

Rpt. 4.

REPORT ON MACHINERY.

SUNDERLAND RPT. No. 28011

No. 13983.

Received at London Office TUE 4 JAN. 1921

Date of writing Report

19

When handed in at Local Office

19

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

Walker on type

Date, First Survey 21st Oct. 1919 Last Survey 10th Jan. 1921

(Number of Visits 58)

Gross

1886

on the

SS "VANELLUS"

Master

F. F. Brund

Built at

Sunderland

By whom built

Swan Hunter & Luggan

Tons

Net

915

When built

1921

Engines made at

Walker on type

By whom made

Swan Hunter & Luggan

when made 1920

Boilers made at

Walker on type

By whom made

Swan Hunter & Luggan

when made 1920

Registered Horse Power

Owners

Cork & L. Co. Ltd

Port belonging to

London

Nom. Horse Power as per Section 28

318

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 three

Dia. of Cylinders

20 1/2 - 34 - 56

Length of Stroke

42

Revs. per minute

Dia. of Screw shaft

as per rule 11.96

Material of

steel

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

yes

If two

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

yes

Length of stern bush

49 1/2 inches

Dia. of Tunnel shaft

as per rule 10.67

Dia. of Crank shaft journals

as per rule 11.21

Dia. of Crank pin

11 1/4

Size of Crank webs

16 1/2 x 7 3/8

Dia. of thrust shaft under

collars

11 1/2

Dia. of screw

14 1/2

Pitch of Screw

15 - 0

No. of Blades

4

State whether moveable

no

Total surface

70 sq feet

No. of Feed pumps

2

Diameter of ditto

3 1/2

Stroke

22

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2

Stroke

22

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

8"-9"-8"; 8"-5"-8"; 4 1/2"-3"-6"

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

ALL DUPLEX

In Engine Room

1 off 3" bore, 3 off 2 3/4" bore

In Holds, &c. 4 off 2 3/4" bore to Forward Hold, 1 off 2" bore Forward Oil Tight Well

4 off 2 3/4" bore to Aft Holds, 1 off 2" bore to Oil Tight Well (aft.), 1 off 2 1/2" bore to Tunnel Well.

No. of Bilge Injections

1

sizes 4"

Connected to condenser, or to circulating pump

cp

Is a separate Donkey Suction fitted in Engine room & size

yes 3"

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

just below

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

None

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

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

upper platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

J. Spencer & Sons Ltd

Total Heating Surface of Boilers

5000

Is Forced Draft fitted

yes

No. and Description of Boilers

Three Cyl. S. E. multitubular

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

21. 7. 20

No. of Certificate

9434

Can each boiler be worked separately

yes

Area of fire grate in each boiler

42 sq ft

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

7.06 sq in

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

12-6"

Length

11-6"

Material of shell plates

steel

Thickness

31/32"

Range of tensile strength

29 3/4/34 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

Double Lap

long. seams

DB stop

Diameter of rivet holes in long. seams

1"

Pitch of rivets

7 - 3 1/2"

Lap of plates or width of butt straps

15"

Per centages of strength of longitudinal joint

rivets 86.1%

plate 85.7%

Working pressure of shell by rules

182 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

24 1/8 x 24 1/8

No. and Description of Furnaces in each boiler

two

Duglans

Material

Steel

Outside diameter

47 7/8"

Length of plain part

top 7-10 1/2

Thickness of plates

crown 9/16

bottom 9/16

Description of longitudinal joint

weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

183 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

21/32"

Back

32"

Top

32"

Bottom

29/32"

Pitch of stays to ditto: Sides

9 x 8 1/2"

Back

8 1/4 x 8 1/4"

Top

8 1/2 x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

194 lbs

Material of stays

Steel

Area at smallest part

2.03

Area supported by each stay

76.7

Working pressure by rules

239 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/2"

Pitch of stays

18 x 14"

How are stays secured

8 nuts

Working pressure by rules

183 lbs

Material of stays

Steel

Area at smallest part

4.57

Area supported by each stay

252 sq in

Working pressure by rules

186 lbs

Material of Front plates at bottom

Steel

Thickness

29/32"

Material of Lower back plate

Steel

Thickness

1"

Greatest pitch of stays

13 1/2"

Working pressure of plate by rules

272 lbs

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4 x 3 3/4"

