

REPORT ON MACHINERY.

No. 3619

Port of

Received at London Office

SAT. 19 MAY 1906

No. in Survey held at

Genoa

Date, first Survey

April 10th

Last Survey

April 16 1906

g. Book.

-46 on the

Screw Steamer "Cerea"

(Number of Visits 8)

Master

F. Molinari

Built at

Spezia

By whom built

Cantieri Navale di Muggiano

Engines made at

West Hartlepool

By whom made

Thos Richardson & Sons

when made 1901

Milers made at

do

By whom made

do

when made 1901

Registered Horse Power

356

Owners

L. Capucio & Co

Port belonging to

Genoa

m. Horse Power as per Section 28

356

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Triple Compound

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

24 $\frac{3}{8}$ " 40" 66"

Length of Stroke

48"

Revs. per minute

67

Dia. of Screw shaft

as per rule 13 $\frac{1}{8}$ "
as fitted 14 $\frac{1}{4}$ "

Material of screw shaft

Iron

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

the propeller boss

no

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 and non-corrosive

no

If two

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

Lapped with canvas &c. at ends of liner

Length of stern bush

4-6"

Dia. of Tunnel shaft

as per rule 11 $\frac{1}{2}$ "
as fitted 12 $\frac{1}{2}$ "

Dia. of Crank shaft journals

as per rule 12 $\frac{1}{2}$ "
as fitted 13 $\frac{1}{2}$ "

Dia. of Crank pin

14"

Size of Crank webs 19 \times 8 $\frac{1}{2}$ "

Dia. of thrust shaft under

Collars 14 $\frac{1}{2}$ to 13 $\frac{3}{8}$ "

Dia. of screw

16-6"

Pitch of Screw

14-9"

No. of Blades

4

State whether moveable

no

Total surface

95 $\frac{1}{2}$ "

No. of Feed pumps

2

Diameter of ditto

8 $\frac{1}{8}$ "

Stroke

28"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 $\frac{7}{8}$ "

Stroke

28"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

7 \times 4 $\frac{1}{2}$ " \times 6" duplex
4 \times 8 $\frac{1}{2}$ " \times 10"

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

In Engine Room how 4-3" (originally 2")

In Holds, &c. 2-3" in each hold except in the after

hold where there is one 3", and in the after well where there is one 2 $\frac{1}{2}$ "

No. of Bilge Injections

one

size 6"

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes 4"

Are 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

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

those to the fore holds

How are they protected

By wooden casings.

Are 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

Dates of examination of completion of fitting of Sea Connections

25/4/06

of Stern Tube

25/4/06

Screw shaft and Propeller

25/4/06

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

C.R. Upper platform

OILERS, &c.—(Letter for record S)

Manufacturers of Steel

Lecato Hinge & Mandale Iron works

Total Heating Surface of Boilers

4404 $\frac{1}{2}$ "

Is Forced Draft fitted

yes

No. and Description of Boilers

2 Primary Multitubular type

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

15.6.1900

No. of Certificate

Italian Register

Can each boiler be worked separately

yes

Area of fire grate in each boiler

68 $\frac{1}{2}$ "

No. and Description of Safety Valves to

each boiler

2 Spring

Area of each valve

11.040"

Pressure to which they are adjusted

180 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers

14-9"

Length

11-6"

Material of shell plates

steel

Thickness

1 $\frac{1}{2}$ "

Range of tensile strength

28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

double

long. seams

per pitch

Diameter of rivet holes in long. seams

1 $\frac{1}{4}$ "

Pitch of rivets

8 $\frac{1}{2}$ \times 4 $\frac{1}{4}$ "

Lap of plates or width of butt straps

19"

Per centages of strength of longitudinal joint

rivets 86.00
plate 85.65

Working pressure of shell by rules

186.5

Size of manhole in shell

16 $\frac{1}{2}$ " \times 13"

Size of compensating ring

30 \times 28 \times 1 $\frac{1}{2}$ "

No. and Description of Furnaces in each boiler

3 Morrison's type

Material

steel

Outside diameter

4 $\frac{1}{2}$ \times 4 $\frac{1}{2}$ "

Length of plain part

top -
bottom -

Thickness of plates

crown 1 $\frac{1}{2}$ "
bottom 1 $\frac{1}{4}$ "

Description of longitudinal joint

welded

No. of strengthening rings

none

Working pressure of furnace by the rules

171

Combustion chamber plates: Material

steel

Thickness: Sides

1 $\frac{1}{2}$ "

Back

1 $\frac{1}{2}$ "

Top

1 $\frac{1}{2}$ "

Bottom

1"

Pitch of stays to ditto: Sides

8 $\frac{1}{2}$ \times 7 $\frac{1}{2}$ "

Back

8 $\frac{1}{2}$ \times 7 $\frac{1}{2}$ "

Top

8 \times 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

180.5 lbs

Material of stays

steel

Diameter at smallest part

1 $\frac{3}{4}$ \times 1 $\frac{3}{8}$ "

Area supported by each stay

65.65

Working pressure by rules

234.0

End plates in steam space:

Material

steel

Thickness

1 $\frac{1}{2}$ "

Pitch of stays

14 $\frac{1}{2}$ \times 14 $\frac{1}{2}$ "

