

REPORT ON MACHINERY.

No. 27422.

Received at London Office

WED. 17 FEB 1909

Date of writing Report

19

When handed in at Local Office

13th Feb. 1909. Port of GlasgowNo. in Survey held at
Reg. Book.

Glasgow

Date, First Survey 24th Aug 1908. Last Survey 8th Feb. 1909.

(Number of Visits 39)

49 Sub. on the

S.S. "Beothic"

Master

Built at

Glasgow

By whom built

D. W. Henderson & Co. Ltd.

When built

1909

Engines made at

Glasgow

By whom made

D. W. Henderson & Co. Ltd.

when made

1909

Boilers made at

Glasgow

By whom made

D. W. Henderson & Co. Ltd.

when made

1909

Registered Horse Power

328

Owners

Job Bros

Port belonging to

St. John's N.F.L.

Nom. Horse Power as per Section 28

328

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders 22" 36" 59"

Length of Stroke 39"

Revs. per minute 107

Dia. of Screw shaft

as per rule 11.7"

Material of screw shaft

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

length

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 60"

Dia. of Tunnel shaft

as per rule 10.8"

as fitted 11.8"

Dia. of Crank shaft journals

as per rule 11.3"

as fitted 12.2"

Dia. of Crank pin

12.2"

Size of Crank webs

15" x 4 3/4"

Dia. of thrust shaft under

collars 12 1/2"

Dia. of screw

14.0"

Pitch of Screw

13-9

No. of Blades

4

State whether moveable

yes

Total surface

738

No. of Feed pumps

2

Diameter of ditto

3 3/4"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 3/4"

Stroke

21"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

SIZES OF PUMPS

7" x 5" x 8"

8" x 8" x 8"

6" x 5" x 6"

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

In Engine Room

Three 2 1/2"

In Holds, &c. two in each hold 2 1/2"

No. of Bilge Injections

1

sizes

6 1/2"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size

yes 2 1/2"

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

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

bilge pipes

and

How are they protected

by wood casings

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

19/12/08

of Stern Tube

19/12/08

Screw shaft and Propeller

19/12/08

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

main deck

BOILERS, &c.—(Letter for record 5318)

Total Heating Surface of Boilers

4415.26

Is Forced Draft fitted

yes

No. and Description of Boilers

2 cylindrical return tube

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

10/12/08

No. of Certificate

9762

Can each boiler be worked separately

yes

Area of fire grate in each boiler

55.09 sq ft

No. and Description of Safety Valves to

each boiler

1 pair direct spring

Area of each valve

14.18 sq in

Pressure to which they are adjusted

180 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean dia. of boilers

14.0"

Length

11' 6"

Material of shell plates

steel

Thickness

1 1/8"

Range of tensile strength

28/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

double lap

long. seams

table butt

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8 7/16"

Lap of plates or width of butt straps

16 3/8"

Per centages of strength of longitudinal joint

rivets 86.7

plate 85.9

Working pressure of shell by rules

180 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

29 1/2" x 25 1/2"

No. and Description of Furnaces in each boiler

3 Brighton

Material

steel

Outside diameter

44 5/16"

Length of plain part

top 17"

bottom 32"

Thickness of plates

crown 17"

bottom 32"

Description of longitudinal joint

weld

No. of strengthening rings

—

Working pressure of furnace by the rules

180

Combustion chamber plates: Material

steel

Thickness: Sides

3/8"

Back

3/16"

Top

3/8"

Bottom

7/8"

Pitch of stays to ditto: Sides

8 1/2" x 8 1/2"

Back

9" x 9"

Top

9" x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

184 lbs

Material of stays

steel

Diameter at smallest part

1.686

Area supported by each stay

72.5

Working pressure by rules

187 1/2

End plates in steam space:

Material

steel

Thickness

1 1/8"

Pitch of stays

18" x 18 1/4"

How are stays secured

2 nuts

Working pressure by rules

184

Material of stays

steel

Diameter at smallest part

59.89"

Area supported by each stay

328 1/2

Working pressure by rules

184

Material of Front plates at bottom

steel

Thickness

1 1/8"

Greatest pitch of stays

13 1/8"

Thickness

1 1/8"

Material of Lower back plate

steel

Thickness

1 1/8"

Working pressure of plate by rules

180

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/8" x 3 3/4"

Material of tube plates

steel

Thickness: Front

1 3/8" x 1 1/2"

Back

1 1/4"

Mean pitch of stays

9 1/16"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

195.9

243

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

7 1/2" x 1"

Length as per rule

28 1/2"

Working pressure by rules

219

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

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. _____ Description *Iron*

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

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 _____ Plates _____

Working pressure of shell by rules _____ 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 _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Four top end bolts & nuts, 2 bottom end bolts & nuts, 1 set of coupling bolts & nuts, 2 main bearing bolts & nuts, 1 set of bolts & nuts for feed and barge pumps, 1 set of valves and seats for feed and barge pumps, 1 propeller shaft, 1 propeller, 1 set of running bottom pump for H.P. piston.*

The foregoing is a correct description,
For DAVID & WILLIAM HENDERSON & CO., LIMITED.
D. W. Henderson Manufacturer.

Dates of Survey while building: During progress of work in shops— 1908. Aug. 21. 24. Sep. 3. 5. 8. 11. 14. 15. 19. 24. Oct. 6. 7. 15. 21. Nov. 3. 13.
During erection on board vessel— 19. 21. 24. 26. Dec. 7. 9. 10. 11. 15. 19. 28. 30 1909. Jan. 6. 7. 13. 14. 18. 20. 21. 22. 28.
Feb. 3. 8. 39. Total No. of visits _____

Dates of Examination of principal parts—Cylinders 13/11/08 Slides 14/9/08 Covers 14/9/08 Pistons 14/9/08 Rods 21/10/08
Connecting rods 21/10/08 Crank shaft 15/10/08 Thrust shaft 15/10/08 Tunnel shafts 15/10/08 Screw shaft 15/10/08 Propeller 9/12/08
Stern tube 9/12/08 Steam pipes tested 7/1/09 Engine and boiler seatings 9/12/08 Engines holding down bolts 28/12/08
Completion of pumping arrangements 18/1/09 Boilers fixed 6/1/09 Engines tried under steam 28/1/09
Main boiler safety valves adjusted 21/1/09 Thickness of adjusting washers *M.B.P. 32 13 32 S. 12 13 32* *Qualy Bolts 32 13 32*
Material of Crank shaft *Steel* Identification Mark on Do. *3952* Material of Thrust shaft *Steel* Identification Mark on Do. *4015 amtc*
Material of Tunnel shafts *Steel* Identification Marks on Do. *Superphos* Material of Screw shafts *Steel* Identification Marks on Do. *76186 amtc*
Material of Steam Pipes *Copper (brayed joint)* Test pressure *400 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These engines and boilers have been built under special survey the materials and workmanship are of good description, they have been well fitted on board and tried under steam.*
In my opinion the machinery of this vessel is eligible to have notification of L.M.C. 2.09 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. **L.M.C. 2.09**
2 SB (FD) 1 Aux SB. Elec Light.

The amount of Entry Fee .. £ 3 : : When applied for, 15/2/09
Special .. £ 36 : :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When received, 17/2/09

Committee's Minute GLASGOW 1 FEB. 1909

Assigned + L.M.C. 2.09
FD.

MACHINERY CERTIFICATE
WRITTEN 17/2/09

A. M. McLeod
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.