

REPORT ON MACHINERY

Received at London Office

THUR. 22 SEP 1910

Date of writing Report

19

When handed in at Local Office

21/9/10

Port of

GRIMSBY

No. in Survey held at

GRIMSBY

Date, First Survey

19/5

Last Survey

16/9/

19/10

Reg. Book.

on the steam trawler "Bereian"

(Number of Visits 24)

Master

Built at Selby

By whom built

Cochrane How

Tons

When built

1910

Engines made at

Grimsby

By whom made

J. Central Co-op. Eng. & R. Ch.

when made

1910

Boilers made at

do.

By whom made

do.

when made

1910

Registered Horse Power

Owners

Great Central Co-operative Eng. & Ship Repairing Co.

Port belonging to

Grimsby

Nom. Horse Power as per Section 28

75

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Triple expansion inverted

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

12, 2 1/2, 3 1/4

Length of Stroke

24

Revs. per minute

Dia. of Screw shaft

as per rule 7.05

Material of screw shaft

as fitted 7.32

Scrap Iron

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

yes

If two

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

yes

Length of stern bush

35

Dia. of Tunnel shaft

as per rule 4

Dia. of Crank shaft journals

as per rule 6.61

Dia. of Crank pin

7

Size of Crank webs

4 1/4 x 13

Dia. of thrust shaft under

collars

4

Dia. of screw

8-6

Pitch of Screw

10-9

No. of Blades

4

State whether moveable

no

Total surface

280

No. of Feed pumps

1

Diameter of ditto

2 1/8

Stroke

24

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

1

Diameter of ditto

2 1/8

Stroke

24

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

1

Sizes of Pumps

6 x 3 1/2 x 6

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

In Engine Room

2 sea, hotwell, bilge

In Holds, &c.

2 forepeak and 2 dushwell

No. of Bilge Injections

1

sizes

3

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size

2 1/2 ejector

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

none

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

rich steam exhaust

How are they protected

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

Sea at Hull

of Stern Tube

at Hull

Screw shaft and Propeller

at Hull

Is the Screw Shaft Tunnel watertight

none

Is it fitted with a watertight door

yes

worked from

yes

BOILERS, &c.—(Letter for record

5)

Manufacturers of Steel

Phoenix A.M. Ges. Abt. Hoerder Keran Hoerde

Total Heating Surface of Boilers

1340

Is Forced Draft fitted

no

No. and Description of Boilers

one S.E. return tube

Working Pressure

180 lb.

Tested by hydraulic pressure to

360 lb.

Date of test

7.9.10

No. of Certificate

91

Can each boiler be worked separately

yes

Area of fire grate in each boiler

34.7

No. and Description of Safety Valves to

each boiler

2-direct spring

Area of each valve

3.98

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

4

Mean dia. of boilers

12-6

Length

10-0

Material of shell plates

5

Thickness

1 3/32

Range of tensile strength

28/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

double

long. seams

double butt

Diameter of rivet holes in long. seams

1 1/8

Pitch of rivets

7 3/4

Lap of plates or width of butt straps

16 5/8

Per centages of strength of longitudinal joint

rivets 87.0

plate 85.5

Working pressure of shell by rules

194

Size of manhole in shell

12 x 16

Size of compensating ring

16 x 16 x 1/8

No. and Description of Furnaces in each boiler

2 plain

Material

5

Outside diameter

43

Length of plain part

top 70

Thickness of plates

bottom 3 3/4

Description of longitudinal joint

welded

No. of strengthening rings

none

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

5

Thickness: Sides

2/32

Back

2/32

Top

2/32

Bottom

13/16

Pitch of stays to ditto: Sides

9/4 x 8 3/4

Back

9 x 8 3/4

op 9/4 x 8 3/4

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

184

Material of stays

5

area

Diameter at smallest part

2.1

Area supported by each stay

81

Working pressure by rules

207

End plates in steam space:

Material

5

Thickness

1 1/8

Pitch of stays

17/2 x 18

How are stays secured

d. nuts + washers

Working pressure by rules

190

Material of stays

5

Diameter

area

at smallest part

6.6

Area supported by each stay

320

Working pressure by rules

215

Material of Front plates at bottom

5

Thickness

1

Material of Lower back plate

5

Thickness

15/16

pitch of stays

16

Working pressure of plate by rules

180 lb

Material of tube plates

5

Diameter of tubes

3 1/4

Pitch of tubes

4 1/2

Material of tube plates

5

Thickness: Front

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____
 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 _____ Radius of do. _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *2 Top & bottom end and main bearing bolts nuts a set of coupling bolts nuts feed bridge circulating water pump valves safety valves & escape valves and assorted bolts nuts iron*

For the GREAT CENTRAL CO-OPERATIVE ENGINEERING & SHIP REPAIRING COMPANY, LTD

J. Fred Lister
 Engineer

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops— *May 19. 31. June 2. 6. 10. 11. 18. July 1. 12. 13. 26. 30 Aug 10. 12. 18. 25. 29. 30.*
 During erection on board vessel — *Sep 2. 5. 8. 13. 14. 16*
 Total No. of visits *24*

Is the approved plan of main boiler forwarded herewith *forwarded with report N. 6805 on S. Arian No*

Dates of Examination of principal parts—Cylinders *HP 16/6 LP 17* Slides *18/8* Covers *18/8* Pistons *18/8* Rods *10/8*
 Connecting rods *18/8* Crank shaft *13/7* Thrust shaft *5/9* Tunnel shafts *✓* Screw shaft *11/6* Propeller *6/6*
 Stern tube *6/6* Steam pipes tested *13/9* Engine and boiler seatings *Seen at Hull* Engines holding down bolts *13/9*
 Completion of pumping arrangements *13/9* Boilers fixed *13/9* Engines tried under steam *16/9*
 Main boiler safety valves adjusted *16/9* Thickness of adjusting washers *P+S 5/16"*
 Material of Crank shaft *iron* Identification Mark on Do. *N^o 302 18.7.10 C.M.* Material of Thrust shaft *steel* Identification Mark on Do. *NAMA N^o 261 5.9.10*
 Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *N^o 286 11.6.10 C.M.*
 Material of Steam Pipes *Solid drawn copper 6 SWG. ✓* Test pressure *360 lb. ✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery has been built under special survey, the materials and workmanship are good. The boiler steel has been tested as required by rule, and the boiler constructed in accordance with the approved plan. On completion it was tested by water to trial the working pressure and found tight and sound.*

This machinery has been fitted on board the vessel in an efficient manner, and in my opinion is eligible for record of +LMC 9.10.

This vessel is a sister to the S. Arian Imo. N. 6805. ✓

It is submitted that this vessel is eligible for THE RECORD, + LMC. 9.10.

The amount of Entry Fee .. £ *1* : : : :
 Special .. £ *1* : : : :
 Donkey Boiler Fee .. £ *1* : : : :
 Travelling Expenses (if any) .. £ : : : :
 When applied for, *21/9/10 C.M.*
 When received, *21.11.10 C.M.*

J. Fred Lister
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 23 SEP 1910

Assigned

Thms 9.10

MACHINERY CERTIFICATE WRITTEN.



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FLAT F (If Bar GARBO. State thickness of Bot)

Write "Bridge Sheer Strake" and "Upper Deck Sheerstrake" opposite the corresponding letter.

DOUB Le POOP SHOR FORE

main Plate

Has FRA REV

Lo Bo To RI Sa

EC

Nt

Y

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