Material of tube plates

Steel

Thickness: Front

29/32"

Back

3/4"

Mean pitch of stays

9 3/8"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

184 lbs - 229 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9 7/8 x 1 1/4"

Length as per rule

30 1/2"

Distance apart

9

Number and pitch of stays in each

27 8 1/2"

Working pressure by rules

182 lbs

Steam dome: description of joint to shell

none

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch 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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

002127-002131-0217

IS A DONKEY BOILER FITTED? *None*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *one spare propeller 56 fire bars (Template of propeller one + keyway + shaft Coupling) 2 top end bolts & nuts 2 bottom end bolts & nuts 2 main bearing bolts & nuts 1 Set of feed pump Valves 1 Set of bilge pump Valves, Quantity assorted bolts & nuts + Iron of various sizes. 6 shaft Coupling bolts & nuts 6 junk king bolts. 1 Slide rod and gland bush & necking 1 piston rod gland bush & necking Various Stores.*

The foregoing is a correct description,

FOR
SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

G. F. J. J. J.

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1919 Oct. 21. Dec. 11. 1920 Jan. 6. 8. 15. 20. 26. Feb. 10. 15. Mar. 3. 10. 12. 23. 26. May 5. 7. 11. 17. 19. Jun. 1. 4. 8. 9.
During erection on board vessel -- 12. 15. 30. Jul. 5. 13. 14. 15. 19. 20. 21. 22. 27. Aug. 12. 23. 26. 31. Sep. 13. 15. 23. 27. 30. Oct. 4. 6. 12. 13. 17. 27. Nov. 10.
Total No. of visits *54* (58) *1919* 31 Aug. 7 Dec. Jan. 6. 10. Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *30. 9. 20* Slides *30. 9. 20* Covers *10. 20* Pistons *10. 20* Rods *10. 20*
Connecting rods *10. 20* Crank shaft *23. 9. 20* Thrust shaft *18. 10. 19* Tunnel shafts *10. 3. 20* Screw shaft *22. 7. 20* Propeller *12. 11. 20*
Stern tube *12. 11. 20* Steam pipes tested *17 Nov 20* Engine and boiler seatings *12. 11. 20* Engines holding down bolts *12. 11. 20*
Completion of pumping arrangements *to be done at Sunderland 6. 1. 21. 4th.* Boilers fixed *18. Nov 20* Engines tried under steam *18 November 20*
Completion of fitting sea connections *done 31. 8. 20 at Sunderland* Stern tube fitted *at Sunderland 31. 8. 20* Screw shaft and propeller *Nov. 20*
Main boiler safety valves adjusted *18 Nov 20* Thickness of adjusting washers *PCB. P⁵/₁₆ S³/₈ - CB. P³/₈ S³/₈ S¹³/₁₆ P³/₈ S³/₈*
Material of Crank shaft *Steel* Identification Mark on Do. *5146N* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYDS LGS*
Material of Tunnel shafts *Steel* Identification Marks on Do. *3264D. LGS. 10. 3. 20. 26. 1. 20* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYDS LGS*
Material of Steam Pipes *Iron* Test pressure *booth. 10p at Neptune Works, Walker.*

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 *yes* If so, state name of vessel *2/s 1116*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery built under Special Survey. The material and workmanship found good and efficient. Boilers tested under hydraulic pressure found good. The machinery fitted up on board, tested under steam and found satisfactory. The vessel has returned to the builders yard at Sunderland under her own steam the machinery working satisfactorily. Where the vessel will be completed, & trial trip carried out. To complete the survey. The steering gear. Control from the bridge to fore aft remains to be completed and tested, and spare gear put on board. The pumping connections are also to be completed. Surveyors at Sunderland advised. In my opinion the vessel will be eligible for the notation of L.M.C. with date upon completion as recommended above.

Steering gear control now laid and tested, spare gear put on board & checked, and pumping arrangements completed & examined. The vessel is now eligible in my opinion for notation of L.M.C. 1. 21

The amount of Entry Fee ... £ 3 : : When applied for, 2-1922
Special ... £ 35 : 18 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When received, 7-2 Jan. 1921

Committee's Minute TUE. JAN. 25 1921
Assigned *+ L.M.C. 1. 21.*
CERTIFICATE WRITTEN