

REPORT ON MACHINERY.

No. 3897

WED. 7 OCT 1903

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office _____

No. in Survey held at Stockton

Date, first Survey August 6, 1903 Last Survey September 19, 1903

Reg. Book.

(Number of Visits 7)

on the _____

Tons ^{Gross}
_{Net}

Master _____

Built at _____

By whom built _____

When built _____

Engines made at _____

By whom made Wm. Crabtree & Co. Ltd.

when made _____

Boilers made at Stockton

By whom made Miley Bros. Shop No 3307 when made 1903

Registered Horse Power _____

Owners _____

Port belonging to _____

Nom. Horse Power as per Section 28 _____

Is Refrigerating Machinery fitted _____

Is Electric Light fitted _____

ENGINES, &c.—Description of Engines

No. of Cylinders _____

No. of Cranks _____

Dia. of Cylinders _____

Length of Stroke _____

Revs. per minute _____

Dia. of Screw shaft _____

as per rule
as fitted

Material of
screw shaft

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

Is the after end of the liner made water tight _____

in the propeller boss _____ 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 _____

If two _____

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

Length of stern bush _____

Dia. of Tunnel shaft _____

Dia. of Crank shaft journals _____

Dia. of Crank pin _____

Size of Crank webs _____

Dia. of thrust shaft under _____

collars _____

Dia. of screw _____

Pitch of screw _____

No. of blades _____

State whether moceable _____

Total surface _____

No. of Feed pumps _____

Diameter of ditto _____

Stroke _____

Can one be overhauled while the other is at work _____

No. of Bilge pumps _____

Diameter of ditto _____

Stroke _____

Can one be overhauled while the other is at work _____

No. of Donkey Engines _____

Sizes of Pumps _____

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

In Engine Room _____

In Holds, &c. _____

No. of bilge injections _____

sizes _____

Connected to condenser, or to circulating pump _____

Is a separate donkey suction fitted in Engine room & size _____

Are all the bilge suction pipes fitted with roses _____

Are the roses in Engine room always accessible _____

Are the sluices on Engine room bulkheads always accessible _____

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

Are they Valves or Cocks _____

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____

Are the discharge pipes above or below the deep water line _____

Are they each fitted with a discharge valve always accessible on the plating of the vessel _____

Are the blow off cocks fitted with a spigot and brass covering plate _____

What pipes are carried through the bunkers _____

How are they protected _____

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

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

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

Is the screw shaft tunnel watertight _____

Is it fitted with a watertight door _____

worked from _____

BOILERS, &c.—

(Letter for record S)

Total Heating Surface of Boilers 5524

Is forced draft fitted _____

No. and Description of Boilers One cylindrical & multitubular

Working Pressure 130 lb

Tested by hydraulic pressure to 260 lb

Date of test 29-9-03 Can each boiler be worked separately _____

Area of fire grate in each boiler 224

No. and Description of safety valves to _____

each boiler _____

Area of each valve _____

Pressure to which they are adjusted _____

Are they fitted with easing gear _____

Smallest distance between boilers or uptakes and bunkers or woodwork _____

Mean dia. of boilers 8'-6"

Length 8'-0"

Material of shell plates Steel

Thickness 2 1/32

Range of tensile strength 28/32

Are they welded or flanged No

Descrip. of riveting: cir. seams Dk laps long. seams Butt straps

Diameter of rivet holes in long. seams 15/16

Pitch of rivets 4"

Lap of plates or width of butt straps 9 1/2"

Per centages of strength of longitudinal joint _____

Working pressure of shell by rules 133 lb

Size of manhole in shell 16 x 12

Size of compensating ring 7 1/2 x 2 1/32

No. and Description of Furnaces in each boiler Two plain

Material S

Outside diameter 2'-8"

Length of plain part _____

Thickness of plates _____

Description of longitudinal joint _____

No. of strengthening rings _____

Working pressure of furnace by the rules 130 lb

Combustion chamber plates: Material S

Thickness: Sides 15/32 Back 17/32 Top 1/2" Bottom 9/16

Pitch of stays to ditto: Sides 8 x 6

Back 8 1/4 x 7 1/2

Top 6 x 9

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 150 lb

Material of stays S

Diameter at smallest part 1 1/4"

Area supported by each stay 61-0

Working pressure by rules 200 lb

End plates in steam space: _____

Material S

Thickness 3/4"

Pitch of stays 15 x 14

How are stays secured Nuts

Working pressure by rules 131 lb

Material of stays S

Diameter at smallest part 2 1/8"

Area supported by each stay 210 0

Working pressure by rules 169 lb

Material of Front plates at bottom S

Thickness 3/4"

Greatest pitch of stays 11 x 7 1/2

Working pressure of plate by rules 220 lb

Diameter of tubes 3"

Pitch of tubes 4 x 4

Material of tube plates S

Thickness: Front 3/4"

Back 9/16"

Mean pitch of stays 8"

Pitch across wide water spaces 12 1/2"

Working pressures by rules 133 lb

Girders to Chamber tops: Material S

Depth and _____

thickness of girder at centre 5 1/2 x 1 1/4

Length as per rule 20

Distance apart 9

Number and pitch of Stays in each Two 6

Working pressure by rules 147 lb

Superheater or Steam chest; how connected to boiler Welded

Can the superheater be shut off and the boiler worked _____

separately _____

Diameter 2'-6"

Length 2'-6"

Thickness of shell plates 1/2"

Material S

Description of longitudinal joint Dk

Diam. of rivet _____

holes 13/16

Pitch of rivets 2 1/16

Working pressure of shell by rules 220 lb

Diameter of flue _____

Material of flue plates _____

Thickness _____

If stiffened with rings _____

Distance between rings _____

Working pressure by rules _____

End plates: Thickness 1/2"

How stayed Diagonal & 2 stays

Working pressure of end plates _____

Area of safety valves to superheater _____

Are they fitted with easing gear _____

Lloyd's Register
Foundation

DONKEY BOILER— No. _____ Description _____

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:—

The foregoing is a correct description, *For. Riley Bros.*
 Manufacturer. *J. Riley*

Dates of Survey while building { During progress of work in shops - - } *Aug. 10. Sept. 3. 17. 22. 24. 28. 29.*
 { During erection on board vessel - - }
 Total No. of visits *7.*

Is the approved plan of main boiler forwarded herewith *Retained for duplicate*
 " " " donkey " "

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

The main boiler of dimensions given on the other side has been built under special survey. The materials have been tested as required by the rules, and the workmanship is good. The boiler has been sent away to Plymouth for fitting on board the vessel.

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

The amount of Entry Fee.. £ : : _____
 Special £ *3* : *3* : _____
 Donkey Boiler Fee £ : : _____
 Travelling Expenses (if any) £ : : _____

When applied for, _____
 When received, *11/11/03*

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

Committee's Minute _____ TUES. DEC 23 1903

Assigned _____

