

REPORT ON MACHINERY.

No. 13582.

Received at London Office

of writing Report

19

When handed in at Local Office

19

Port of

Aberdeen

FRI. JUN. 27 1924

Survey held at

Aberdeen

Date, First Survey

19. 3. 23.

Last Survey

19-6-24

1924

(Number of Visits)

35

on the

"JOYCE LLEWELLYN"

Tons

Gross

Net

Built at Aberdeen

By whom built

John Lewis & Sons Ltd N^o 93. When built 1924.

made at

Aberdeen

By whom made

John Lewis & Sons Ltd N^o 165.

when made

1924.

made at

do.

By whom made

do

do

N^{os} 131 & 2.

when made

1924.

d Horse Power

Owners Llewellyn Shipping Coy Ltd.

Port belonging to Cardiff.

se Power as per Section 28

178.

Is Refrigerating Machinery fitted for cargo purposes

no.

Is Electric Light fitted

yes.

ES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3.

No. of Cranks

3.

Cylinders 18 $\frac{1}{4}$ " 28 $\frac{1}{2}$ " 48 $\frac{1}{4}$ "

Length of Stroke

33"

Revs. per minute

84.

Dia. of Screw shaft

as per rule 10.66

as fitted 10.4

Material of

screw shaft

S.

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

no liner

Is the after end of the liner made water tight

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

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

yes.

If two bearings in the stern tube, is the shaft lapped or protected between the liners

Length of stern bush 3' 4" oil gland.

Screw shaft

as per rule 8.089

Dia. of Crank shaft journals

as per rule 9.438

Dia. of Crank pin

9 $\frac{1}{8}$ "

Size of Crank webs

6 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ "

Dia. of thrust shaft under

as fitted

9 $\frac{1}{8}$ "

as fitted

9 $\frac{1}{8}$ "

Dia. of screw

12' 6"

Pitch of Screw

15' 6"

No. of Blades

4.

State whether moveable

no.

Total surface

62.7

pumps

2.

Diameter of ditto

3 $\frac{1}{8}$ "

Stroke

16"

Can one be overhauled while the other is at work

yes.

pumps

2.

Diameter of ditto

3 $\frac{1}{8}$ "

Stroke

16"

Can one be overhauled while the other is at work

yes.

key Engines

Two.

Sizes of Pumps

BAL. 8' 9" x 8"

GEN. 6' 3" x 6"

FEED. 5' 3" x 8"

DUPLX.

SINGLE.

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

Room

3 of 2 $\frac{1}{2}$ "Tunnel well 1 of 2 $\frac{1}{2}$ "In Holds, &c. N^o 1. 2 of 2 $\frac{1}{2}$ "N^o 2. 3 of 2 $\frac{1}{2}$ "

Injections

1. sizes

6"

Connected to condenser, or to circulating pump

C.A.

Is a separate Donkey Suction fitted in Engine room & size

yes. 4"

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.

Connections with the sea direct on the skin of the ship

yes.

Are they Valves or Cocks

both valves & cocks.

Discharge pipes 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.

Discharge Valve 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.

Bilge suction pipes are carried through the bunkers

bilge suction to stokehold.

How are they protected

strong wood casing.

Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

yes.

Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

yes.

Shaft Tunnel watertight

yes.

Is it fitted with a watertight door

yes.

worked from upper grating in engine room.

S, &c.—(Letter for record

S.)

Manufacturers of Steel

D. Colville & Sons Ltd.

ing Surface of Boilers

3236#

Is Forced Draft fitted

no.

No. and Description of Boilers

2. Cyl. mult. S.E.

Pressure

180 lbs.

Tested by hydraulic pressure to

320

Date of test

19.2.24

3.4.24

Nos of Certificates

1024.

1026.

Boiler be worked separately

yes.

Area of fire grate in each boiler

52.14#

No. and Description of Safety Valves to

2 direct spring

Area of each valve

5.94"

Pressure to which they are adjusted

185 lbs.

Are they fitted with easing gear

yes.

Space between boilers or uptakes and bunkers or woodwork

about 8"

INTERNAL

Mean dia. of boilers

13' 0"

Length

10' 6"

Material of shell plates

S.

Range of tensile strength

28-32

Are the shell plates welded or flanged

no.

Descrip. of riveting: cir. seams

d. & lap.

Diameter of rivet holes in long. seams

1 $\frac{1}{16}$ "

Pitch of rivets

8 $\frac{1}{4}$ "

Lap of plates on

width of butt straps

14 $\frac{1}{8}$ " x 1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "1 $\frac{1}{4}$ "

of strength of longitudinal joint

rivets 88.9

plate 85.6

Working pressure of shell by rules

193.1

Size of manhole in shell

16" x 12"

Sensing ring

4" x 1 $\frac{1}{8}$ " DR.

No. and Description of Furnaces in each boiler

3 plain

Material

S.

Outside diameter

39 $\frac{1}{2}$ "

Main part

top 8 $\frac{1}{4}$ "

Thickness of plates

bottom 4 $\frac{1}{2}$ "

Description of longitudinal joint

weld.

