

REPORT ON MACHINERY.

Mat No. 1354
H. H. 9525

MON. 19 NOV 1894

Port of Middlesbrough on Tees.

Received at London Office

18

No. in Survey held at Stockton on Tees.
Reg. Book.

Date, first Survey

16th June

Last Survey

1st Nov. 1894

(Number of Visits

30

on the Screw Steamer "Kellie"

Gross 1900
Net 1217

Master Mos. Shotton

Built at West Hartlepool

By whom built

Furness, Withy & Co. L^d

When built 1894

Engines made at Stockton on Tees

By whom made

Blair & Co. L^d

when made 1894

Boilers made at Stockton on Tees

By whom made

Blair & Co. L^d

when made 1894

Registered Horse Power 190

Owners

Burdick & Cook

Port belonging to

London

Nom. Horse Power as per Section 28 192
Manufacturers 185

ENGINES, &c.—

Description of Engines

Triple expansion

No. of Cylinders

Three

Diameter of Cylinders

21½" - 35" - 54"

Length of Stroke

36"

Revolutions per minute

65

Diameter of Screw shaft

as per rule 9.9"
as fitted 11½"

Diameter of Tunnel shaft

as per rule 9.4"
as fitted 10¾"

Diameter of Crank shaft journals

11"

Diameter of Crank pin

11½"

Size of Crank webs 18½" x 6¾" built

Diameter of screw

15' 0"

Pitch of screw

15' 6"

No. of blades

4

State whether moveable

No

Total surface 61 sq. ft.

No. of Feed pumps

2

Diameter of ditto

2½"

Stroke

26"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3½"

Stroke

26"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Two

Sizes of Pumps

(4" x 8")

(7½" x 9")

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

Engine Room

Three

P. 2½" dia.

C. 3" dia.

S. 2½" dia.

In Holds, &c. Fore Hold: one - 3" dia.

After Hold: one - 3" dia. Tunnel well: one - 2½" dia.

No. of bilge injections

1

sizes

6"

Connected to condenser, or to circulating pump

C.P.

Is a separate donkey suction fitted in Engine room of size Yes: 4" dia.

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

No Sluices

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

Yes

Is it fitted with a watertight door

Yes

worked from Upper platform

BOILERS, &c.—

(Letter for record S)

Total Heating Surface of Boilers

2850 sq. ft.

No. and Description of Boilers

One: Cylindrical metal. Fired both ends

Working Pressure

160 lbs.

Tested by hydraulic pressure to 320 lbs.

Date of test

30/8/94

Can each boiler be worked separately

—

Area of fire grate in each boiler

63½ sq. ft.

No. and Description of safety valves to

each boiler

Two: Direct Spring

Area of each valve

8.29"

Pressure to which they are adjusted

165 lbs.

Are they fitted

with casing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

About 12"

Mean diameter of boiler

13' 0½"

Length

15' 0"

Material of shell plates

Steel

Thickness

1½"

Description of riveting: circum. seams Lap Double long. seams Double Butts straps

Diameter of rivet holes in long. seams

1½"

Pitch of rivets

7½"

3½"

Lap of plates or width of butt straps 16½" x 1" thick

Per centages of strength of longitudinal joint

93.4%

Working pressure of shell by rules

166 lbs.

Size of manhole in shell

16" x 12"

Size of compensating ring

28" x 24" x 1½"

Length of plain part

5' 6"

Thickness of plates

1½"

Description of longitudinal joint

Welded

No. of strengthening rings

—

Working pressure of furnace by the rules

181 lbs.

Pitch of stays to ditto: Sides

7½" x 7½"

Back

—

Top

7½" x 7½"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

182 lbs.

Material of stays

Iron

Diameter at smallest part

1½"

Area supported by each stay

56"

Working pressure by rules

140 lbs.

Material

Steel

Thickness

1½"

Pitch of stays

17½" x 17½"

How are stays secured

Double Nuts

Working pressure by rules

140 lbs.