How are stays secured

nuts & washers

Working pressure by rules

240

Material of stays

steel

Diameter at smallest part

2 $\frac{1}{2}$ \times 2 $\frac{1}{2}$ "

Area supported by each stay

258.0

Working pressure by rules

190

Material of Front plates at bottom

steel

Thickness

1 $\frac{1}{2}$ "

Greatest pitch of stays

12 $\frac{3}{4}$ \times 8"

Working pressure of plate by rules

273

Thickness

1 $\frac{1}{2}$ "

Material of Lower back plate

steel

Thickness

1 $\frac{1}{2}$ "

Mean pitch of stays

7 $\frac{1}{2}$ \times 7 $\frac{1}{2}$ "

Pitch of tubes

3 $\frac{3}{4}$ \times 3 $\frac{3}{4}$ "

Material of tube plates

steel

Thickness: Front

1 $\frac{1}{2}$ "

Diameter of tubes

2 $\frac{1}{2}$ "

Pitch across wide water spaces

13 $\frac{1}{2}$ \times 7 $\frac{1}{2}$ "

Working pressures by rules

493

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

7 $\frac{3}{4}$ \times (2 \times 4 $\frac{1}{2}$)

Length as per rule

2-7

Distance apart

8"

Working pressure by rules

180

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

✓

Diameter

✓

Length

✓

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. ☒ Description *For donkey boiler see separate sheet.*

Made at ☒ By whom made ☒ When made ☒ Where fixed ☒

Working pressure ☒ tested by hydraulic pressure to ☒ Date of test ☒ No. of Certificate ☒ Fire grate area ☒ Description of ☒

Valves ☒ No. of Safety Valves ☒ Area of each ☒ Pressure to which they are adjusted ☒ Date of adjustment ☒

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 ☒

Working pressure of shell by rules ☒ 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 ☒

Working pressure of furnace by rules ☒ Thickness of furnace crown plates ☒ Stayed by ☒

Diameter of uptake ☒ Thickness of uptake plates ☒ Thickness of water tubes ☒ Dates of survey ☒

SPARE GEAR. State the articles supplied:— 2 top & 2 bottom end bolts and nuts, 2 main bearing bolts, 1 set of coupling bolts, one set of feed and bilge pump valves, a set of piston springs and rings for each cylinder, a quantity of assorted bolts & nuts & iron of various sizes. One propeller. One feed & one pump ram, one set of bottom and frames, one valve spindle, one air & one circulating pump rod.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building ☒ During progress of work in shops ☒ *see Mr. Shuttlepool surveyor's report.*

☒ During erection on board vessel ☒ *class withdrawn before engines began to be erected on board.*

Total No. of visits ☒ *84 see Mr. Shuttlepool report.*

Is the approved plan of main boiler forwarded herewith ☒

Dates of Examination of principal parts—Cylinders ☒ Slides ☒ Covers ☒ Pistons ☒ Rods ☒

Connecting rods ☒ Crank shaft ☒ Thrust shaft ☒ Tunnel shafts ☒ Screw shaft ☒ Propeller ☒

Stern tube ☒ Steam pipes tested ☒ Engine and boiler seatings ☒ Engines holding down bolts ☒

Completion of pumping arrangements ☒ Boilers fixed ☒ Engines tried under steam ☒

Main boiler safety valves adjusted ☒ Thickness of adjusting washers ☒

Material of Crank shaft ☒ Identification Mark on Do. ☒ Material of Thrust shaft ☒ Identification Mark on Do. ☒

Material of Tunnel shafts ☒ Identification Marks on Do. ☒ Material of Screw shafts ☒ Identification Marks on Do. ☒

Material of Steam Pipes ☒ *Copper* Test pressure ☒ *double working pressure*

General Remarks (State quality of workmanship, opinions as to class, &c. *This vessel's machinery was examined during survey, and the engines shipped to the builders. The class was however withdrawn before the engines were fitted on board. The whole of the engines have been opened up & examined, the boilers & their safety valves opened & examined & the leading dimensions of engines & boilers measured & found to be as enumerated above. The pumping arrangements & sea cocks & connections examined & verified, & extra E.R. bilge suction fitted at the fore end of E & B space & sundry pipes renewed where damaged by wear & tear. The vessel will therefore be eligible in my opinion to be classed as regards the machinery with the notation of + L.M.C. 5.06 when safety valves have been adjusted under steam.*

Note. In view of the fact that these boilers & steam pipes were tested by the Register of Shipping at the commencement of their career to double the working pressure, and that that Society submits them to a hydraulic pressure of $1\frac{1}{2}$ times the working pressure biennially, also that they are found in good order now, it was not considered necessary to submit them to a hydraulic pressure at this survey.

The amount of Entry Fee. £ ☒ : ☒ : ☒

Special ☒ *see Mr. Shuttlepool report* £ 28.4 : ☒ *May 17 1906*

Donkey Boiler Fee £ 12.12 : ☒ *already paid*

Travelling Expenses (if any) £ ☒ : ☒ : ☒ *25/5/06*

When applied for, *May 17 1906*

When received, *30/5/06*

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

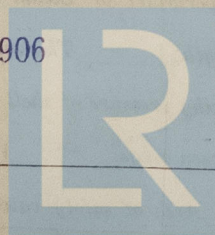
Committee's Minute

JUES. 22 MAY 1906

FRI. 31 AUG 1906

Assigned

in minute on attached rpt.



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