

REPORT ON MACHINERY.

Port of

Sunderland

Received at London Office

SAT. 14 JUN 1902

No. in Survey held at Sunderland

Date, first Survey 24th Oct, 1901 Last Survey 13th June 1902

Book.

(Number of Visits 18)

on the Steam Screw Steamer "Marie Elisabeth"

Gross
Tons
Net

Built at Middlesbrough

By whom built Harkness & Sons (1581) When built 1902

Machinery made at Sunderland

By whom made Mac Coll & Pollock

when made 1902

Machinery made at Sunderland

By whom made Mac Coll & Pollock

when made 1902

Registered Horse Power

Owners

Port belonging to

Horse Power as per Section 28 131

Is Refrigerating Machinery fitted No

Is Electric Light fitted No

MACHINERY, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

of Cylinders 17-28½-46

Length of Stroke 33"

Revs. per minute 70

Dia. of Screw shaft as per rule 10½"

Lgth. of stern bush 42½"

of Tunnel shaft

as per rule 8.68"

Dia. of Crank shaft journals as per rule 9.1"

as fitted 9½"

Dia. of Crank pin 9½"

Size of Crank webs 11½x6¾"

Dia. of thrust shaft under

rs 9½"

Dia. of screw 12-1½"

Pitch of screw 14-4½"

No. of blades 4

State whether moveable No

Total surface 57.6 sq ft

of Feed pumps 2

Diameter of ditto 2½"

Stroke 17½"

Can one be overhauled while the other is at work Yes

of Bilge pumps 2

Diameter of ditto 2½"

Stroke 17½"

Can one be overhauled while the other is at work Yes

of Donkey Engines 2

Sizes of Pumps 6x8½x8- Ballast

6x4x6 Feed

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

Engine Room 2. of 2½ Engine room, 2 of 2½. Strokehold

In Holds, &c. 2. of 2½ each hold

aft well. 1. of 2" bilge pump direct

of bilge injections 1 sizes 3¾"

Connected to condenser, or to circulating pump C.P.

Is a separate donkey suction fitted in Engine room & size Yes 3"

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 Yes

All connections with the sea direct on the skin of the ship Yes

Are they Valves or Cocks Valves

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

Are the pipes carried through the bunkers none

How are they protected Yes

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

Were stern tube, propeller, screw shaft, and all connections examined in dry dock No

Is the screw shaft tunnel watertight Yes

Is the tunnel fitted with a watertight door Yes

worked from Top platform

MACHINERY, &c.—

(Letter for record S)

Total Heating Surface of Boilers 2025 sq ft

Is forced draft fitted No

and Description of Boilers one S.E. of 1st Multitubular

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

of test 6.6.02 Can each boiler be worked separately Yes

Area of fire grate in each boiler 59 sq ft

No. and Description of safety valves to

boiler 2 Spring

Area of each valve 70 sq in

Pressure to which they are adjusted 180 lbs

Are they fitted with easing gear Yes

Least distance between boilers or uptakes and bunkers or woodwork 15"

Mean dia. of boilers 15'-0"

Length 10'-6"

Material of shell plates Steel

Range of tensile strength 28½-32

Are they welded or flanged No

Descrip. of riveting: cir. seams D.R. Rep

long. seams M.R. D.V.S

Pitch of rivets 8¾"

Lap of plates or width of butt straps 17½"

Stages of strength of longitudinal joint

Working pressure of shell by rules 184 lbs

Size of manhole in shell 16x12 in 184 lbs plate

compensating ring Flanged

No. and Description of Furnaces in each boiler 3 Deighton's

Material Steel

Outside diameter 48"

of plain part top

Thickness of plates crown 9"

Description of longitudinal joint Weld

No. of strengthening rings

Working pressure of furnace by the rules 183 lbs

Combustion chamber plates: Material Steel

Thickness: Sides 19

Back 19

Top 19

Bottom 7/8"

of stays to ditto: Sides 9x7½"

Back 8¾x7½"

Top 6x7½"

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 180 lbs

Material of stays Steel

Diameter at smallest part 1.5"

Area supported by each stay 66.76 sq in

Working pressure by rules 180 lbs

End plates in steam space:

Material Steel

Thickness 6/16"