No. of strengthening rings

32 x 32 x 32

Thickness: Sides

1 $\frac{1}{2}$ "

Back

2 $\frac{1}{2}$ "

Top

1 $\frac{1}{2}$ "

Bottom

1 $\frac{1}{2}$ "

Pressure of furnace by the rules

180

Combustion chamber plates: Material

S.

Thickness: Sides

1 $\frac{1}{2}$ "

Back

2 $\frac{1}{2}$ "

Top

9 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ "

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

192.9

Stays

S.

Area at smallest part

1.46"

Area supported by each stay

46"

Working pressure by rules

185.2

End plates in steam space:

S.

Thickness

1 $\frac{1}{8}$ "

Pitch of stays

18" x 18"

Smallest part

6.33"

Area supported by each stay

32.4"

Working pressure by rules

203

Material of Front plates at bottom

S.

Material of Lower back plate

S.

Thickness

2 $\frac{1}{2}$ "

Greatest pitch of stays

14 $\frac{1}{4}$ " x 9 $\frac{1}{2}$ "

Working pressure of plate by rules

193.6

Tubes

3 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ "

Pitch of tubes

4 $\frac{1}{4}$ " x 4 $\frac{1}{4}$ "

Material of tube plates

S.

Thickness: Front

1 $\frac{1}{2}$ "

Back

2 $\frac{1}{2}$ "

Mean pitch of stays

9 $\frac{1}{2}$ "

Wide water spaces

14 $\frac{1}{2}$ "

Working pressures by rules

F. 181.2

Girders to Chamber tops: Material

S.

Depth and

girders at centre

8 $\frac{1}{4}$ " x 1 $\frac{1}{2}$ "

Length as per rule

24 $\frac{1}{16}$ "

Distance apart

4 $\frac{1}{2}$ "

Number and pitch of stays in each

Two. 9 $\frac{1}{2}$ "

Pressure by rules

213.

Steam dome: description of joint to shell

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *Two top and two bottom end bolts & nuts: 2 main bearing and one set coupling bolts & nuts; one set each, Air, Feed & Bilge pump valves: one each main & donkey check valves: two safety valve springs: 6 condenser tubes & ferrules; bolts and nuts assorted, and iron of various sizes.*

The foregoing is a correct description,

For JOHN LAWIS & SONS, LTD.,

J. I. Donald

Manufacturers of Main Engines & Boilers.

Dates of Survey while building { During progress of work in shops - - - *1923* *Nov. 19. 24. 30 -* *Apr. 30 -* *May 14. 21. 22 -* *June 23. 29 -* *Aug 4. 22. 29 -* *Sept. 12. 21 -* *Oct 9. 24*
During erection on board vessel - - - *1924* *Nov. 5. 19. 26 -* *Dec. 24 -* *Jan. 22. Feb. 16. 22. 25. Inch 4. 11. Apr 8. 15. 17. 24. 28. May 16. 27*
Total No. of visits *June 1924* *35.*

Is the approved plan of main boilers forwarded herewith *yes.*

" " " donkey " " " " *✓*

Dates of Examination of principal parts—Cylinders *24. 10. 23* Slides *22. 8. 23* Covers *22. 8. 23* Pistons *19. 9. 23* Rods *5. 4. 23*
Connecting rods *24. 10. 23* Crank shaft *22. 8. 23* Thrust shaft *22. 5. 23* Tunnel shafts *22. 5. 23* Screw shaft *22. 2. 24* Propeller *22. 2. 24*
Stern tube *4. 3. 24* Steam pipes tested *28. 4. 24* Engine and boiler seatings *11. 3. 24* Engines holding down bolts *15. 4. 24*
Completion of pumping arrangements *28. 4. 24* Boilers fixed *15. 4. 24* Engines tried under steam *27. 5. 24*
Completion of fitting sea connections *11. 3. 24* Stern tube *11. 3. 24* Screw shaft and propeller *11. 3. 24*
Main boiler safety valves adjusted *27. 5. 24* Thickness of adjusting washers *9 1/4 Blr Pv 5/8 Sv 3/4. Pt Blr. Pv 3/8 Sv 1/2*
Material of Crank shaft *S.* Identification Mark on Do. *5222 (L.M.C.)* Material of Thrust shaft *S.* Identification Mark on Do. *1410 A.*
Material of Tunnel shafts *S.* Identification Marks on Do. *7014/14 A. incl* Material of Screw shafts *S* Identification Marks on Do. *1419 A.*
Material of Steam Pipes *Copper, solid drawn 1 1/2 bore No 6 W.G. ✓* Test pressure *360 lbs per sq inch ✓*

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.)

These Engines and Boilers have been constructed under Special Survey, and in accordance with the Secretary's letters, the Rules, and approved plans. The materials, and workmanship are good. When completed, and properly fitted on board, they were tried under steam at moorings with satisfactory results, and are now in good order, and in our opinion entitled to the record L.M.C 6. 24 in Red. in the Register Book.

An electric light installation has been fitted on board the vessel a report on which will be forwarded in due course.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C 6. 24. O.G.

The amount of Entry Fee ... £ *3* 0 :
Special ... £ *44* 10 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, 19...
When received, 19... *24*

Committee's Minute *TUES. 1 JUL 1924*

Assigned *+ L.M.C. 6, 24*

Ridley Yowell, J. D. Boyle, C. E. Wilks.
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation