

Rpt. 4.

## REPORT ON MACHINERY

No. 64158

THU. MAY 8 - 1913

Received at London Office

Date of writing Report

19

When handed in at Local Office

MAY 7 1913

Port of

NEWCASTLE - ON - TYNE

No. in Survey held at  
Reg. Book.

Newcastle

Date, First Survey 21<sup>st</sup> Jun 1912Last Survey 28<sup>th</sup> Apr 1913

45 (Sup) on the

Steel screw steamer "Kooigorod"

(Number of Visits)

Gross 5118

Master

Built at Sunderland

By whom built Sir J. Laing &amp; Sons Ltd

Tons

Net 3773

When built 1913

Engines made at Newcastle

By whom made Swan, Hunter &amp; Wigham Richardson Ltd when made 1913

Boilers made at

By whom made

when made 1913

Registered Horse Power

Owners Russian Volunteer Fleet Association

Port belonging to Odessa

Nom. Horse Power as per Section 28 424

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

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

Inverted triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 26" 42 1/2" x 40"

Length of Stroke 48"

Revs. per minute 90

Dia. of Screw shaft

as per rule 14" 6.8"

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

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

Length of stern bush 5'-0"

Dia. of Tunnel shaft as per rule 13" 12.98"

Dia. of Crank shaft journals as per rule 13.6" 13.62"

as fitted 13 3/4"

Dia. of Crank pin 13 3/4"

Size of Crank webs 8 7/8" x 2 1/4"

collars 14"

Dia. of screw 14'-0"

Pitch of Screw 14'-0"

No. of Blades 4

State whether moveable Yes

Total surface 95' 6"

No. of Feed pumps 2

Diameter of ditto 3 1/2"

Stroke 28"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4"

Stroke 28"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 5

Sizes of Pumps 3 1/2" x 2 1/2" x 4 1/2" x 4 1/2" x 4 1/2" x 4 1/2"

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

In Engine Room Three 2 1/2"

In Holds, &amp;c. 11" hold - two 2 1/2" 11" hold - two 2 1/2"

No. 3 hold - two 2 1/2" No. 4 hold - two 2 1/2" Tunnel well: one 2 1/2"

No. of Bilge Injections 1 sizes 5"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room &amp; size Yes 3 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

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 bilge suction

How are they protected wood 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 7-3-13

of Stern Tube 13-3-13

Screw shaft and Propeller 17. 4. 13

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Top platform

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

Manufacturers of Steel

J. Spencer &amp; Sons

Total Heating Surface of Boilers 5946 sq ft

Is Forced Draft fitted Yes

No. and Description of Boilers 2 S. E. G. Multi

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 20. 3. 13

No. of Certificate 8466

Can each boiler be worked separately Yes

Area of fire grate in each boiler 66.5 sq ft

No. and Description of Safety Valves to

each boiler 2 direct spring

Area of each valve 12.6 sq in

Pressure to which they are adjusted 185

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6"

Mean dia. of boilers 16'-0 1/4"

Length 12'-0"

Material of shell plates Steel

Thickness 3/8"

Range of tensile strength 29 3/4 / 33

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams d. r. lap

long. seams d. r. d. l. p.

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

Pitch of rivets 9 3/4"

Lap of plates or width of butt straps 21"

Per centages of strength of longitudinal joint rivets 90.2

plate 85.25

Working pressure of shell by rules 204 lbs

Size of manhole in shell 16" x 12"

Size of compensating ring 9" x 1 3/8"

No. and Description of Furnaces in each boiler 3 horizon

Material Steel

Outside diameter 50 1/2"

Length of plain part top

Thickness of plates crown 5/8"

Description of longitudinal joint Weld

No. of strengthening rings

Working pressure of furnace by the rules 199 lbs

Combustion chamber plates: Material Steel

Thickness: Sides 3/32" 5/8"

Back 5/8"

Top 5/8"

Bottom 1"

Pitch of stays to ditto: Sides 7 1/8" x 7 1/8"

Back 7 1/8" x 7 1/8"

Top 7 1/8" x 7 1/8"

If stays are fitted with nuts or riveted heads Yes

Working pressure by rules 214 lbs

Material of stays Iron

Diameter at smallest part 2.03"

Area supported by each stay 6.2 sq in

Working pressure by rules 245 lbs

End plates in steam space:

115

Material Steel

Thickness 1 1/4"

Pitch of stays 16 1/4" x 7"

How are stays secured d. r. d. l. p.

