

REPORT ON MACHINERY.

No. 4926

Port of

MIDDLESBROUGH-ON-TEES

THUR. FEB 14 1907

Received at London Office

19

No. in Survey held at

Middlesbrough

Date, first Survey

30th March 1906

Last Survey

5th Feb. 1907

Reg. Book.

(Number of Visits

56)

72 Supp on the

S. S. "Maud"

Tons

Gross 2117

Net 1350

Master H. Stranger

Built at

Fevig

By whom built

Frigs Jernstølsbyggeri

When built

Engines made at

Middlesbrough

By whom made

Richardsons Westgarth & Co

when made

1907

Boilers made at

ditto

By whom made

ditto

when made

1907

Registered Horse Power

owners Acties Maud (Hjalmar Roed & Co)

Port belonging to

Tönsberg

Nom. Horse Power as per Section 28

230

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

22"-36"-59"

Length of Stroke

39"

Revs. per minute

Dia. of Screw shaft

as per rule 11.83

Material of

Ingot Steel

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

yes

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

fitting

If two

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

yes

Length of stern bush

4'-7"

Dia. of Tunnel shaft

as per rule 10.8

Dia. of Crank shaft journals

as per rule 11.34

Dia. of Crank pin

11 3/4"

Size of Crank webs

7 3/4" x 18 1/2"

Dia. of thrust shaft under

collars

11 3/4"

Dia. of screw

14'-0"

Pitch of Screw

16'-0"

No. of Blades

4

State whether moveable

no

Total surface

65 ft²

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2 duplex

Sizes of Pumps

6' x 4' x 6'

8' x 8' x 10"

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

In Engine Room

Four of 3"

In Holds, &c. Fore hold two of 2 3/4"

No. of Bilge Injections

one sizes

6"

Connected to condenser, or to circulating pump

C.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

yes

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

about level with

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

fitted at Fevig.

What pipes are carried through the bunkers

none

How are they protected

yes

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

Dates of examination of completion of fitting of Sea Connections

Fevig

of Stern Tube

23-1-07

Screw shaft and Propeller

23-1-07.

Is the Screw Shaft Tunnel watertight

see ship report

is it fitted with a watertight door

yes

worked from

upper grating

BOILERS, &c.—(Letter for record (S))

Manufacturers of Steel

Clyde Bridge Steel Co. Ltd

Total Heating Surface of Boilers

3454 ft²

Is Forced Draft fitted

no

No. and Description of Boilers

Two. Cyl. Mult. Single ended

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

4-12-06

No. of Certificate

3820

Can each boiler be worked separately

yes

Area of fire grate in each boiler

55 1/2 sq ft.

No. and Description of Safety Valves to

each boiler

each boiler

2 direct spring

Area of each valve

7"

Pressure to which they are adjusted

185 lb

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

15"

Mean dia. of boilers

13'-9"

Length

10'-6"

Material of shell plates

Steel

Thickness

1 3/4"

Range of tensile strength

28/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR L.

long. seams

DR Butt Strap

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

8" row top of plates or width of butt straps

1'-6"

15 outer 1 1/2 inner

Per centages of strength of longitudinal joint

rivets 90.5

plate 85.15

Working pressure of shell by rules

182

Size of manhole in shell end

16' x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

Three plain

Material

Steel

Outside diameter

3'-6"

Length of plain part

top 6'-5 1/2"

Thickness of plates

crown 4 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

183

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/8"

Back

1 1/8"

Top 2 3/32"

Bottom 1 1/8"

Pitch of stays to ditto: Sides

8 1/2" x 10"

Back

9 3/4" x 9 3/4"

Top

13 1/2" x 7"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

181

Material of stays

S. S.

Area at smallest part

2' x 0.9"

Area supported by each stay

86.5"

Working pressure by rules

180

End plates in steam space:

Material

Steel

Thickness

1 1/4"

Pitch of stays

20 1/4" x 19"

How are stays secured

DR & W

Working pressure by rules

189

Material of stays

Steel

Area at smallest part

8' x 2.9"

Area supported by each stay

40.4"

Working pressure by rules

205

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

1 1/8"

Greatest pitch of stays

15' x 9 3/4"

Working pressure of plate by rules

189

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

1"

Back

1 3/16"

Mean pitch of stays

1 1/4"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

189

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

10 1/2" Cent.

Length as per rule

2'-7"

Distance apart

12' Cent.

