

REPORT ON MACHINERY.

Ans. No.

No. 21502. (Std.)

THUR. 24 SEP 1903

Port of

Sunderland

Received at London Office

19

in Survey held at
Book.

Sunderland

Date, first Survey 29th April Last Survey 21 Sept. 1903

(Number of Visits)

on the steel new steamer "Patagonia"

Tons

Gross

Net

When built 1903

Built at

Amo

By whom built

Langereld van Riet

es made at

Sunderland

By whom made

McCull + Pollock

when made 1903

ra made at

Sunderland

By whom made

McCull + Pollock

when made 1903

stered Horse Power

50

Owners

Braun Blanchard

Port belonging to

Punta Arenas

Horse Power as per Section 28

49.4

Is Refrigerating Machinery fitted

no

Is Electric Light fitted

no

INES, &c.—Description of Engines

Compound

No. of Cylinders

two

No. of Cranks

two

of Cylinders

13 1/2 - 31

Length of Stroke

21

Revs. per minute

100

Dia. of Screw shaft

as per rule 6.47

as fitted 6.34

Material of

screw shaft

light steel

e screw shaft fitted with a continuous liner the whole length of the stern tube

yes

Is the after end of the liner made water tight

e 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

en the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

—

If two

s are fitted, is the shaft lapped or protected between the liners

Length of stern bush

2-3 5/8

of Tunnel shaft

as per rule 5.94

as fitted 6.03

Dia. of Crank shaft journals

as per rule 6.24

as fitted 6.33

Dia. of Crank pin

6 3/8

Size of Crank webs

9 1/2 x 4 3/8

Dia. of thrust shaft under

6 3/8

Dia. of screw

4-8

Pitch of screw

10-3

No. of blades

four

State whether moveable

no

Total surface

23.5

of Feed pumps

one

Diameter of ditto

2 1/4

Stroke

11 1/2

Can one be overhauled while the other is at work

—

of Bilge pumps

one

Diameter of ditto

2 1/4

Stroke

11 1/2

Can one be overhauled while the other is at work

—

of Donkey Engines

one

Sizes of Pumps

5 1/4 x 3 1/2 x 5

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

In Holds, &c.

No 2 - fore peak one - 2

Engine Room

two - 2

after peak one 2

of bilge injections

one

sizes

2 1/2

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room & size

yes

2

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

none

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

yes

Are they Valves or Cocks

Valves

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

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

it pipes are carried through the bunkers

none

How are they protected

—

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

yes

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

yes

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

5/9/03

Is the screw shaft tunnel watertight

no

tunnel

t fitted with a watertight door

—

worked from

—

LERS, &c.—

(Letter for record

(5)

Total Heating Surface of Boilers

888

Is forced draft fitted

no

and Description of Boilers

One single ended

Working Pressure

140 lb

Tested by hydraulic pressure to

280 lb

of test

9/9/03

Can each boiler be worked separately

—

Area of fire grate in each boiler

30

No. and Description of safety valves to

boiler

No direct spring

Area of each valve

3.97

Pressure to which they are adjusted

145 lb

Are they fitted with easing gear

yes

allest distance between boilers

or uptakes and bunkers

or woodwork

18

Mean dia. of boilers

10-6

Length

9-6

Material of shell plates

steel

ickness

3/4

Range of tensile strength

28 1/2

Are they welded or flanged

no

Descrip. of riveting: cir. seams

lap OK

long. seams

OK

meter of rivet holes in long. seams

1

Pitch of rivets

5 5/8

Lap of plates or width of butt straps

10 1/2

centages of strength of longitudinal joint

rivets 83.04

plate 82.2

Working pressure of shell by rules

144 lb

Size of manhole in shell

14 x 13

Some 16 x 12

of compensating ring

11 1/2 x 3 1/4

No. and Description of Furnaces in each boiler

Two-plain

Material

steel

Outside diameter

3 1/2

ngth of plain part

top 6-3

bottom 18

Thickness of plates

crown 3 1/4

bottom 3 1/4

Description of longitudinal joint

welded

No. of strengthening rings

—

orking pressure of furnace by the rules

145 lb

Combustion chamber plates: Material

steel

Thickness: Sides

19/32

Back

19/32

Top

19/32

Bottom

13/16

ch of stays to ditto: Sides

8 3/4

Back

10 1/2 x 4 3/8

Top

10

If stays are fitted with nuts or riveted heads

both

Working pressure by rules

141 lb

aterial of stays

steel

Diameter at smallest part

15 x 2 1/4

Area supported by each stay

10 1/2 x 4 3/8

Working pressure by rules

144 lb

End plates in steam space:

Material

steel

Thickness

29/32

Pitch of stays

15 1/2 x 16 1/8

How are stays secured

OK

Working pressure by rules

146 lb

aterial at smallest part

4 1/2

Area supported by each stay

15 1/2 x 16 1/8

Working pressure by rules

159

Material of Front plates at bottom

steel

ickness

29/32

Material of Lower back plate

steel

Thickness

29/32

Greatest pitch of stays

10 1/2 x 8 3/4

Working pressure of plate by rules

146 lb

meter of tubes

3 1/4

Pitch of tubes

4 1/2 x 4 1/2

Material of tube plates

steel

Thickness: Front

29/32

Back

23/32

Mean pitch of stays

9 x 13

ch across wide water spaces

14

Working pressures by rules

232-150

Girders to Chamber tops: Material

steel

Depth and

Thickness of girder at centre

6 1/8 x 1 1/2

Length as per rule

2176

Distance apart

10

Number and pitch of Stays in each

one

orking pressure by rules

142 lb

Superheater or Steam chest; how connected to boiler

—

Can the superheater be shut off and the boiler worked

—

rately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

es

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

DONKEY BOILER— No. _____ Description No Donkey Boiler

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 _____

Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____

Descrip. of riveting long. seams _____ Dia. 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:—
One set coupling bolts, Two top end bolts & nuts & Bottom end bolts & nuts
Two main bearing bolts & nuts one set each for feed & bilge pump & valves
Assorted spare iron & bolts & one propeller

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

Dates { During progress of work in shops - - } 1903- April 29 July 20 27 Aug. 1 5 10 12 17 19 26 28 Sep. 1 4 5 9 17
 { During erection on board vessel - - } 21
 while building { Total No. of } 17

Is the approved plan of main boiler forwarded herewith yes
 " " " donkey " " ✓

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

The Machinery of this Vessel has been built under special survey steam pipe & boiler tested by hydraulic pressure according to Rule, the Material and workmanship sound & good the Engine worked satisfactorily & the safety valves admitted under steam worked well—

It is submitted that
 this vessel is eligible for
THE RECORD. - LMC 9.03.
Bal
25.9.03
25.9.03

This Vessel is eligible in our opinion to have the Notation * LMC 9.03 in the Register Book (Machinery aft)

The amount of Entry Fee. £ 1 : : When applied for, 23.9.1903
 Special £ 8 : :
 Donkey Boiler Fee £ : : When received, 1.10.03
 Travelling Expenses (if any) £ : :

W. Lloyd & Co
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. 25 SEP 1903
+ LMC 9.03
 Assigned
 MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to (The Surveyor are requested not to write on or return the space for Committee's Minute.)