

REPORT ON MACHINERY.

No. 4994.

Received at London Office

THU, 15 MAR, 1917

of writing Report March 12 1917 When handed in at Local Office March 14 1917 Port of DUNDEE
 in Survey held at Dundee Date, First Survey 24th February 1916 Last Survey March 8th 1917
 g. Book. on the Steam Trawler "SERFIB" (Number of Visits 42) Gross Tons 1914 Net Tons 1914
 ster Built at Leith By whom built James Watson & Co. When built 1914
 gines made at Dundee By whom made James Watson & Co. (No. 148) when made 1914
 ilers made at Dundee By whom made " " (No. 392) when made 1914
 gistered Horse Power Owners T. Hudson Port belonging to Hull
 m. Horse Power as per Section 28 57.4 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

GINES, &c.—Description of Engines Triple Expansion, surface condensing No. of Cylinders 3 No. of Cranks 3
 a. of Cylinders 12-21-34 Length of Stroke 24 Revs. per minute 111 Dia. of Screw shaft as per rule 4.2 Material of steel
 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
 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
 ween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Am fitting If two
 ers are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 3'-0"
 ia. of Tunnel shaft as per rule 6.26 Dia. of Crank shaft journals as per rule 6.54 Dia. of Crank pin 6 3/4 Size of Crank webs 10 1/2 x 4 1/2 Dia. of thrust shaft under
 lars 6 3/4 Dia. of screw 8'-6" Pitch of Screw 11'-3" No. of Blades 4 State whether moveable no Total surface 31.5
 p. of Feed pumps 1 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work yes
 p. of Bilge pumps 1 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work yes
 p. of Donkey Engines one Sizes of Pumps 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 2-2" fra. 2-2" aft. In Holds, &c. Hold 1-2" Fish room 1-2"
 o. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 2"
 re 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 no
 re all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both
 re 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
 re 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
 That pipes are carried through the bunkers no How are they protected yes
 re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 re the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 the Screw Shaft Tunnel watertight no Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. GILLIE & SONS, J. SPENDER & SONS, BEARDMORE & CO., J. SPENDER & SONS.
 total Heating Surface of Boilers 1188.5 Is Forced Draft fitted no No. and Description of Boilers one, return tube
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 22.2.17 No. of Certificate 965
 an each boiler be worked separately yes Area of fire grate in each boiler 32 No. and Description of Safety Valves to
 each boiler two, spring loaded Area of each valve 7.06 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 10" Mean dia. of boilers 2'-8" Length 10'-0" Material of shell plates steel
 Thickness 1" Range of tensile strength 28-32 Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams D.R.
 ng. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 4 1/2 Lap of plates or width of butt straps 16 3/8
 Per centages of strength of longitudinal joint 93.3 Working pressure of shell by rules 181.5 Size of manhole in shell 16" x 12"
 Size of compensating ring 7 1/4 x 1 1/8 No. and Description of Furnaces in each boiler 2- Plain Material steel Outside diameter 3'-5 1/2"
 Length of plain part top 64" bottom 60" Thickness of plates crown 3 1/4" bottom 3 1/4" Description of longitudinal joint welded No. of strengthening rings yes
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 2 1/32 Bottom 7/8
 Pitch of stays to ditto: Sides 7 3/4 x 9 Back 8 1/4 x 8 Top 8 1/4 x 9 If stays are fitted with nuts or riveted heads no Working pressure by rules 181 (Sides) 186 (Backs)
 Material of stays steel Area at smallest part 1.99 Area supported by each stay 40 Working pressure by rules 194 End plates in steam space:
 Material steel Thickness 1 1/8 Pitch of stays 1 1/4 x 1 1/2 How are stays secured D.N. Working pressure by rules 187.5 Material of stays steel
 Area at smallest part 5.49 Area supported by each stay 301 Working pressure by rules 199 Material of Front plates at bottom steel
 Thickness 3/8 Material of Lower back plate steel Thickness 3/16 Greatest pitch of stays one stay 12" Working pressure of plate by rules 181
 Diameter of tubes 3 1/2 Pitch of tubes 5 Material of tube plates steel Thickness: Front 1/8 Back 3/4 Mean pitch of stays 16"
 Pitch across wide water spaces 14 1/2 Working pressures by rules 183 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 8 3/4 x 12 1/4 Length as per rule 34 3/8 Distance apart 8 3/4 Number and pitch of stays in each one - 9"
 Working pressure by rules 198 Steam dome: description of joint to shell yes % of strength of joint yes
 Diameter yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes
 Pitch of rivets yes Working pressure of shell by rules yes Crown plates yes Thickness yes How stayed yes

