

REPORT ON MACHINERY.

RECEIVED 14 JULY 1884

No. 17675

No. in Survey held at

Newcastle

Date, first Survey 23rd Febry

Last Survey 18th June 1884

eg. Book.

(Number of Visits 27)

2761

Tons 1801

on the

S. S. "Elderslie"

Materials

Engines made at

Newcastle

By whom made

Palmer's Co.

when made

1884

Boilers made at

do

By whom made

do

when made

do

Registered Horse Power

300

Owners

Turnbull, Martin & Co

Port belonging to

Glasgow

ENGINES, &c.—

Description of Engines

Inverted Compound Surface Condensing

Diameter of Cylinders

38" x 72"

Length of Stroke

48"

No. of Rev. per minute

60

Point of Cut off, High Pressure

5

Low Pressure 5

Diameter of Screw shaft

13 1/2"

Diam. of Tunnel shaft

12 1/2"

Diam. of Crank shaft journals

13 1/2"

Diam. of Crank pin

13 3/4"

size of Crank webs 10 1/4" x 18"

Diameter of screw

17-6"

Pitch of screw

19-6"

No. of blades

4

state whether moveable

yes

total surface 76-7 sq ft

No. of Feed pumps

2

diameter of ditto

4 1/2"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

diameter of ditto

4 1/2"

Stroke

24"

Can one be overhauled while the other is at work

yes

Where do they pump from

Tunnel well, after hold, Engine room, Main hold & Fore hold.

No. of Donkey Engines

2

Size of Pumps

4 0" x 8" & 11 0" x 12"

Where do they pump from

same as bilge pumps,

also from sea & tanks. Few donkey also from hotwell & bottom of air pump

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

1

and sizes

6 1/4"

Are they connected to condenser, or to circulating pump

Circⁿ pump

How are the pumps worked

lever over condenser

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

just 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

none

How are they protected

✓

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

while building

Is the screw shaft tunnel watertight

yes

and fitted with a sluice door

yes

worked from

top platform

BOILERS, &c.—

Number of Boilers

2

Description

Cylindrical (double ends)

Whether Steel or Iron

Steel

Working Pressure

90

Tested by hydraulic pressure to

180

Date of test

12-5-84

Description of superheating apparatus or steam chest

longitudinal cylinder (one to each boiler)

Can each boiler be worked separately

yes

Can the superheater be shut off and the boiler worked separately

✓

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

83-25 sq

Description of safety valves

Spring

No. to each boiler

2

Area of each valve

21-6 sq

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

about 11"

Diameter of boilers

13-4"

Length of boilers

16-0"

Description of riveting of shell long. seams

lap butt

circum. seams

lap double

Thickness of shell plates

7/8"

Diameter of rivet holes

1 1/32"

whether punched or drilled

drilled

pitch of rivets

4 15/16"

Lap of plating

9 3/4"

Percentage of strength of longitudinal joint

72-7

working pressure of shell by rules

95

size of manholes in shell

16 x 12

Size of compensating rings

as per plan 3/4" thick

No. of Furnaces in each boiler

6

Outside diameter

38"

length, top

6-0"

bottom

16-0"

thickness of plates

7/2 x 9/16"

Description of joint

double strap if rings are fitted

Greatest length between rings

5-3"

working pressure of furnace by the rules

98

combustion chamber plating, thickness, sides

7/2"

back

✓

top

4/2"

Pitch of stays to ditto, sides

9"

back

✓

top

girders

If stays are fitted with nuts or riveted heads

nuts

working pressure of plating by

rules

rules

95

Diameter of stays at smallest part

1 3/8"

working pressure of ditto by rules

109

end plates in steam space, thickness

25/32"

Pitch of stays to ditto

16"

how stays are secured

nuts washers

working pressure by rules

90

diameter of stays at

smallest part

2 1/8"

Greatest pitch of stays

✓

working pressure by rules

✓

Diameter of tubes

3 1/2"

pitch of tubes

4 3/4"

thickness of tube

plates, front

plates, front

3/4"

back

13/16"

how stayed

tubes

pitch of stays as per plan

width of water spaces

6 1/2"

Diameter of Superheater or Steam chest

2-9"

length

11-0"

thickness of plates

7/2"

Description of longitudinal joint

lap butt diam. of rivet holes

pitch of rivets

2 1/8"

working pressure of shell by rules

224

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

3/4"

how stayed

one stay

Superheater or steam chest; how connected to boiler

Wrote in

DONKEY BOILER— Description *Cylindrical, Multi tubular (same type as main boiler)*
 Made at *Newcastle* by whom made *Palmer's Co* when made *16-5-84* where fixed *in fore stack hole just above top of main boiler*
 Working pressure *90* tested by hydraulic pressure to *180* No. of Certificate *1679* fire grate area *27.5* \square ft description of safety valves *Spring* No. of safety valves *2* area of each *7* \square if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *10-0* length *10-0* description of riveting *long lap butt*
 Thickness of shell plates *2 1/32* diameter of rivet holes *1 1/32* whether punched or drilled *drilled* pitch of rivets *3 3/4* lap of plating *6 3/8*
 percentage of strength of joint *72-5* thickness of ^{end} plates *top 3/4* ^{bottom} *1/8* stayed by *Stays 2 8/16 Dia. spaced 15 1/4*
 Diameter of furnace, ^{top} *34* ^{bottom} *✓* length of furnace *6-10* thickness of plates *1/2* description of joint *double strap*
 Thickness of ^{chamber} furnace ^{chamber} plates *1/2* stayed by *Stays 1 1/4 8/16 Dia. Spaced 8 3/4* working pressure of shell by rules *91*
 Working pressure of furnace by rules *95* diameter of ^{hull} uptake *3 1/4* thickness of plates *3/4* thickness of ^{hull} water tubes *as per*

SPARE GEAR. State the articles supplied:— *Tail shaft, 1/2 Crank shaft, 4 propeller blades, 2 top end bolts, 2 bottom end bolts, 2 main bearing bolts, one set coupling to the air pump rod, one circulating pump rod, 2 slide rods, one eccentric strap, 2 feed & bilge pump valves & seats, 2 crank pin braces, assorted nuts, few bars of iron & one set piston spring*
 The foregoing is a correct description,

J. Hall Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey. The workmanship & material is good & in my opinion the vessel is eligible to have I.M.C. 6-84 recorded.*

Tracing of main & donkey boilers & steel tests forwarded herewith

*This submitted herewith does include to have the same recorded
 J. Hall 17/7/84*

The amount of Entry Fee *£ 3* : - - received by me,
 Special .. *£ 35* : - -
 Donkey Boiler Fee .. *£ 2:2* : -
 Certificate (if required) *free* - : -
 To be sent as per margin.
 (Travelling Expenses, if any, £)

John H. Heck
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute TUESDAY 15 JULY 1884