Diameter at smallest part

2½"

Area supported by each stay

294"

Working pressure by rules

163 lbs.

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

—

Thickness

—

Greatest pitch of stays

—

Working pressure of plate by rules

—

Diameter of tubes

3"

Pitch of tubes

14½" x 4½"

Material of tube plates

Steel

Thickness

1"

Back

1½"

Mean pitch of stays

8' 8"

Pitch across wide water spaces

14"

Working pressures by rules

195 lbs.

Girders to Chamber tops

Material

Steel

Depth and

—

thickness of girder at centre

8½" x 1½"

Length as per rule

36"

Distance apart

7½"

Number and pitch of Stays in each

4: 7½"

Working pressure by rules

140 lbs.

Superheater or Steam chest; ~~how~~ connected to boiler

None

Can the superheater be shut off and the boiler worked

—

separately

Diameter

Length

Thickness of shell plates

Material

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

DONKEY BOILER— Description *Vertical multi. Blakes patent.*
 Made at *Middlesbro.* By whom made *Copley, Turner & Co. L^d* When made *24/9/94* Where fixed *In Stoke New.*
 Working pressure *40 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *925* Fire grate area *17 1/2* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *4.91* Pressure to which they are adjusted *74 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *6' 0"* Length *13' 0"* Material of shell plates *Steel* Thickness *3/32"*
 Description of riveting long. seams *Lap double.* Diameter of rivet holes *3/16"* Whether punched or drilled *Drilled* Pitch of rivets *2 1/2"*
 Lap of plating *4 1/4"* Per centage of strength of joint Rivets *74* Plates *70.4* Thickness of shell crown plates *3/8"* Radius of do. *Semi-circular* No. of Stays to do. —
 Dia. of stays. — Diameter of furnace Top *2' 1 1/2"* Bottom *5' 3"* Length of furnace *5 feet* Thickness of furnace plates *1/2"* Description of joint *Lap Single* Thickness of ~~furnace crown~~ *Conical* plates *1/2"* Stayed by *1 1/2"* ~~Stays~~ *Stays* *10 1/2"* Working pressure of shell by *81 lbs.*
 Working pressure of furnace by rules *88 lbs.* Diameter of ~~tubes~~ *tubes* *2 3/4"* Thickness of ~~uptake~~ *tube* plates *3/16"* *3/4"* Thickness of water tubes *1/28*

SPARE GEAR. State the articles supplied:— *Propeller, 2 main Bearing Bolts, 2 brass head Bolts, 2 Crank pin Bolts, 1 set Coupling Bolts, 2 feed pump valves 2 main & 2 donkey check valves, piston Springs, 6 boiler tubes, nuts, bolts & iron assorted.*

The foregoing is a correct description,

FOR BLAIR & Co., LIMITED.

W. Borrie

SECRETARY

Manufacturer of main Engines & Boilers.

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

The Engines and Boilers have been built under survey and the materials and workmanship are good. When fitted in position on board the vessel, they were tried under steam and worked satisfactorily.

The machinery is now in good and efficient condition and will be eligible in my opinion to have the notation of L.M.C. 11, 94 marked in the Register Book when the following work has been completed: viz: The donkey Boiler to be secured in place, its mountings fitted and examined under steam; Watertight doors to be fitted and Tunnel made watertight; and spare gear to be examined. The above mentioned fittings have been satisfactorily finished and spare part supplied in accordance with the Rules.

Richard Austri

It is submitted that
 this vessel is eligible for
 THE RECORD + L.M.C. 11-94

W.A.

19-11-94

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 2 : " : "	When applied for,
Special	£ 28 : 16 : "	17. 11. 94
Donkey Boiler Fee .. .	£ : : "	When received,
Travelling Expenses (if any) £	: : "	17. 11. 94

Committee's Minute

TUES. 20 NOV 1894

Assigned

+ L.M.C. 11.94

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



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 Foundation