

REPORT ON MACHINERY.

No. 4503

Port of MIDDLESBROUGH-ON-TEES.

FRI. 6 APL 1906

Received at London Office

19

No. in Survey held at

Stockton

Date, first Survey 8th Jan'y 1906Last Survey 30th March 1906

Reg. Book.

48 Supplement on the Steel S.S. "EDA".

(Number of Visits 30.)

Gross 2650

Tons

Net

Master

Built at Stockton

By whom built Richardson Duck & Co

When built 1906

Engines made at

Stockton

By whom made

Blain & Co Ltd

when made 1906

Boilers made at

Stockton

By whom made

Blain & Co Ltd

when made 1906

Registered Horse Power

Owners

Burdick & Cook

Port belonging to London

Nom. Horse Power as per Section 28

257

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Direct acting trip expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

23-38-62½

Length of Stroke

42

Revs. per minute

57

Dia. of Screw shaft

as per rule 13-8

Material of

W iron

Is the 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

in the propeller boss

Yes

If the liner is in more than one length are the joints burned

No

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

Yes

If two

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

Yes

Length of stern bush

5'-0"

Dia. of Tunnel shaft

as per rule 11-44

Dia. of Crank shaft journals

as per rule 11-58

Dia. of Crank pin

12¾

Size of Crank webs

19¾x8½

Dia. of thrust shaft under

collars

12¾

Dia. of screw

16-6

Pitch of screw

16 feet

No. of blades

4

State whether moveable

No

Total surface

76 ft

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4½"

Stroke

30"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Two

Sizes of Pumps

Ballast 9x10 Feed 4x8

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

In Engine Room

Two 3" diam

One 3½" diam In Holds, &c. Two each hold 3" diam

Tunnel well, 2½" diam

No. of bilge injections

1

sizes

6½"

Connected to condenser, or to circulating pump

L.P.

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

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

None

How are they protected

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

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

New vessel

Is the screw shaft tunnel watertight

See ship's report.

Is it fitted with a watertight door

Yes

worked from

Top platform.

BOILERS, &c.—No. of Certificate

3610

(Letter for record

S)

Total Heating Surface of Boilers

3900 ft

Is forced draft fitted

No

No. and Description of Boilers

Two Cylindrical Tubular

Working Pressure

160 lb

Tested by hydraulic pressure to

320 lb

Date of test

23-2-06

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

55 ft

No. and Description of safety valves to

each boiler

Two Spring

Area of each valve

8.29 ft

Pressure to which they are adjusted

165 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

dia. of boilers

15'-0"

Length

10'-0"

Material of shell plates

Steel

Thickness

1/32

Range of tensile strength

20/32

Are they welded or flanged

No

Descrip. of riveting: cir. seams

2 D 7 in

long. seams

D Butt Shop

Diameter of rivet holes in long. seams

1¼"

Pitch of rivets

One row 8½" Two 4½"

Lap of plates or width of butt straps

1'-6½"

Per centages of strength of longitudinal joint

rivets 92.8 %

plate 89.2 %

Working pressure of shell by rules

165 lb

Size of manhole in shell

17" x 13"

Size of compensating ring

31x27 x 1/32

No. and Description of Furnaces in each boiler

3 Composite

Material

Steel

Length of plain part

top 6'-3"

bottom 6'-6¾"

Thickness of plates

crown 1/2 1/32

bottom 1/2 1/32

Description of longitudinal joint

Welded

No. of strengthening rings

No

Working pressure of furnace by the rules

177 lb

Combustion chamber plates: Material

Steel

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

3/4"

Pitch of stays to ditto: Sides

9½x9½

Back

9½x9½

Top

9½x9½

If stays are fitted with nuts or riveted heads

None

Working pressure by rules

171 lb

Material of stays

Steel

Diameter at smallest part

1 9/16"

Area supported by each stay

95 ft

Working pressure by rules

181.5 lb

Material

Steel

Thickness

1/32

Pitch of stays

19x20

How are stays secured

Nuts & 10"

Working pressure by rules

166 lb

Material of stays

Steel

Diameter at smallest part

2 7/8"

Area supported by each stay

330 ft

Working pressure by rules

170 lb

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

1"

Greatest pitch of stays

16x9¾"

Working pressure of plate by rules

197 lb

Diameter of tubes

3 1/4"

Pitch of tubes

14½x4 7/8"

Material of tube plates

Steel

Thickness: Front

1"

Back

1 5/16"

Mean pitch of stays

10 7/8"

Pitch across wide water spaces

14½"

Working pressures by rules

182 lb

Girders to Chamber tops: Material

Steel

Thickness of girder at centre

7x1½"

Length as per rule

26 1/4"

Distance apart

9¾"

Number and pitch of Stays in each

Two

9½"

Working pressure by rules

169 lb

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Yes

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

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

How stayed

No

No

No

No

No

No

No

No

No

No

No

No

No

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

DONKEY BOILER— No. Description
Made at By whom made Date of test 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 ca
enter the donkey boiler Dia. of donkey boiler Length Material of shell plates Thickness Range of tensi
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
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:— Set of top & bottom end connecting rod
bolts & nuts. Set of coupling bolts & nuts. Two main beam bolts &
nuts. Set of feed & bilge pump valves N & M P piston rings. 1 P piston
springs. Two main & donkey check valves. Bolts & nuts assorted &
The foregoing is a correct description,
FOR BLAIR & CO., LIMITED. Manufacturer.
W. Borrie

SECRETARY.
Dates During progress of work in shops— 1906 Jan 8.16.22.30. Feb 5.5.7.8.9.12.12.15.19.20.21.23. March 2.5.6.8.
of Survey During erection on board vessel— 12.13.14.15.19.19.21.22.24.30.
while building Total No. of visits Thirty Is the approved plan of main boiler forwarded herewith No. 136
" " " donkey " " "

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

The engines and boilers of this vessel have been
constructed under Special Survey, the materials
and workmanship are good and efficient and
when tested under steam were found satisfactory
and in my opinion now eligible for the notation
+ L.M.C. 3.06. in the Register Book

It is submitted that
this vessel is eligible for
THE RECORD L.M.C. 3.06.

6.4.06
6.4.06

The amount of Entry Fee.. £ 2 : : : When applied for,
Special £ 32 : 14 : : 4.4.1906
Donkey Boiler Fee £ : : : When received,
Travelling Expenses (if any) £ : : : 4.4.1906

Committee's Minute

TUES. 10 APR 1906

Assigned

+ Lmc 3.06

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



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Foundation

MACHINERY CERTIFICATE
WRITTEN