

## REPORT ON MACHINERY.

No. 4235

Port of

Grimsby

Received at London Office

MON. 18 JUN 1906

No. in Survey held at  
Reg. Book.

Date, first Survey 14 November 05 Last Survey 22 May 1906

(Number of Visits 35)

on the Stead Trawler LXX

Master H. Rowson

Built at

Selby

By whom built

Cochran &amp; Sons

Gross 250.

Net 103.

When built 1906

Engines made at

Grimsby

By whom made

St. Central Co. &amp; S. H. C. &amp; L.

when made

1906

Boilers made at

Hartlepool

By whom made

Central Marine &amp; L.

when made

1906

Registered Horse Power

76

Owners

J. &amp; North Sea Ste. Trawling Co.

Belonging to

Grimsby

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

## ENGINES, &amp;c.—Description of Engines

Triple Expansion Surf. Cond.

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 12 1/4, 22 3/4

Length of Stroke 24

Revs. per minute 108

Dia. of Screw shaft as per rule 7 1/2

Material of screw shaft

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

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

Length of stern bush

36

Dia. of Tunnel shaft as per rule 6 3/4

Dia. of Crank shaft journals as per rule 6 7/8

Dia. of Crank pin 7

Size of Crank webs 13 1/4

Dia. of thrust shaft under

collars 7

Dia. of screw 8 1/2

Pitch of Screw 11 1/2

No. of Blades 4

State whether moveable

No

Total surface 28 1/2

No. of Feed pumps 1

Diameter of ditto 2 1/4

Stroke 12

Can one be overhauled while the other is at work

No. of Bilge pumps 1

Diameter of ditto 3

Stroke 12

Can one be overhauled while the other is at work

No. of Donkey Engines 1

Sizes of Pumps 3 1/2 &amp; 6 1/2

Stroke 12

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

In Engine Room

Sea bilge &amp; hotwell 2" bore

In Holds, &amp;c. Fish rooms 2" bore

No. of Bilge Injections 1

sizes 2 3/4

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room &amp; size 6" &amp; 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

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

Fish room &amp; Hotwell suction

How are they protected

Wood and iron 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

12/3/06

of Stern Tube

12/3/06

Screw shaft and Propeller

12/3/06

Is the Screw Shaft Tunnel watertight

No tunnel

Is it fitted with a watertight door

Worked from

## BOILERS, &amp;c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

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

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

Thickness of plates

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

Thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Superheater or Steam chest; how connected to boiler

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

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

W 1518-0178



# 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 Stayed by

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

SPARE GEAR. State the articles supplied:— Two each of top & bottom end bolts & main bearing bolts, one set coupling bolts, one set each of air circulating, feed, bilge & donkey pump valves, main rambling feed check valves, studion bolts onto condenser tubes etc.

The foregoing is a correct description,

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

Manufacturer.

Dates of Survey while building During progress of work in shops— 1905:— Nov 14, 18, 22, 28, 30 Dec 8, 14, 21, 28, 31 Jan 6, 12, 15, 18, 21, 22, 23 Feb 6, 14, 17, 21, 22, 23 Mar 1, 2, 7, 14, 19, 24, 28 Apr 2, 9, 16, 23 May 6, 12, 15, 18, 21, 22

During erection on board vessel— May 6, 12, 15, 18, 21, 22

Total No. of visits Thirty Five

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 1/1/06 Slides 2/4/06 Covers 2/4/06 Pistons 2/4/06 Rods 3/1/06

Connecting rods 3/1/06 Crank shaft 19/3/06 Thrust shaft 2/4/06 Tunnel shafts Screw shaft 2/3/06 Propeller 2/3/06

Stern tube 2/3/06 Steam pipes tested 14/5/06 Engine and boiler seatings 11/12/5/06 Engines holding down bolts 12/5/06 etc.

Completion of pumping arrangements 2/5/06 Boilers fixed 12/5/06 Engines tried under steam 22/5/06.

Main boiler safety valves adjusted 19/5/06 Thickness of adjusting washers 3/16

Material of Crank shaft Iron Identification Mark on Do. No 475 Material of Thrust shaft Lep iron Identification Mark on Do. No 481

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Lep iron Identification Marks on Do. No 471

Material of Steam Pipes Copper, solid drawn, 3/4 bore No 769 Test (pressure) 400 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has been built under special survey. The materials & workmanship are good. The engines have been satisfactorily fitted into the vessel and tried under steam, and in my opinion, the case is eligible for the notation + LMB 6.06. (in red)

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 5.06.

Insd.  
18.6.06

L. Ritchie  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee... £ 1 : - : - When applied for, 16 Jan 06

Special ... £ 11 : 8 : - When received, 25 7 10

Donkey Boiler Fee ... £ 12 : 8 : -

Bailer ... £ 3 : 16 : -

Travelling Expenses (if any) £ 8 : 12 : 0

Committee's Minute

JUN. 19 JUN 1906

Assigned

+ LMB 5.06

MACHINERY CERTIFICATE  
WRITTEN.

Lloyd's Register  
Foundation

This office certificate issued 26th

Certificate (if required) to be sent to

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