

## REPORT ON MACHINERY.

No. 29437

Date of writing Report

19

When handed in at Local Office

22/7/16 Port of

Received at London Office

MON. 24 JUL. 1916

No. in Survey held at

Hull

Date, First Survey

10-6-15

Last Survey

13-7-1916

Reg. Book.

420 on the Steam Trawler

Orvieto.

(Number of Visits 63

Gross 226

Master

Built at

Beverley

By whom built

Cook, Milner &amp; Gemmell

Tons

Net 109

Engines made at

Hull

By whom made

Amos &amp; Smith Ltd (No. 2731)

When built

1916

Boilers made at

Hull

By whom made

Amos &amp; Smith Ltd

when made

1916

Registered Horse Power

Owners

A. L. Black

Port belonging to

Grimby

Nom. Horse Power as per Section 28

75

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

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

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12" 21" 34"

Length of Stroke

24"

Revs. per minute

110

Dia. of Screw shaft

as per rule 7.23

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 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

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

Dia. of Tunnel shaft as per rule 6.48

Dia. of Crank shaft journals as per rule 6.8

Dia. of Crank pin 7" Size of Crank webs 13 1/2" x 4 1/2"

collars 7" Dia. of screw 8" 9" Pitch of Screw 11' 0" No. of Blades 4 State whether moveable no Total surface 29 sq

No. of Feed pumps 1 Diameter of ditto 2 5/8" Stroke 12" Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 2 5/8" Stroke 12" Can one be overhauled while the other is at work

No. of Donkey Engines 1 Sizes of Pumps 6 1/4" 4 1/4" 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room two 2" one forward and one aft In Holds, &amp;c. two 2" fore hold and shushwill

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room &amp; size 2 1/2" injector

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 hold suction How are they protected wood casings

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 1-2-16 of Stern Tube 1-2-16 Screw shaft and Propeller 1-2-16

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel Steel Co. of Scotland.

Total Heating Surface of Boilers 1268 sq ft Is Forced Draft fitted No No. and Description of Boilers one single ended

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 1-6-16 No. of Certificate 3139

Can each boiler be worked separately Yes Area of fire grate in each boiler 315 sq ft No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 3.97 sq in Pressure to which they are adjusted 204 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork abt. 7" Sub. Mean dia. of boilers 12' 9 1/16" Length 10' 0" Material of shell plates S.

Thickness 1 1/32 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D. R.

Long. seams T.S.D.B.S. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 7 3/4" Lap of plates or width of butt straps 16 1/4"

Per centages of strength of longitudinal joint rivets 91.4 plates 84.67 Working pressure of shell by rules 200 Size of manhole in shell 16" x 12"

Size of compensating ring 40" x 30" x 1 1/2" No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 3' 1 5/8"

Length of plain part top 81 3/4" Thickness of plates crown 13" bottom 16" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 214 Combustion chamber plates: Material S. Thickness: Sides 3/4" Back 2 3/32" Top 1 1/16" Bottom 3/4"

Pitch of stays to ditto: Sides 8 3/4" x 9 1/2" Back 8 x 9 1/4" Top 8 1/2" x 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 202

Material of stays S. Diameter at smallest part 2.066 Area supported by each stay 79.5 Working pressure by rules 234 End plates in steam space

Material S. Thickness 1 1/16" Pitch of stays 16 1/2" x 15 1/4" How are stays secured N &amp; W Working pressure by rules 206 Material of stays S.

Diameter at smallest part 6.1 Area supported by each stay 260 Working pressure by rules 244 Material of Front plates at bottom S.

Thickness 1 1/16 Material of Lower back plate S. Thickness 1 5/16 Greatest pitch of stays 14 1/2" x 8" Working pressure of plate by rules 222

Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" x 5" Material of tube plates S. Thickness: Front 1 1/16" Back 7/8" Mean pitch of stays 10.8

Pitch across wide water spaces 14 1/2" Working pressures by rules 206 lbs. Girders to Chamber tops: Material S. Depth and

thickness of girder at centre 8" x 2" Length as per rule 2' 8 3/4" Distance apart 8 1/2" Number and pitch of stays in each two 9 1/2"

Working pressure by rules 211 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet

holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

no

SPARE GEAR. State the articles supplied:—

Two top end bolts and nuts; two main bearing bolts and nuts; one set of coupling bolts and nuts; one check valve and one donkey cheque valve; a quantity of bolts and nuts of various sizes and iron of various lengths and sizes. Two bottom end connecting rod bolts and nuts; one set of feed and bilge pump valves.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

W. Brackenbury

Manufacturers.

Dates of Survey while building { During progress of work in shops -- 1915: Jan 10, 22, 26, July 2, 9, 14, 30, Aug 6, 13, 20, 27, Sep 3, 13, 20, 25, Oct 5, 12, 19, 29, Nov 5, 12  
During erection on board vessel -- 19, 26, 29, Dec 2, 7, 13, 17, 21, 30, 1916: Jan 6, 7, 13, 20, 28, Feb 1, 4, 18, 25, Mar 9, 17, 23, 30, 31, Apr 6, 7  
Total No. of visits 63

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

Yes

Dates of Examination of principal parts—Cylinders 31-3-16 Slides 31-3-16 Covers 31-3-16 Pistons 6-4-16 Rods 17-6-16.

Connecting rods 17-6-16 Crank shaft 17-6-16 Thrust shaft 17-6-16 Tunnel shafts ✓ Screw shaft 6-1-16 Propeller 6-1-16

Stern tube 6-1-16 Steam pipes tested 27-6-16 Engine and boiler seatings 1-2-16 Engines holding down bolts 23-6-16

Completion of pumping arrangements 13-7-16 Boilers fixed 23-6-16 Engines tried under steam 6-7-16

Main boiler safety valves adjusted 6-7-16 Thickness of adjusting washers P  $\frac{11}{32}$  S  $\frac{13}{32}$

Material of Crank shaft Steel Identification Mark on Do. 17-6-16 Material of Thrust shaft Iron Identification Mark on Do. 17-6-16

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 6-1-16

Material of Steam Pipes S.D. Copper ✓ Test pressure 400 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

Yes

If so, state name of vessel

"Carillon"

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel

has been constructed under special survey in accordance with the approved plans and the rules of this Society; the materials and workmanship are good; the boiler and steam pipes have been tested as above by hydraulic pressure and found satisfactory.

The machinery has been properly fitted and secured on board, and on completion tried under steam and found satisfactory.

The safety valves have been adjusted under steam and tested for accumulation, which did not exceed 210 lbs. per sq. inch.

In my opinion the vessel is eligible for the record + L.M.C. 7.16.

It is submitted that this vessel is eligible for

THE RECORD + L.M.C. 7.16.

J.W.D.

24/7/16

Geo. Allan

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ 1 : - :  
Special ... £ 11 : 5 :  
Donkey Boiler Fee ... £ - : - :  
Travelling Expenses (if any) £ - : 2 :  
When applied for, 22/7/1916  
When received, 17.6.1916

Committee's Minute TUE JUL 25 1916

Assigned

+ L.M.C. 7.16

MACHINERY CERTIFICATE  
WRITTEN



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Foundation