

Rpt. 4.

REPORT ON MACHINERY.

No. 3897

WED. 7 OCT 1903

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office 19

No. in Survey held at Stockton
Reg. Book.Date, first Survey August 16, 1903 Last Survey September 19, 03
(Number of Visits 7)Gross
Tons
Net
When built

Master

Built at

By whom built

Engines made at

By whom made

Mr. Crabtree & Co. Ltd.

when made

Boilers made at

Stockton

By whom made

Miley Bros.Shop No 3307when 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 fittedMaterial 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

as per rule
as fitted

Dia. of Crank shaft journals

as per rule
as fitted

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 moveable

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 pump

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 & multitubularWorking Pressure 130 lbTested by hydraulic pressure to 260 lbDate 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 SteelThickness 2 1/32"Range of tensile strength 28/32Are they welded or flanged NoDescrip. of riveting: cir. seams Dk lapslong. seams Butt strapsDiameter 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

rivets 78.5Working pressure of shell by rules 133 lbSize 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 plainMaterial SOutside diameter 2'-8"

Length of plain part

top 5'-3"bottom 6'-9 1/2"

Thickness of plates

crown 9/16"bottom 7/8"Description of longitudinal joint WeldedNo. of strengthening rings ✓Working pressure of furnace by the rules 130 lbCombustion chamber plates: Material SThickness: 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 NutsWorking pressure by rules 150 lbMaterial of stays SDiameter at smallest part 1 1/4"Area supported by each stay 61-0Working pressure by rules 200 lb

End plates in steam space:

Material SThickness 3/4"Pitch of stays 15" x 14"How are stays secured W & WWorking pressure by rules 131 lbMaterial of stays SDiameter at smallest part 2 1/8"Area supported by each stay 210 0Working pressure by rules 169 lbMaterial of Front plates at bottom SThickness 3/4"Material of Lower back plate SThickness 3/4"Greatest pitch of stays 11" x 7 1/2"Working pressure of plate by rules 220 lbDiameter of tubes 3"Pitch of tubes 4" x 4"Material of tube plates SThickness: Front 3/4"Back 9/16"Mean pitch of stays 8"Pitch across wide water spaces 12 1/2"Working pressures by rules 139 lbGirders 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 lbSuperheater 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 SDescription of longitudinal joint Welded

Diameter of flue

holes 18 1/16"Pitch of rivets 2 1/16"Working pressure of shell by rules 220 lb

Material of flue plates

Thickness

If stiffened with rings ✓Distance between rings ✓Working pressure by rules ✓End plates: Thickness 1/2"How stayed Welded & 2 staysWorking pressure of end plates ✓Area of safety valves to superheater ✓Are they fitted with easing gear ✓Working pressure of end plates ✓Area of safety valves to superheater ✓Are they fitted with easing gear ✓Working pressure of end plates ✓Area of safety valves to superheater ✓Are they fitted with easing gear ✓Working pressure of end plates ✓Area of safety valves to superheater ✓Are they fitted with easing gear ✓Working pressure of end plates ✓Area of safety valves to superheater ✓Are they fitted with easing gear ✓Working pressure of end plates ✓Area of safety valves to superheater ✓Are they fitted with easing gear ✓

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. *Riley*

Dates { During progress of work in shops - - Aug. 6. Sept. 3. 17. 22. 24. 28. 29.
 of Survey { During erection on board vessel - -
 while building { 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 in regard to 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 amount of Entry Fee.. £ : : When applied for, _____

Special £ 3 : 3 : When received, _____

Donkey Boiler Fee £ : : _____

Travelling Expenses (if any) £ : : _____

Committee's Minute _____

Assigned _____

TUES. DEC 23 1903

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