SUPERHEATER. Type yes Date of Approval of Plan yes Tested by Hydraulic Pressure to yes
 Date of Test yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes
 ameter of Safety Valves yes Pressure to which each is adjusted yes Is Easing Gear fitted yes

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— 2 Top end bolts & nuts ✓ 2 Bottom end bolts & nuts ✓ 2 Main bearing bolts & nuts ✓ One set of coupling bolts and nuts ✓ Values for air, feed & bilge pumps ✓ Assembled bolts and nuts ✓ Two condensers & two boiler tubes

The foregoing is a correct description,
FOR COOPER & GREIG LIMITED.

Thomas Cooper
DIRECTOR Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1916 FEB. 24, APR. 18, MAY 9, 24, JUNE 30, JULY 15, AUG. 1, 4, 9, 15, 21, 28, 31, SEP. 2, 8, OCT. 3, NOV. 1, 15, 18, 29, DEC. 1914 JAN. 8, 11, 24, 26, 31, FEB. 6, 12, 23, MAR. 5.
During erection on board vessel -- 1914 JAN. 24, 25, 26, 27, FEB. 13, 23, 26, 28, MAR. 2, 4, 8.
Total No. of visits 42.

Is the approved plan of main boiler forwarded herewith Yes
" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 8.2.17 Slides 8.2.17 Covers 8.2.14 Pistons 8.2.14 Rods 8.2.14

Connecting rods 8.2.14 Crank shaft 2.12.16 Thrust shaft 2.12.16 Tunnel shafts ✓ Screw shaft 24.2.17 Propeller 24.2.14

Stern tube 24.2.14 Steam pipes tested 5.3.14 Engine and boiler seatings 25.2.14 Engines holding down bolts 23.2.14

Completion of pumping arrangements 8.3.14 Boilers fixed 26.2.14 Engines tried under steam 8.3.14

Completion of fitting sea connections 25.2.14 Stern tube 25.2.14 Screw shaft and propeller 26.2.14

Main boiler safety valves adjusted March 7th 1914. Thickness of adjusting washers Port $\frac{1}{4}$ " Starb $\frac{3}{32}$ "

Material of Crank shaft Steel Identification Mark on Do. 4229 G.A.H. Material of Thrust shaft Steel Identification Mark on Do. 4229 J.A.H.

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 4229 J.A.H.

Material of Steam Pipes S.D. Copper, $3\frac{3}{4}$ " Bore x 4 lbs. ✓ Test pressure 360 lbs per sq. in. ✓

Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case no ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boilers of this vessel have been built under special survey & in accordance with the approved plans. The materials & workmanship are good. The machinery has been examined under full working conditions & found in good order; and it is eligible in my opinion to have record of L.M.C. 3.14 in the Register Book

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 3.17.

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 10 : 10 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 14/3/1914
When received, 23/3/1914

John Mackenzie
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 16 MAR. 1917

Assigned

+ L.M.C. 3.17

VESS

These particulars an

Signal Letters (if any)

Official Number.

139313

No., Date, and Port of Prev

Whether British or Foreign Built. Whether and if a

British

Number of Decks

Number of Masts

Rigged

Stern

Build

Galleries

Lead

Framework and description

vessel

Number of Bulkheads

Number of water ballast

and their capacity in ton

Total to quarter the depth from weather to bottom of keel

Description of Engines.

Three compound surface condensing direct acting

Particulars of Boilers.

Description

Number

Iron or Steel

Loaded Pressure

GROSS TONNAGE

Under Tonnage Deck

Space or spaces between Decks

Curret or Trunk

Forecastle

Bridge space

Keel or Break

Side Houses

Deck Houses

Chart House

Spaces for machinery, and

Section 78 (2) of the Mer

1894

Excess of Hatchways

Gross Tonnage

Deductions, as per Contra

Registered Tonnage

NOTE 1.—The tonnage of the en

Deck for propelling

NOTE 2.—The undermentioned s

Name of Master

No. of Owners

Name, Residence, and De

The Ea

of St.

Kingsto

Thoma

designe

Dated 13th M

830) (71265) Wt. 40422/94 20

Certificate (if required) to be sent to

Assigned

MACHINE CERTIFICATE
WRITTEN



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Foundation