

REPORT ON MACHINERY.

5526

No. 5526

(Received in London Office 1/11/81 18)

No. in Survey held at Reg. Book.

Glasgow

Date, first Survey August 20th 1880 Last Survey Oct 29th 1881

on the Screw Steamer "Alaska"

Tons 3578.6

Master

X Price

Built at

Glasgow

When built

1881

Engines made at

Glasgow

By whom made

John Elder & Co when made 1881

Boilers made at

"

By whom made

" when made "

Registered Horse Power

1800

Owners

Quion

Port belonging to

Liverpool

ENGINES, &c.—

Description of Engines

Compound Inverted Direct Acting

Diameter of Cylinders

68" 100"

Length of Stroke

42"

No. of Rev. per minute

60

Point of Cut off, High Pressure

65

Low Pressure

45

Diameter of Screw shaft

24"

Diameter of Tunnel shaft

23 1/2"

Diameter of Crank shaft journals

24"

Diameter of Crank pin

25"

size of Crank web 18" x 3" x 3"

Diameter of screw

23 1/2"

Pitch of screw

34" x 6"

No. of blades

four

state whether moveable

Yes

total surface 190 ft.

No. of Feed pumps

two

diameter of ditto

9"

Stroke

34"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

two

diameter of ditto

9"

Stroke

34"

Can one be overhauled while the other is at work

Yes

Where do they pump from

All the Compartments

No. of Donkey Engines

two

Size of Pumps

Where do they pump from

one 15 1/2" x 8" x 12" one 12 1/2" x 8" x 12"

From the Sea, Pulpes, Hotwell & Boilers

Are all the bilge suction pipes fitted with roses

Yes

Are the roses always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

Yes

No. of bilge injections

two

and sizes

5"

Are they connected to condenser, or to circulating pump

To Condenser

How are the pumps worked

By Levers

Two Steam Engines are fitted to one " after "

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

Bilge pipes to forward hold

How are they protected

By wood casing

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times

Yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges

Yes

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

On ship previous to being launched

Is the screw shaft tunnel watertight

Yes

and fitted with a sluice door

Yes

worked from

Upper platform

BOILERS, &c.—

Number of Boilers

nine

Description

Round Horizontal double ended Mottley of Steel

Working Pressure

100 lbs

Tested by hydraulic pressure to

200 lbs

Date of test

22nd June 24th July 31st Aug 1881

Description of superheating apparatus or steam chest

None

Can each boiler be worked separately

Yes

Can the superheater be shut off and the boiler worked separately

Yes

No. of square feet of fire grate surface in each boiler

138 ft.

Description of safety valves

Direct Spring Adams

No. to each boiler

two

area of each valve

30.6"

Are they fitted with easing gear

Yes

No. of safety valves to superheater

—

area of each valve

—

are they fitted with easing gear

—

Smallest distance between boilers and bunkers or woodwork

4 ft.

Diameter of boilers

15.0"

Length of boilers

14 ft.

Description of riveting of shell long. seams

Double Straps

circum. seams

Double riveted

Thickness of shell plates

1 1/16"

diameter of rivet holes

1 1/8"

whether punched or drilled

Drilled

pitch of rivets

6" x 3"

No. of plating

Traps 12" x 16"

percentage of strength of longitudinal joint

81.25% plate

working pressure of shell by rules

124 lbs

No. of manholes in shell

16" x 12"

size of compensating rings

Large rings

bottom

Through furnaces

No. of Furnaces in each boiler

Six

mean diameter

6.9"

length, top

6" x 8"

bottom

Thickness of plates

8/16"

description of joint

Corrugated

if rings are fitted

—

greatest length between rings

Working pressure of furnace by the rules

Combustion chamber plating, thickness, sides

7/16" full

back

Bottom 7/16"

top

7/16" full

Pitch of stays to ditto

sides

7 1/2" x 8"

back

top

7 1/2" x 8"

If stays are fitted with nuts or riveted heads

Nuts

working pressure of plating by rules

101 lbs

Diameter of stays at smallest part

1 1/4" Steel

working pressure of ditto by rules

130 lbs

End plates in steam space, thickness

1 1/16"

pitch of stays to ditto

2 3/8"

How stays are secured

By double nuts

Working pressure by rules

103 lbs

diameter of stays at smallest part

1 1/4" x 19" + 11"

working pressure by rules

103 lbs

Front plates at bottom, thickness

10/16"

Back plates, thickness

—

greatest pitch of stays

—

working pressure by rules

—

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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{1}{16}$ " back $\frac{1}{16}$ "
How stayed *by stays* & pitch of stays $9\frac{1}{2} \times 9\frac{1}{2}$ " width of water spaces $7\frac{1}{2}$ "
Diameter of Superheater or Steam chest *none* length _____
Thickness of plates _____ description of longitudinal joint _____ diameter of rivet holes _____ pitch of rivets _____
Working pressure of shell by rules _____ Diameter of flue _____ thickness of plates _____
If stiffened with rings _____ distance between rings _____ Working pressure by rules _____
End plates of superheater, or steam chest; thickness _____ How stayed _____
Superheater or steam chest; how connected to boiler _____

DONKEY BOILER— Description *Cylindrical Vertical (Cochran's Patent)*
Made at *Birkenhead* By whom made *Wm Cochran & Co.* when made *1881*
Where fixed *on the side of main deck* working pressure *60* Tested by hydraulic pressure to *120* No. of Certificate *118*
Fire grate area *28 sq. ft.* Description of safety valves *Direct Spring* No. of safety valves *Two* area of each *4"*
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
Diameter of donkey boiler *8' 0"* length *16' 2"* description of riveting *Vertical seams double R 7/8 inch 3' pitch*
thickness of shell plates *3/16"* diameter of rivet holes *7/8"* whether punched or drilled *punched*
pitch of rivets *3"* lap of plating *3 1/2"* per centage of strength of joint *70%*
thickness of crown plates *3/16"* stayed by *Spherical*
Diameter of furnace, top *3 ft radius* bottom *6 ft.* length of furnace _____
thickness of plates *1/2"* description of joint *Single Rild lap*
thickness of furnace crown plates *1/2"* stayed by *Spherical*
Working pressure of shell by rules *67* working pressure of furnace by rules *108 lb.*
diameter of uptake *5' 1' 8"* thickness of plates *7/16"* thickness of water tubes *1/2" 9' 5"*

The foregoing is a correct description,
John Elder & Co. Manufacturer.

Cochran & Co. Welsh boiler manufacturer
J. H. Kinghorn

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers are of good workmanship and now in good order & safe working condition and eligible in my opinion to be noted in the Register.*
✠ *Lloyd's M.C. 11.81 (in red)*

It is submitted that this vessel is eligible to have the notification & Lloyd's M.C. recorded 11/11/81

The amount of Entry Fee .. £ *3* : : : received by me, _____
Special .. £ *110* : : : _____
Certificate (if required) .. £ *Gratis* *27/10/1881*
To be sent as per margin.
(Travelling Expenses, if any, £ _____)

Committee's Minute _____
Tuesday, November, 1st, 1881
+ Lloyd's M.C.

James Morrison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Clyde District

Lloyd's Register
Foundation