Working pressure by rules 193 lbs

Material of stays Steel

50

Diameter at smallest part 6.1"

Area supported by each stay 276.25 sq in

Working pressure by rules 226 lbs

Material of Front plates at bottom Steel

Thickness 3/32"

Material of Lower back plate Steel

Thickness 7/8"

Greatest pitch of stays 14" x 7 1/4"

Working pressure of plate by rules 206 lbs

Diameter of tubes 2 1/2"

Pitch of tubes 3 3/4" x 3 3/4"

Material of tube plates Steel

Thickness: Front 3/32"

Back 1/16"

Mean pitch of stays 11 1/4" x 7 1/2"

Pitch across wide water spaces 13 1/2"

Working pressures by rules 210 lbs

Girders to Chamber tops: Material Steel

Depth and

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

Length as per rule 35 3/8"

Distance apart 7 1/8"

Number and pitch of stays in each 3 - 7 7/8"

Working pressure by rules 181 lbs

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

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

Visits 57

Water Capacity

Tons

115

50

-

-

-

-

-

-

-

-

-

-



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made	No. of Certificate	Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Date of adjustment	Dia. of donkey boiler
Material of shell plates	Thickness	Range of tensile strength	Length
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Descrip. of riveting long. seams
Working pressure of shell by rules	Thickness of shell crown plates	Lap of plating	Per centage of strength of joint
Diameter of furnace Top	Bottom	Radius of do.	No. of stays to do.
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Dia. of stays
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey

**SPARE GEAR.** State the articles supplied:—Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed bridge and air pump valves, iron and bolts of various sizes, one air pump rod, bracket and head valve, one circulating pump rod and bracket.

FOR The foregoing is a correct description,  
SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

Manufacturer.

Dates of Survey while building	During progress of work in shops	During erection on board vessel	Total No. of visits
1912 Jan. 21, Feb. 2, 3, 8, 15, 18, Aug. 14, 20, 21, 28, Sep. 3, 6, 10, 13, 16, 19, 20, 23, 26, 27, Oct. 3, 1913 Jan. 6, 8, 10, 17, 22, 23, 27, 28, Feb. 3, 1914 Jan. 11, 12, 14, 18, 26, 27, 29, Dec. 3, 5, 6, 9, 10, 12, 16, 18, 19, 20, 30	12, 13, 17, 21, 24, 26, 27, 28, Mar. 11, 20, 27, Apr. 3, 11, 16, 17, 21, 23, 25, 28	(81 + 17)	Is the approved plan of main boiler forwarded herewith
1913 Jan. 27, Feb. 13, May 5, 8, 9, 20, 22, 26, Jun. 2, 6, 11, 12, 19, 20, 23, July 1			" " " donkey " " "

Dates of Examination of principal parts—Cylinders	11, 11, 12	Slides	12, 12, 12	Covers	5, 11, 12	Pistons	12, 12, 12	Rods	29, 11, 12
Connecting rods	8, 10, 12	Crank shaft	18, 10, 12	Thrust shaft	18, 10, 12	Tunnel shafts	18, 10, 12	Screw shaft	18, 10, 12
Stern tube	19, 12, 12	Steam pipes tested	25, 4, 13	Engine and boiler seatings	16, 4, 13	Engines holding down bolts	25, 4, 13	Engines tried under steam	9-5-13
Completion of pumping arrangements	11-6-13	Boilers fixed	25, 4, 13	Engines tried under steam	9-5-13	Thickens of adjusting washers	Pink B, P 2 1/2, S 7 1/8, S 1 1/2 B, P 2 1/2, S 7 1/8		
Main boiler safety valves adjusted	9-5-13	Identification Mark on Do.	7261	Material of Thrust shaft	Steel	Identification Mark on Do.	P.W.C. 18		
Material of Crank shaft	Steel	Identification Marks on Do.	P.W.C. 18, 10, 12	Material of Screw shafts	Steel	Identification Marks on Do.	P.W.C. 18		
Material of Tunnel shafts	Steel	Test pressure	52/0 H.						

## General Remarks (State quality of workmanship, opinions as to class, &c.)

The Engines & boilers of this vessel have been built under special survey, the material & workmanship is good. They have been efficiently fitted on board and the vessel will be eligible in our opinion to have the notation of L.M.C. (with date) if the survey is complete. Vessel sailed for Sunderland (Surveyors advised).  
Survey complete.

Sunderland - Now done:- The main boiler safety valves adjusted, as above.

The main engines and donkeys tried under steam.

The pumping arrangement completed.

The donkey boiler fixed and its safety valves adjusted (see separate report).

A storm valve fitted on ship's side to fresh water condenser discharge.

The electric lighting installation completed.

The machinery is now eligible in my opinion for classification and the record — L.M.C. 7.13

It is submitted that this vessel is eligible for

THE RECORD. + L.M.C. 7.13.

F.D.

The amount of Entry Fee	£ 3 : 0	When applied for	MAY 7 1913
Special	£ 41 : 7	When received	17.5.13
Donkey Boiler Fee	£ 2 : 2		
Travelling Expenses (if any)	£		

Committee's Minute

TUE JUL 8 - 1913

Assigned

+ L.M.C. 7.13

MACHINERY CERTIFICATE WRITTEN



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