Pitch of stays 15x15

How are stays secured 2. 1x16

Working pressure by rules 181 lbs

Material of stays Steel

Area supported by each stay 225 sq in

Working pressure by rules 182 lbs

Material of Front plates at bottom Steel

Thickness 5/16"

Greatest pitch of stays 14"

Working pressure of plate by rules 180 lbs

Material of Lower back plate Steel

Thickness 5/16"

Pitch of stays 14"

Working pressure of plate by rules 180 lbs

Material of tube plates Steel

Thickness: Front 13/16"

Back 13/16"

Mean pitch of stays 9x13½"

across wide water spaces 14"

Working pressures by rules 187 lbs

Girders to Chamber tops: Material Steel

Depth and

of girder at centre 6½x13/16x(2)

Length as per rule 24¾"

Distance apart 7½"

Number and pitch of Stays in each tier 6½ pitch

Working pressure by rules 181 lbs

Superheater or Steam chest; how connected to boiler None

Can the superheater be shut off and the boiler worked

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

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Foundation

W1438-0034

DONKEY BOILER— No. *one* Description *patent vertical*
 Made at *Annan* By whom made *Cochran & Co* When made *1902* Where fixed *Stokeholm*
 Working pressure *90 lbs* tested by hydraulic pressure to *180 lbs* No. of Certificate *6244* Fire grate area *204* Description of safety valves *Spring*
 No. of safety valves *1* Area of each *7.052* Pressure to which they are adjusted *90 lbs* If fitted with easing gear *No* If steam from main boiler
 enter the donkey boiler *No* Dia. of donkey boiler *6' 6"* Length *14' 0"* Material of shell plates *steel* Thickness *1/2"* Range of
 strength *27-32* Descrip. of riveting lang. seams *double (Lap)* Dia. of rivet holes *27/32"* Whether punched or drilled *drilled* Pitch of rivets
 Lap of plating *4 1/8"* Per centage of strength of joint Rivets *69-1* Thickness of shell crown plates *7/16"* Radius of do. *3' 3"* No. of Stays to do. *2*
 Dia. of stays. *RADIUS* of furnace Top *2' - 7 1/2"* Bottom Length of furnace *✓* Thickness of furnace plates *19/32"* Descrip.
 joint *riveted* Thickness of furnace crown plates *19/32"* Stayed by *✓* Working pressure of shell by rules *16*
 Working pressure of furnace by rules *113 lbs* Diameter of *TUBES* *2 1/2"* Thickness of uptake plates *1/16" & 1/8"* Thickness of *STAY* tubes *1/4"*

SPARE GEAR. State the articles supplied:— *Two 1 1/4 end bolts and nuts, two bottom end bolts*
and nuts, two main bearing bolts and nuts, spare coupling bolts and nuts
spare feed & bilge pump valves, assorted iron bolts and nuts—

The foregoing is a correct description,
MacColl & Pollock Manufacturer.

Dates of Survey { During progress of work in shops - 1901. - Octr 24. 25. Novr 19. 22. Dec 5. 7. 1902. - Janry. 7. 15. 22. 28. Feb 3. 5. April 17. 24. May 27. 30. June 6.
 while building { During erection on board vessel - -
 Total No. of visits *18.* Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *No*

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

Material of screw shaft *Woot Iron* 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 *Yes* 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
 non-corrosive *✓* If two liners are fitted, is the shaft lapped or protected between the liners *Painted -*

The machinery built under Special Survey the master's
and workmanship found good and efficient -
The main boiler tested under hydraulic pressure to 360 lbs per square
inch and found sound and efficient in every respect at that pressure
all machinery tested according to Requirements

In our opinion the machinery herein described
is worthy of the Notation of + L.M.C 6/02

It is submitted that
 this vessel is eligible for
 THE RECORD - L.M.C 6.02

The amount of Entry Fee. £ *2* : : When applied for, *9.6.02*
 Special " " £ *19* : *13* : :
 Donkey Boiler Fee " " £ : : : When received, *11.6.02*
 Travelling Expenses (if any) £ : : :

Committee's Minute

TUES. 17 JUN 1902

Assigned

MACHINERY CERTIFICATE
 WRITTEN



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