

REPORT ON MACHINERY.

No. 29413

Date of writing Report 3-7-16

When handed in at Local Office 7-7-16

Received at London Office

11 JUL 1916

Port of Hull

in Survey held at Hull

Date, First Survey 19/8/15

Last Survey 29-6-16 19

on the steel screw tug "Wormpole"

(Number of Volls 60)

Gross 320

Net 163

When built 1916-6

Master

Built at Lilby

By whom built Cockburn & Sons Ltd

Engines made at Hull

By whom made C. & D. Holmes & Co. Ltd

Boilers made at Hull

By whom made C. & D. Holmes & Co. Ltd

Registered Horse Power

Owners Letten Bros & P. C. Grant

when made 1916-6

Horse Power as per Section 28 87

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 3

Dia. of Cylinders 13"-23"-37"

Length of Stroke 26"

Revs. per minute 110

Dia. of Screw shaft as per rule 7.06"

Material of screw shaft Iron

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

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

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

Length of stern bush 35 1/2"

Dia. of Tunnel shaft as per rule 7.04"

Dia. of Crank shaft journals as per rule 7.39"

as fitted 7 1/2"

Dia. of Crank pin 7 1/2"

Size of Crank webs 14 1/2" x 4 1/2"

Dia. of thrust shaft under

llars 7 1/2"

Dia. of screw 9-6"

Pitch of Screw 10-9"

No. of Blades 4

State whether moveable no

Total surface 32 sq ft

No. of Feed pumps one

Diameter of ditto 2 3/4"

Stroke 14 3/4"

Can one be overhauled while the other is at work

No. of Bilge pumps one

Diameter of ditto 2 3/4"

Stroke 14 3/4"

Can one be overhauled while the other is at work

No. of Donkey Engines one

Size of Pumps 6" x 3 1/2" x 6"

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

In Holds, &c. one 2" dia in each compartment

all suctions also connected to 2 1/2" jets

No. of Bilge Injections one

Size 3 1/2"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size 2 1/2" jets

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

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 forward suctions

How are they protected strong wooden casing

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 3-11-15

of Stern Tube 3-11-15

Screw shaft and Propeller 3-11-15

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel Stewarts & Lloyds

Total Heating Surface of Boilers 1435 sq ft

Is Forced Draft fitted no

No. and Description of Boilers one single ended

Working Pressure 200 lbs

Tested by hydraulic pressure to 400 lbs

Date of test 7-6-16

No. of Certificate 3140

Can each boiler be worked separately

Area of fire grate in each boiler 46 sq ft

No. and Description of Safety Valves to

each boiler two spring loaded

Area of each valve 4.9 sq in

Pressure to which they are adjusted 205

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers 165 1/2"

Length 10-6"

Material of shell plates steel

Thickness 1 1/4"

Range of tensile strength 28-32

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams double

ong. seams L.R. & B. 1

Diameter of rivet holes in long. seams 1 1/4"

Pitch of rivets 8 1/2"

Gap of plates or width of butt straps 17 1/2"

Per centages of strength of longitudinal joint

rivets 86.1

plate 85.3

Working pressure of shell by rules 204

Size of manhole in shell 16" x 12"

Size of compensating ring 7" x 1 1/4"

No. and Description of Furnaces in each boiler Three plain

Material steel

Outside diameter 39"

Length of plain part top 7.2 1/2"

bottom 7.6"

Thickness of plates crown 3 5/16"

bottom 3 1/4"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 207

Combustion chamber plates: Material steel

Thickness: Sides 2 3/32"

Back 1 1/16"

Top 1 1/16"

Bottom 2 1/32" x 1 1/16"

Pitch of stays to ditto: Sides 9" x 8"

Back 9 1/2" x 8 1/2"

Top 9" x 8"

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 206

Material of stays steel

Diameter at smallest part 2 1/4"

Area supported by each stay 104 sq in

Working pressure by rules 207

End plates in steam space:

Material steel

Thickness 1 1/32"

Pitch of stays 19 1/2" x 17"

How are stays secured 2 7/8" x 4"

Working pressure by rules 211

Material of stays steel

Diameter at smallest part 7 5/8"

Area supported by each stay 332 sq in

Working pressure by rules 237

Material of Front plates at bottom steel

Thickness 2 9/32"

Material of Lower back plate steel

Thickness 2 9/32"

Greatest pitch of stays 14" x 9"

Working pressure of plate by rules 204

Diameter of tubes 3 1/2"

Pitch of tubes 5 1/2" x 5"

Material of tube plates steel

Thickness: Front 2 9/32"

Back 7/8"

Mean pitch of stays 10 1/2"

Pitch across wide water spaces 14 1/4"

Working pressures by rules 267

Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 10 1/2" x 1 3/4"

Length as per rule 36 1/4"

Distance apart 9"

Number and pitch of stays in each Three 8"

Working pressure by rules 210

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

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

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

W312-0101

Lloyd's Register
Foundation

IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded? ☒
SPARE GEAR. State the articles supplied: - *Two top end bolts & nuts two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air, feed & bilge pump valves, 6 piston studs & nuts, one main & one donkey check valve one safety valve spring & a quantity of bolts & nuts of various sizes*

The foregoing is a correct description,

pro CHARLES D. HOLMES & Co. Ltd.

S. Arthur Holmes DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops - - *1915: - Aug 19 Oct 21 22 25 26 29 Nov 2 3 11 18 25 Dec 6 8 20 30 Jan 5 13 18 20 25 31 Feb 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Apr 3 6 11 13 17 19 27 May 2 5 9 11 15 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Jun 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Jul 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Aug 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Sep 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Oct 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Nov 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Dec 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31*
During erection on board vessel - - *June 6 7 12 14 15 16 19 23 29*
Total No. of visits *60*

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *yes*

Dates of Examination of principal parts - Cylinders *27-4-16* Slides *19-5-16* Covers *5-5-16* Pistons *9-5-16* Rods *11-5-16*
Connecting rods *11-5-16* Crank shaft *11-5-16* Thrust shaft *23-5-16* Tunnel shafts *✓* Screw shaft *29-10-16* Propeller *29-10-16*
Stern tube *29-10-16* Steam pipes tested *15-6-16* Engine and boiler seatings *29-10-16* Engines holding down bolts *16-6-16*
Completion of pumping arrangements *29-6-16* Boilers fixed *19-6-16* Engines tried under steam *23-6-16*
Main boiler safety valves adjusted *23-6-16* Thickness of adjusting washers *7/32 & 1/8*

Material of Crank shaft *Iron* Identification Mark on Do. *1584 FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *1589 FLS*

Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *1537 FLS*

Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs*

Is an installation fitted for burning oil fuel *no* 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 machinery of this vessel has been constructed under special survey in accordance with the approved plan & the rules of this Society, the materials & workmanship are good. The Boiler & steam pipes have been tested by hydraulic pressure as above & found sound & good. The machinery has been properly fitted & secured on board the vessel & on completion was tried under steam & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 210 lbs.*

In my opinion the vessel is eligible for the award of K.C. 6-16

It is submitted that this vessel is eligible for THE RECORD + LMC 6-16.

J.W.R.

17/16

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 13 : 1 :
Donkey Boiler Fee ... £ ...
Travelling Expenses (if any) £ *2/2*

When applied for, *8/7/16*

When received, *31.7.16*

Frank A. Sturgeon
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute

FRI JUL 14 1916

Assigned

L.M.C. 6-16

MACHINE CERTIFICATE
WRITTEN



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