

Rpt. 4.

Hull Rpt No. 30144
REPORT ON MACHINERY.

No. 79741

Date of writing Report 6 MAR 1917

When handed in at Local Office 6 MAR 1917

Received at London Office

Port of London

No. in Survey held at Newbury

Date, First Survey 9th March 1915 Last Survey 22 Feb 1917

Reg. Book.

684 on the Kronshtadt Motor Engines "M 212" Mary Birch

Master

Built at New Holland

By whom built W. H. Warren

Tons Gross 228

Net 113

When built

Engines made at Newbury

By whom made Plenty & Co Ld

when made 1914-9

Boilers made at

By whom made

when made

Registered Horse Power

Owners

J. F. Birch & Co Ld

Port belonging to Hull

Horse Power as per Section 28

180

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Kronshtadt Motor 2 stroke cycle

No. of Cylinders

No. of Cranks

Dia. of Cylinders

33 5/8

Length of Stroke

35 1/2

Revs. per minute

300

Dia. of Screw shaft

as per rule 1 1/4

Material of

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

No liners

Is the after end of the liner made water tight

the propeller boss

If the liner is in more than one length are the joints burned

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

2'-0 1/2"

Dia. of Tunnel shaft

as per rule 124-74

Dia. of Crank shaft journals

as per rule 135-84

Dia. of Crank pin

135 1/2

Size of Crank webs

175-32

Dia. of thrust shaft under

Collars

30 3/4

Dia. of screw

5-6

Pitch of Screw

3-6

No. of Blades

4

State whether moveable

no

Total surface

12 sq feet

No. of Feed pumps

✓

Diameter of ditto

✓

Stroke

✓

Can one be overhauled while the other is at work

✓

No. of Bilge pumps

one

Diameter of ditto

15 1/2

Stroke

65 1/2

Can one be overhauled while the other is at work

✓

No. of Donkey Engines

one

Sizes of Pumps

3 1/2 x 4 1/2

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

Engine Room

one 2' dia

In Holds, &c. two 2' dia

No. of Bilge Injections

✓

sizes

✓

Connected to condenser, or to circulating pump

✓

Is a separate Donkey Suction fitted in Engine room & size

yes 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 hatchhold 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

✓

That pipes are carried through the bunkers

✓

How are they protected

✓

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

the Screw Shaft Tunnel watertight

✓

Is it fitted with a watertight door

✓

worked from

✓

MILLERS, &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

In each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

In 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

g. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Percentages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

No. of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

Thickness of plates

crown

bottom

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

No. of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Area 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

Area 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

Distance 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

Steam dome: description of joint to shell

% of strength of joint

Material

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

No. of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

No. of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

010037-010045-0238

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— 1 Cylinder head & spring plate complete, one spare piston & two sets of piston rings, one bottom end brass complete with bolts & nuts, one bush for connecting rod top end, one eccentric strap for circulating & bilge pumps, one fuel pump cam, one cam roller & pin, two sets of valves for circulating & bilge pumps, one set of spring as on engine, 2 blow lamp coils, 1 yoke end for air pump plunger, one set of V leathers for pumps, 3 ignition plates & screws, one set of coupling bolts & nuts, set of fuel pipes complete with unions, 2 fuel ignition nozzles with check valves, 2 sets of crank case air valves. a quantity of pipes, bolts & nuts of various sizes.

The foregoing is a correct description,

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E. V. Denty

Manufacturer.

Dates of Survey	{ During progress of work in shops - -	1915, March 9, 18, (1916) August 28, 31, October 10, 13, (1917) January 25, February 22.
white building	{ During erection on board vessel - -	Hull 1916 - Aug 9 Dec 6, 1917 - Mar 15, 21, 22, 30 April 8, 26 May 2 Aug 20 Sep 1, 12, 15
	Total No. of visits	8 + 13 = 21

Is the approved plan of main boiler forwarded herewith

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Dates of Examination of principal parts—Cylinders ²⁸⁻⁸⁻¹⁶ 31-8-16 Slides ✓ Covers ²⁸⁻⁸⁻¹⁶ 31-8-16 Pistons 10-10-16 Rods ✓
 Connecting rods 10-10-16 Crank shaft 28-8-16 ^{Remise} Thrust shaft 13-10-16 Tunnel shafts 10-10-16 Screw shaft 10-10-16 Propeller 10-10-16
 Stern tube 10-10-16 Steam pipes tested ✓ Engine and boiler seatings 6-12-16 Engines holding down bolts 2-5-17
 Completion of pumping arrangements 20-8-17 Boilers fixed ✓ Engines tried under ^{working order} steam 15-9-17
 Completion of fitting sea connections 6-12-16 Stern tube 6-12-16 Screw shaft and propeller 12-9-17
 Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓
 Material of Crank shaft Steel Identification Mark on Dowel FRB 28-8-16 ^{Remise} Material of Thrust shaft Steel Identification Mark on Dowel FRB 10-10-16
 Material of Tunnel shafts Steel Identification Marks on Dowels FRB 10-10-16 Material of Screw shafts Steel Identification Marks on Dowels FRB 10-10-16
 Material of Steam Pipes ✓ Test pressure ✓
 Is an installation fitted for burning oil fuel oil engine ✓ 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. These Engines constructed under
 sunny, material tested workmanship good. Cylinders tested by hydraulic pressure
 & 300 lbs, Jackets & 75 lbs, Silencers & Cris & 100 lbs per sq inch & found tight
 & sound. Engines examined under working conditions in shop, ahead
 & astern, working satisfactory

Stated & being forwarded to Warrens of New Holland & he fitted on board, their number of vessel it is understood being 127.

The machinery of this vessel has now been properly fitted & secured on board the vessel & on completion was tried under full working condition & found satisfactory. Owing to being unable to obtain the required revolution a new propeller has been fitted. Revolutions 273 ahead 290 astern speed 14 1/2 Speed 8 knots. In our opinion the vessel is eligible for the work + L.H.C. 9-17.

The amount of Entry Fee ... £	1	:	0	:	0	When applied for,	
Special ^{2/3 Jan 4/c 5.16.8} _{1/3 Jan 4/c 2.13.11} £	8	:	0	:	0	6- MAR 1917	19
Donkey Boiler Fee ... £	:	:	:	:	:	When received,	
Travelling Expenses (if any) £	4	:	19	:	6	11-5	19

G. Mack Blackie, Frank L. Sturgeon
Engineer ~~Surveyor~~ to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ L.M.C. 9.17
Oil engine

Lloyd's Register
Foundation