

REPORT ON MACHINERY.

No. 5340

(Received in London Office)

18

No. in
Reg. Book.

Survey held at

Gumbarton & Glasgow

Date, first Survey

March 1880

Last Survey

April 9th 1881

on the

"S.S. Egyptian Monarch"

Tons

3970.7
2552.28

Master

J. C. Condit

Built at

Gumbarton

When built

1880-1

Engines made at

Glasgow

By whom made

David Rowan

when made

1880-1

Boilers made at

"

By whom made

"

when made

1880-1

Registered Horse Power

500

Owners

Royal Exchange Shipping Coy. (Limited)

Port belonging to

London

ENGINES, &c.—

Description of Engines

Compound Inverted Direct Acting

Diameter of Cylinders

46" & 87"

Length of Stroke

57"

No. of Rev. per minute

about 54

Point of Cut off, High Pressure

38"

Low Pressure

32"

Diameter of Screw shaft

16"

Diameter of Tunnel shaft

15"

Diameter of Crank shaft journals

16"

Diameter of Crank pin

16 1/2"

size of Crank webs

11 1/2" x 19"

Diameter of screw

18 1/2"

Pitch of screw

24"

No. of blades

four

state whether moveable

yes

total surface

90 sq ft

No. of Feed pumps

two

diameter of ditto

6"

Stroke

28 1/2"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

two

diameter of ditto

4 1/2"

Stroke

28 1/2"

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

one 9" x 4 1/2" x 10"
the other 8" x 10" x 14"

Where do they pump from

from Sea Bille & Hotwell
& Ballast Tanks

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

one

and sizes

4 1/2"

Are they connected to condenser, or to circulating pump

& Circulating

How are the pumps worked

By Levers

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 & below

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 the 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

April 1st 1881

Is the screw shaft tunnel watertight

yes

and fitted with a sluice door

yes

worked from

Upper platform

BOILERS, &c.—

Number of Boilers

three

Description

Round Horizontal (with two furnaces in each end)

Working Pressure

80 lbs

Tested by hydraulic pressure to

160 lbs

Date of test

Decr 3rd 1880

Description of superheating apparatus or steam chest

Longitudinal Receiver on each Boiler

Can each boiler be worked separately

yes

Can the superheater be shut off and the boiler worked separately

no Superheater

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

91 sq ft

Description of safety valves

Direct Spring

No. to each boiler

two

area of each valve

21.65"

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

Shoart Ship bunkers 4 ft to stokehold

Diameter of boilers

12 ft

Length of boilers

18.6"

description of riveting of shell long. seams

Double straps

circum. seams

Double

Thickness of shell plates

1/2"

diameter of rivet holes

1 1/8"

whether punched or drilled

Drilled

pitch of rivets

4 1/2"

Lap of plating

1 1/2" x 7/16" straps

percentage of strength of longitudinal joint

75%

working pressure of shell by rules

86.5 lbs

Size of manholes in shell

16" x 12"

size of compensating rings

Doubling plate fitted

No. of Furnaces in each boiler

four

outside diameter

4 ft 1"

length, top

4 ft 10"

bottom

8' 10"

Thickness of plates

7/16"

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"

back

7/16"

top

7/16"

Pitch of stays to ditto

—

sides

8 1/2" x 8"

back

8 1/2" x 8"

top

Radial Lops

If stays are fitted with nuts or riveted heads

Nuts

working pressure of plating by rules

130 lbs

Diameter of stays at smallest part

1 3/8" & 1 1/4" Stays

working pressure of ditto by rules

108 lbs

End plates in steam space, thickness

1 1/2"

pitch of stays to ditto

1 1/4" x 1 1/4" main stays

how stays are secured

By palms & Lops studs

Working pressure by rules

—

diameter of stays at smallest part

2 1/2" & 1 1/2" stays

working pressure by rules

—

Front plates at bottom, thickness

1 1/2"

Back plates, thickness

no back

greatest pitch of stays

—

working pressure by rules

—

5340.92.

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 Lugs* pitch of stays $9\frac{1}{2}$ " \times $9\frac{1}{2}$ " width of water spaces $9\frac{1}{2}$ " \times $6\frac{1}{2}$ "
Diameter of ~~main~~ steam chest $3\frac{1}{2}$ " length $18\frac{1}{2}$ "
Thickness of plates $\frac{1}{16}$ " description of longitudinal joint *Double riveted* diameter of rivet holes $\frac{13}{16}$ " pitch of rivets 3 "
Working pressure of shell by rules 133 lbs Diameter of flue --- thickness of plates ---
If stiffened with rings --- distance between rings --- Working pressure by rules ---
End plates of ~~water~~ steam chest; thickness $\frac{1}{16}$ " How stayed *by angle iron + lugs*
~~Superheater~~ steam chest; how connected to boiler *by two neck pieces*

DONKEY BOILER— Description *Cochrane's patent round vertical multitubular*
Made at *Birkenhead* By whom made *Cochrane* when made *1881*
Where fixed *on main deck above stateroom* working pressure 80 lbs Tested by hydraulic pressure to 160 lbs No. of Certificate ---
Fire grate area $18\frac{1}{2}$ 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 $5\frac{1}{2}$ " height $11\frac{1}{2}$ ft 2 " description of riveting *Double & single*
thickness of shell plates $\frac{1}{32}$ " diameter of rivet holes $\frac{13}{16}$ " whether punched or drilled *punched*
pitch of rivets $2\frac{3}{4}$ " lap of plating $3\frac{1}{2}$ " per centage of strength of joint 76%
thickness of crown plates $\frac{5}{8}$ " stayed by *6 curved plates*
Diameter of furnace, top $4\frac{1}{2}$ " bottom 1 " length of furnace $1\frac{1}{2}$ "
thickness of plates $\frac{1}{16}$ " description of joint *lap*
thickness of furnace crown plates $\frac{1}{16}$ " stayed by *Uplate and dished*
Working pressure of shell by rules 90 lbs working pressure of furnace by rules ---
diameter of uptake 15 " thickness of plates $\frac{1}{16}$ " thickness of water tubes *no water tubes*

The foregoing is a correct description, as regards main engines & main boilers
Davie Rowan Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines & Boilers are of good workmanship and in good order & safe working condition and eligible in my opinion to be noted in the Register Book + Lloyds M.C. 9. 81.*

*His submitted that this record is to be made in the Register Book
Lloyd's M.C. 9. 81.
14/4/81*

The amount of Entry Fee .. £ 3 : " : " received by me, *viz: £50. 2/-*
Special £ 45 : " : "
Certificate (if required) .. £ " : " : " *21st March 1881*
(To be sent as per margin.)
(Travelling Expenses, if any, £ 2 : 2 :)
Committee's Minute Tuesday April, 12th 1881.

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