Number and pitch of stays in each

Three 7"

Working pressure by rules

181

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

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

How stayed

If stiffened with rings

VERTICAL DONKEY BOILER—

Manufacturers of Steel

Clyde Bridge Steel Co. Ltd

No. One Description Blake's patent.
 Made at Middlesbrough By whom made Richardson Westgarth & Co. Ltd When made 1906 Where fixed Stokehold
 Working pressure 100 lb Tested by hydraulic pressure to 200. Date of test 28.11.06 No. of Certificate 3815 Fire grate area 24 1/2 Description of Safety
 Valves direct spring No. of Safety Valves 2 Area of each 4.91 Pressure to which they are adjusted 100 lb Date of adjustment 5.2.07
 If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 7'-0" Length 15'-0"
 Material of shell plates Steel Thickness 9/16" Range of tensile strength 27/32 Descrip. of riveting long. seams DR Lap
 Dia. of rivet hole 5/16" Whether punched or drilled drilled Pitch of rivets 3" Lap of plating 4 5/8" Per centage of strength of joint Rivets 69.5
 Working pressure of shell by rules 110 lb Thickness of shell crown plates 9/16" Radius of do. 3'-6" No. of stays to do. ✓ Dia. of stays ✓
 Diameter of furnace Top 3'-6" Bottom 5'-7 1/2" Length of furnace 4'-4" Thickness of furnace plates 4/16" Description of joint SR Lap
 Working pressure of furnace by rules 113 Thickness of furnace crown plates 4/16" Stayed by Lap 3'-9" rad. & gusset.
 Diameter of tubes 2 1/2" Thickness of tube plates Front 1 1/2" Pitch 4" Back 1 1/2" Thickness of outer tubes 3 5/8" Dates of survey

SPARE GEAR. State the articles supplied:— 2 Bolts & Nuts for piston rods, connec. rods & main bearings
1 set coupling bolts & nuts 6 Piston Bolts. 1 set feed & bilge pump valves. 1 set donkey
pump valves 1/2 set air pump valves 2 feed check valves 1 set rings for piston valve
& H.P. & L.P. pistons. 1 set L.P. piston springs. Propeller Tail shaft.
 The foregoing is a correct description, Assorted bolts, nuts, & iron.

Manufacturer.

For RICHARDSON WESTGARTH & CO. LTD

J. Paton

Dates of Survey while building
 During progress of work in shops— 1906 March 30 Apr 10.23 May 14.15.19.22.28 June 1.4.11.16.20.25 July 3.6.11.14.20.25.28 Aug 2.8.13
 During erection on board vessel— 14.24.29. Sep 4.11.15 Oct 2.29.12.19.22.24.27.31 Nov 2.12.19.23.28 Dec 4.5 1907 Jan 4.9.16.21
 Total No. of visits 56

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " yes

Dates of Examination of principal parts—Cylinders 19.11.06 Slides 24.10.06 Covers 12.11.06 Pistons 4.12.06 Rods 4.12.06

Connecting rods 4.12.06 Crank shaft 26.9.06 Thrust shaft 19.11.06 Tunnel shafts 2.11.06 Screw shaft 16.1.07 Propeller 16.1.07

Stern tube 21.1.07 Steam pipes tested 31.2.07 Engine and boiler seatings 21.1.07 Engines holding down bolts 1.2.07

Completion of pumping arrangements 1.2.07 Boilers fixed 1.2.07 Engines tried under steam 5.2.07

Main boiler safety valves adjusted 5.2.07 Thickness of adjusting washers Port B. P. 1 1/2" S. 3/8" St. B. P. 1 1/2" S. 3/8"

Material of Crank shaft Ingot Steel Identification Mark on Do. 4365 TLT Material of Thrust shaft I. Steel Identification Mark on Do. 5994 RDS

Material of Tunnel shafts I. Steel Identification Marks on Do. 941 PA Material of Screw shafts I. Steel Identification Marks on Do. 3054 KH

Material of Steam Pipes SD Copper 1012 PA 3709 MK 3140 KH 966 PA Test pressure 360 lb. 6061 RDS 5998 RDS 5999 RDS 6060 RDS 5405 JM 6065 RDS

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

This vessel's machinery has been built under Special Survey.
The materials and workmanship are good and efficient.
It has been fitted and secured on board and tried under
steam with satisfactory results, and is now in good and
safe working condition and eligible in my opinion to
have the record LMC 2.07.

It is submitted that
 this vessel is eligible for
 THE RECORD

L.M.C. 2.07

Y.S. 14.2.07
14.2.07

The amount of Entry Fee. £ 2 : 0 : 0 When applied for, 13.2.1907
 Special £ 31 : 10 : 0
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : : When received, 15.2.1907

R.D. Philston.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI, FEB 15 1907

Assigned

MACHINERY CERTIFICATE
 WRITTEN.



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Lloyd's Register
 Foundation

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