ENGINES, &c.—Description of Engines

Made in Greenock

No. of Cylinders

No. of Cranks

Diameter of Cylinders

Length of Stroke

Revolutions per minute

Diameter of Screw shaft

as per rule

Diameter of Tunnel shaft

as per rule

Diameter of Crank shaft journals

Diameter of Crank pin

Size of Crank webs

as fitted

Diameter of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

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

In Engine Room

In Holds, &c.

No. of bilge injections

sizes

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

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

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

Are the blow off cocks fitted with a spigot and brass covering plate

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

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &c.—

(Letter for record S.)

Total Heating Surface of Boilers

4392 sq

Is forced draft fitted no

No. and Description of Boilers

two cylindrical return tubular

Working Pressure

160 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

16.10.96

Can each boiler be worked separately

Area of fire grate in each boiler

41.25

No. and Description of safety valves to

each boiler

Not ascertained.

Area of each valve

—

Pressure to which they are adjusted

—

Are they fitted

with easing gear

—

Smallest distance between boilers or uptakes and bunkers or woodwork

—

Mean diameter of boilers

18'6"

Length 10' 6"

Material of shell plates

Steel

Thickness

1 1/4"

Description of riveting: circum. seams

double riveted lap

long. seams

Double Knutt 5 Knuts

Diameter of rivet holes in long. seams

1 7/16"

Pitch of rivets

9"

Lap of plates or width of butt straps

19 3/8"

Per centages of strength of longitudinal joint

rivets 89.2

plate 85.4

Working pressure of shell by rules

164 lbs.

Size of manhole in shell

12 1/2" x 16 1/2"

Size of compensating ring

6 1/4" x 1 1/4"

No. and Description of Furnaces in each boiler

three ribbed

Material

Steel

Outside diameter

46 1/16"

Length of plain part

top

—

Thickness of plates

crown

7/32"

Description of longitudinal joint

weld

No. of strengthening rings

rubs

Working pressure of furnace by the rules

164 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

7/8"

Back

9/16"

Top

2 1/32"

Bottom

3/8"

Pitch of stays to ditto: Sides

8 1/2"

Back

7 7/8" x 7 3/4"

Top

8 1/2" x 9 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

165 lbs

Material of stays

Steel

Section

Diameter at smallest part

1 1/4" x 1 1/2"

Area supported by each stay

68 sq in

Working pressure by rules

170 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/16"

Pitch of stays

15 1/2" x 16 1/2"

How are stays secured

Double nuts & washers

Working pressure by rules

199 lbs

Material of stays

Steel

Diameter at smallest part

5 1/2" x 5 1/2"

Area supported by each stay

271 sq in

Working pressure by rules

175 lbs

Material of Front plates at bottom

Steel

Thickness

1 1/16"

Material of Lower back plate

Steel

Thickness

1 1/16"

Greatest pitch of stays

12"

Working pressure of plate by rules

275 lbs

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4"

Material of tube plates

Steel

Thickness: Front

13 1/16"

Back

13 1/16"

Mean pitch of stays

11'9"

Pitch across wide water spaces

15"

Working pressures by rules

185, approved

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8" x 2 1/4" x 3 1/4"

Length as per rule

28 1/4"

Working pressure by rules

180 lbs

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

GRK 336 - 0046

Lloyd's Register
Foundation

DONKEY BOILER— Description *See Middlesbrough Surveyors Report attached.*
 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 _____ 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:—

The foregoing is a correct description,

Anderson & Ryall Govan Glasgow
 Manufacturer. of main boilers.

Dates of Survey while building { During progress of work in shops - *Boilers - 1896 April 14, 15, 17, 21, 23, 28, 29 May 1, 4, 12, 18, 19, 22, 26, 27, 29 June 9, 14, 19, 24, 25 August 4, 12, 18, 21, 31 Sept 2, 7, 15, 17, 21, 23, 24, 30 Oct 2, 6, 8, 16, 20, 29*
 { During erection on board vessel -
 Total No. of visits *39*

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

These boilers have been built under the conditions of Special Survey of good materials & workmanship, they have been satisfactorily tested by hydraulic pressure to 320 lbs per square inch.

These boilers have been sent to Greenock where they will be fitted on board.

In my opinion these boilers are in a safe working condition for the intended working pressure.

Boiler tracing retained here on account of completion of Russell & Co. No 307

The amount of Entry Fee. . . £
 Special £
 Donkey Boiler Fee £
 Travelling Expenses (if any) £

When applied for, _____
 When received, _____

Committee's Minute

Assigned

FRI 11 DEC 1896

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



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Lloyd's Register Foundation

Signal

1066

No., Date

Whether Foreign

British

Number

Number

Rigged

Stern

Build

Galleries

Head

Framework

vessel

Number of

Number of

and the

Total to q
at side a

No. of Engines

One Trip

Set

Number of Iron or Press

Under Tonn

Closed-in sp

Space or

Forecastle

Round Ho

Other clos

Spaces for

Sec 78

Deductions, a

Re

Name

No. of Owner

ame, Reside