

ED FROM
YOR.

REPORT ON MACHINERY.

3546

No. 3546
No. 34320

Port of LIVERPOOL

Received at London Office

No. in Survey held at Liverpool

Date, first Survey Jan 25th 88 Last Survey May 1st 1889

Reg. Book
No. on the

S. S. "Brandenburg"

(Number of Visits 27)

Tons 999.13
1567.54

Master

Hoach

Built at

Londonderry

By whom built

C. J. Biggen

When built

1889

Engines made at

Liverpool

By whom made

D. Rollo & Sons

when made

1889

Boilers made at

Do

By whom made

Do

when made

"

Registered Horse Power

250

Owners

Liverpool & Manchester R.C. Co.

Port belonging to

Liverpool

ENGINES, &c.—

Description of Engines

Triple expansion, direct acting, surface condensing.

Diameter of Cylinders

23-37-59

Length of Stroke

42

No. of Rev. per minute

75

Point of Cut off, High Pressure

2

Low Pressure

2

Diameter of Screw shaft

12

Diam. of Tunnel shaft

11 1/2

Diam. of Crank shaft journals

12

Diam. of Crank pin

12

size of Crank webs

20 1/2 x 8

Diameter of screw

14-0

Pitch of screw

17-0

No. of blades

4

state whether moveable

No

total surface

5507 sq ft

No. of Feed pumps

2

diameter of ditto

6

Stroke

18

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

diameter of ditto

3 3/4

Stroke

27

Can one be overhauled while the other is at work

Yes

Where do they pump from

Engine room bilges, stoke hole, All holds & after well

No. of Donkey Engines

One

Size of Pumps

9 x 7

Where do they pump from

All holds, tanks

Engine & stoke hole bilges, after well & sea

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

4 3/4

Are they connected to condenser, or to circulating pump

Circulating pump

How are the pumps worked

Levers from after engine

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

How are pipes carried through the bunkers

Suction pipes to fore holds

How are they protected

Wood casing

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

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

See Belfast report

Is the screw shaft tunnel watertight

Yes

and fitted with a sluice door

Yes

worked from

Top platform

BOILERS, &c.—

Number of Boilers

One

Description

Cylindrical, double ended

Whether Steel or Iron

Steel

Working Pressure

150 lb

Tested by hydraulic pressure to

300 lb

Date of test

31-12-88

Description of superheating apparatus or steam chest

None

Can each boiler be worked separately

—

Can the superheater be shut off and the boiler worked separately

—

Area of square feet of fire grate surface in each boiler

115 sq ft

Description of safety valves

Spring

No. to each boiler

Two

Area of each valve

15.04

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

11"

Diameter of boilers

15-0

Length of boilers

17-0

Description of riveting of shell long. seams

Strap butt strap

circum. seams

Lap. tube double

Thickness of shell plates

1 1/4

Diameter of rivet holes

1 1/4

whether punched or drilled

Drilled

pitch of rivets

3 3/8 x 7 3/4

Lap of plating

17 3/4 strap

percentage of strength of longitudinal joint

83

Working pressure of shell by rules

151 lb

size of manholes in shell

16 x 12

No. of compensating rings

6 x 1 3/8

No. of Furnaces in each boiler

6

Side diameter

3-10

length, top

5-9

bottom

5-9

thickness of plates

9/16

Description of joint

Welded Fox Patent

Least length between rings

—

working pressure of furnace by the rules

152 lb

combustion chamber plating, thickness, sides

1/2

back

—

Thickness of stays to ditto, sides

7 x 7

back

top Plate stays

—

If stays are fitted with nuts or riveted heads

Nuts

working pressure of plating by

rules

Working pressure of stays at smallest part

150 lb

Diameter of stays at smallest part

1 1/8

working pressure of ditto by rules

150 lb

end plates in steam space, thickness

1 1/2 doubled 3/4

thickness of stays at

smallest part

Working pressure by rules

162 lb

Front plates at bottom, thickness

3"

Back plates, thickness

—

Least pitch of stays

—

working pressure by rules

—

Diameter of tubes

3 1/2

pitch of tubes

4 3/4 x 4 3/4

thickness of tube

—

Plating, front

7/8

back

3/4

how stayed

Stay tubes

pitch of stays

9 1/2 x 9 1/2

width of water spaces

—

Description of Superheater or Steam chest

—

length

—

thickness of plates

—

Description of longitudinal joint

—

diam. of rivet holes

—

No. of rivets

—

working pressure of shell by rules

—

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

—

how stayed

—

Superheater or steam chest; how connected to boiler

—

Lloyd's Register Foundation

2019

DONKEY BOILER— Description *Vertical & cylindrical. Blake's Patent.*
 Made at *Manchester* by whom made *J Blake* when made *1889* where fixed *Stake hole*
 Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *774* fire grate area _____ description of safe _____
 valves *Spring* No. of safety valves *Two* area of each *4.9* if fitted with easing gear *Yes* if steam from main boilers _____
 enter the donkey boiler *No* diameter of donkey boiler *6.0* length *14.6* description of riveting *Lap donkey riv*
 Thickness of shell plates *13/32* diameter of rivet holes *7/16* whether punched or drilled *Drill* pitch of rivets *2 3/4* lap of plating *4 1/4*
 per centage of strength of joint *60* thickness of crown plates *1 1/2* stayed by *Hemispherical*
 Diameter of furnace, top *2.1* bottom *4.10* length of furnace *3.4* thickness of plates *1/2* description of joint *Lap riv riv.*
 Thickness of furnace crown plates *3/4 back 7/8* stayed by *Stay tubes* working pressure of shell by rules *82*
 Working pressure of furnace by rules *80 lb* diameter of uptake *1.10* thickness of plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Propeller, crank shaft, connecting and bel*
& nuts, two main bearing bolts, set of coupling bolts, spare set of
feed and bilge pump valves, two bolts of spindle &c &c.

The foregoing is a correct description,
David Rolton & Sons Manufacturer. of main engines & boiler.

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

The machinery of this vessel has been constructed under special survey, the materials and workmanship have been found good and efficient.

The engines and boilers have been tested under steam and found satisfactory, and in my opinion they are in good and safe working condition, and eligible for the notification **+ L.M.C. 5.89.** in the Register Book.

For sea connections and fastenings, see Belfast Report No 3547 attached.

It is submitted that this vessel is eligible to have **+ L.M.C. 5.89.** recorded. *M.A.*
6.5.89

The amount of Entry Fee ... £ **2 : 0 : 0** received by me, *2 MAY 89*
 Special ... £ **32 : 10 : 0**
 Donkey Boiler Fee ... £ : :
 Certificate (if required) ... £ : :
 To be sent as per margin.
 Travelling Expenses, if any, £ _____

Committee's Minute **LIVERPOOL** *May 3rd 1889*
+ Rule 5/89

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

Liverpool
 Transmit Report to London.
 Lloyd's Register Foundation

7/5/89