

## REPORT ON MACHINERY.

No. 27643

Date of writing Report

19

When handed in at Local Office

29 OCT 1919

Port of

Received at London Office

THE 30 OCT. 1919

No. in Survey held at *Sunderland*  
Reg. Book. on the *3 1/2" LINERTON*

Date, First Survey

30 April 1919

(Number of Vials

Last Survey 28 Oct 1919

Master *Dowell*Built at *Sunderland*By whom built *Miss Wm Dwyer & Sons (539)*Tons { Gross *6698*  
Net *4131*When built *1919*Engines made at *Sunderland*By whom made *Miss Wm Dwyer & Sons LA (539)*when made *1919*Boilers made at *Sunderland*By whom made *Miss Wm Dwyer & Sons LA (539)*when made *1919*

Registered Horse Power

Owners

*H. Chapman & Son*

Port belonging to

*Newcastle*

Nom. Horse Power as per Section 28

*620 619*

Is Refrigerating Machinery fitted for cargo purposes

*No*

Is Electric Light fitted

*No*ENGINES, &c.—Description of Engines *Triple*

No. of Cylinders

*3*

No. of Cranks

*3*Dia. of Cylinders *27 45 75*Length of Stroke *54*

Revs. per minute

*79*

Dia. of Screw shaft

as per rule *15.24*

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

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

If the liner does not fit tightly at the part

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

Length of stern bush *5.6*

Dia. of Tunnel shaft

as per rule *13.92 13.96*

Dia. of Crank shaft journals

as per rule *14.64 14.66*

Dia. of Crank pin

*14.2*

Size of Crank webs

*30 1/2 x 9 1/2*

Dia. of thrust shaft under

collars *14 1/2*

Dia. of screw

*18.0*

Pitch of Screw

*18.0*

No. of Blades

*4*

State whether moveable

*No*

Total surface

*106.5*

No. of Feed pumps

*2*

Diameter of ditto

*2 1/2 x 2 1/2*

Stroke

*30*

Can one be overhauled while the other is at work

*Yes*

No. of Bilge pumps

*2*

Diameter of ditto

*4 1/2*

Stroke

*30*

Can one be overhauled while the other is at work

*Yes*

No. of Donkey Engines

*3*

SIZES OF PUMPS

*9 1/2 x 7 1/2, 10 1/2 x 14 x 24**10 x 10 x 10*

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

*Two in each hold 3/2. Two in dup tank*

In Engine Room

*Four 3 1/2"**5" Air Tunnel with 2 1/2"*

No. of Bilge Injections

*2*

sizes

*11"*

Connected to condenser or to circulating pump

*Yes*

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

*4 1/2 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

*None*

Are all connections with the sea direct on the skin of the ship

*Yes*

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

*None*

How are they protected

*Yes*

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, &amp;c.—(Letter for record

*5*)

Manufacturers of Steel

*Spencer & Sons*

Total Heating Surface of Boilers

*9525*

Is Forced Draft fitted

*Yes*

No. and Description of Boilers

*Three single ended*

Working Pressure

*150 lbs*

Tested by hydraulic pressure to

*360 lbs*

Date of test

*27.8, 10.9, 15.9.19*

No. of Certificate

*3602, 3606, 3611*

Can each boiler be worked separately

*Yes*

Area of fire grate in each boiler

*72.9*

No. and Description of Safety Valves to

*Two spring valves*

Area of each valve

*12.5"*

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

*No bunkers in Ex*

Way bilge

Mean dia. of boilers

*16.2 1/2*

Length

*12.5*

Material of shell plates

*S*

Thickness

*1 1/2*

Range of tensile strength

*28 1/2 - 33*

Are the shell plates welded or flanged

*No*

Descrip. of riveting: cir. seams

*Laps &c.*

long. seams

*1 1/2 x 1 1/2 riv.*

Diameter of rivet holes in long. seams

*1 3/8*

Pitch of rivets

*9 1/2*

Gap of plates or width of butt straps

*20 1/2*

Per centages of strength of longitudinal joint

rivets

*88.6*

Working pressure of shell by rules

*191*

Size of manhole in

*16 x 12*

No. and Description of Furnaces in each boiler

*4 Dwyer*

Material

*S*

Size of compensating ring

*1 1/2*

Length of plain part

*top 3 1/2 bottom 3 1/2*

Thickness of plates

*3 1/2*

Description of longitudinal joint

*Weld*

No. of strengthening rings

*7*

Working pressure of furnace by the rules

*190*

Combustion chamber plates: Material

*S*

Thickness: Sides

*2 3/32*

Back

*3/4*

Top

*3/2*

Bottom

*8*

Pitch of stays to ditto: Sides

*10 1/2 x 8 1/2*

Back

*9 1/2 x 9 1/2*

Top

*8 1/2 x 10 1/2*

If stays are fitted with nuts or riveted heads

*Yes*

Working pressure by rules

*195*

Material of stays

*S*

Area at smallest part

*2.03*

Area supported by each stay

*88.75*

Working pressure by rules

*205*

End plates in steam space:

*Material S*

Material

*S*

Thickness

*1 3/16*

Pitch of stays

*23 1/2 x 22 1/2*

How are stays secured

*As in rule*

Working pressure by rules

*195*

Area at smallest part

*9.66*

Area supported by each stay

*528*

Working pressure by rules

*189*

Material of Front plates at bottom

*S*

Thickness

*3/2*

Material of Lower back plate

*S*

Thickness

*7/8*

Greatest pitch of stays

*13 1/2*

Working pressure of plate by rules

*187*

Diameter of tubes

*2 1/2*

Pitch of tubes

*3 3/4 x 3 5/8*

Material of tube plates

*S*

Thickness: Front

*3/2*

Back

*3/4*

Mean pitch of stays

*11 1/4 x 7 1/4*

Pitch across wide water spaces

*13 1/2*

Working pressures by rules

*180*

Girders to Chamber tops: Material

*S*

Depth and

*10 1/2 x 1 1/4*

Length as per rule

*36 1/2*

Distance apart

*10 1/2*

Working pressure by rules

*200*

Steam dome: description of joint to shell

*Yes*

% of strength of joint

*Yes*

Diameter

*1 1/2*

Thickness of shell plates

*1 1/2*

Material

*S*

Pitch of rivets

*1 1/2*

Working pressure of shell by rules

*191*

Crown plates

*Yes*

Thickness

*1 1/2*

How stayed

*Yes*

## SUPERHEATER. Type

*Yes*

Date of Approval of Plan

*Yes*

Tested by Hydraulic Pressure to

*Yes*

Date of Test

*Yes*

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

Pressure to which each is adjusted

Is Easing Gear fitted

*Yes*

W1196-0121



IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end, two bottom end connecting rod bolts & nuts  
Two main bearing bolts, one set coupling bolts, one set fuel and bilge pump valves  
assorted bolts and nuts. Lots of various sizes. One propeller

The foregoing is a correct description,

WILLIAM DOXFORD & SONS, Limited

*A. H. H. H.*

Manufacturer.

Dates of Survey while building  
During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

1919 Apr. 30 May 12 20 29 Jun 16 24 Jul 1 28 29 Aug 12 18 29 Sept 9 16 18 23 25 30

Oct. 13 15 22 28

(23)

Is the approved plan of main boiler forwarded herewith 414

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 29.7.19 Slides 1.7.19 Covers 26.5.19 Pistons 29.7.19 Rods 29.7.19  
Connecting rods 29.7.19 Crank shaft 29.7.19 Thrust shaft 9.9.19 Tunnel shafts 9.9.19 Screw shaft 10.9.19 Propeller 9.9.19  
Stern tube 1.7.19 Steam pipes tested 26.9.19, 16.10.19 Engine and boiler seatings 6.10.19 Engines holding down bolts 30.9.19  
Completion of pumping arrangements 6.10.19 Boilers fixed 6.10.19 Engines tried under steam 23.10.19  
Completion of fitting sea connections 28.7.19 Stern tube 28.7.19 Screw shaft and propeller 23.9.19  
Main boiler safety valves adjusted 28.10.19 Thickness of adjusting washers Port 13" 10 13 5 32 Gun 13" 10 13 5 32 Star 13" 10 13 5 32  
Material of Crank shaft Steel Identification Mark on Do. 539 GAH Material of Thrust shaft Steel Identification Mark on Do. 539 GAH  
Material of Tunnel shafts Steel Identification Marks on Do. 539 GAH Material of Screw shafts Steel Identification Marks on Do. 539 GAH  
Material of Steam Pipes Copper Test pressure 360 lbs. sq. in.  
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 If so, state name of vessel F. Type

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

The machinery of this vessel has been built under special survey, the materials & workmanship are sound and good and under the vessel elicits in my opinion to have merit of - LMC 10.19

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 10.19. F.D.

*J. W. D.*

30/10/19.

*J. W. D.*

The amount of Entry Fee ... £ : : When applied for,  
Special ... £ 148 : 16 : 14.10.19  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : When received,  
11.11.19

*W. H. H.*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. NOV. 4. 1919

Assigned

+ LMC 10.19 F.D.



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Foundation