

## REPORT ON MACHINERY.

No. 31395

F.M.I. 47001, 1919

Date of writing Report

19

When handed in at Local Office

22/10/19 Port of Hull

Received at London Office

No. in Survey held at  
Reg. Book.

Hull

Date, First Survey

18/11/18 Last Survey

11/9/19

on the S.S. "POLLY JOHNSON" late "JOHN AIKENHEAD" (No. 408)

Master

Built at Beverley

By whom built Cook, Welton &amp; Gemmell

Engines made at

Hull

By whom made

Amos &amp; Smith (No. 3066)

when made

1919

Boilers made at

Hull

By whom made

Amos &amp; Smith (No. 3066)

when made

1919

Registered Horse Power

Owners

James Johnson

Port belonging to

Scarborough

Nom. Horse Power as per Section 28

87/86

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

12½"-21¼" 35"

Length of Stroke

26"

Revs. per minute

110

Dia. of Screw shaft

7½"

Material of

iron

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

no liner

in the propeller boss

✓ 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

✓

If two

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

✓

Dia. of Tunnel shaft

as per rule

✓ 6.58

Dia. of Crank shaft journals

as per rule

✓ 6.91

Dia. of Crank pin

7½"

Size of Crank webs

14" x 4½"

Dia. of thrust shaft under

collars

7½"

Dia. of screw

9-6"

Pitch of Screw

11-1½"

No. of Blades

4

State whether moveable

no

Total surface

35.5 sq.

No. of Feed pumps

one

Diameter of ditto

2¾"

Stroke

12"

Can one be overhauled while the other is at work

✓

No. of Bilge pumps

one

Diameter of ditto

2¾"

Stroke

12"

Can one be overhauled while the other is at work

✓

No. of Donkey Engines

one

Sizes of Pumps

6" x 4" x 6"

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

In Engine Room One 2" direct for, One 2" aft, One 2" for, 2 ejectors

slushwell, 2" ejector from slushwell.

No. of Bilge Injections

one

sizes

3½"

Connected to condenser, or to circulating pump

pump Is a separate Donkey Suction fitted in Engine room &amp; size 2" ejector.

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

Yes

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 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

Is the Screw Shaft Tunnel watertight

✓

Is it fitted with a watertight door

✓

worked from

✓

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

S

Manufacturers of Steel

Port Talbot Steel Co. Ltd.—Port Talbot

Total Heating Surface of Boilers

1590 sq.

Is Forced Draft fitted

no

No. and Description of Boilers

one single ended.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

11/7/19

No. of Certificate

3373

Can each boiler be worked separately

✓

Area of fire grate in each boiler

48.75 sq.

No. and Description of Safety Valves to

each boiler

two spring loaded

Area of each valve

4.90"

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

11"

Mean dia. of boilers

162"

Length

10-6½"

Material of shell plates

steel

Thickness

1½"

Range of tensile strength

28/32 tons

Are the shell plates welded or flanged

no.

Descrip. of riveting: cir. seams

double.

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1½"

Pitch of rivets

8"

Length of plates or width of butt straps

17"

Per centages of strength of longitudinal joint

rivets

89.3

plate

85.5

Working pressure of shell by rules

180 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

9" x 1½"

No. and Description of Furnaces in each boiler

3 plain

Material

steel

Outside diameter

40 9/16"

Length of plain part

top

8 1/2"

Thickness of plates

crown

2 5/32"

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

188

Combustion chamber plates: Material

steel

Thickness: Sides

1/16"

Back

3/32"

Top

1/16"

Bottom

1/8"

Pitch of stays to ditto: Sides

9 1/2" x 9 3/8"

Back

9" x 9"

Top

9 1/2" x 9 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

182

Material of stays

steel

Area at smallest part

2.070"

Area supported by each stay

90.250"

Working pressure by rules

206

End plates in steam space:

Material of stays

steel

Material

steel

Thickness

1 1/16"

Pitch of stays

17 3/8" x 17"

How are stays secured

DN &amp; W

Working pressure by rules

181

Material of stays

steel

Area at smallest part

6.10"

Area supported by each stay

29.50"

Working pressure by rules

215

Material of Front plates at bottom

steel

Thickness

3/32"

Material of Lower back plate

steel

Thickness

1/16"

Greatest pitch of stays

14" x 9"

Working pressure of plate by rules

219

Diameter of tubes

3 1/2"

Pitch of tubes

5" x 4 3/4"

Material of tube plates

steel

Thickness: Front

3/32"

Back

7/8"

Mean pitch of stays

10"

Pitch across wide water spaces

14"

Working pressures by rules

184

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

8 1/2" x 1 3/4"

Length as per rule

32"

Distance apart

9 1/2"

Working pressure by rules

197

Steam dome: description of joint to shell

✓

% of strength of joint

✓

Diameter

✓

Thickness of shell plates

✓

Material

✓

Description of longitudinal joint

✓

Diam. of rivet holes

2020

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

✓

Pressure to which each is adjusted



IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

✓

SPARE GEAR.

State the articles supplied:

Two top & two bottom end bolts & nuts, one set of coupling bolts, 2 main bearing bolts & nuts, one set each of Air Feed & Bilge Pump Valves, 6 junk ring studs & nuts, 3 condenser tubes, 3 escape valve springs, 3 boiler tubes, 2 spare valves for donkey pump, a quantity of assorted bolts & nuts and iron of various sizes.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1918: Nov 18, 28 Dec 3, 5, 12, 11, 20, 1919: Jan 13, 14, 20, 23, 27, 28 Feb 10, Mar 6, 13, 21 Apr 3, 4  
During erection on board vessel - 8, 9, 24, 25 May 3, 10, 14, 13, 14, 17, 27 Jun 7, 16, 17 Jul 1, 2, 3, 4, 10, 11 Aug 1, 13, 18, 19, 21, 22, 26, 27  
Total No. of visits 48

Is the approved plan of main boiler forwarded herewith?

no

Dates of Examination of principal parts: Cylinders 3/5/19 Slides 10/2/19 Covers 8/4/19 Pistons 14/1/19 Rods 27/5/19  
Connecting rods 27/5/19 Crank shaft 17/5/19 Thrust shaft 17/5/19 Tunnel shafts ✓ Screw shaft 28/11/18 Propeller 11/12/18  
Stern tube 11/12/18 Steam pipes tested 18/8/19 Engine and boiler seatings 14/5/19 Engines holding down bolts 19/8/19  
Completion of pumping arrangements 27/8/19 Boilers fixed 13/8/19 Engines tried under steam 21/8/19  
Completion of fitting sea connections 12/12/18 Stern tube 12/12/18 Screw shaft and propeller 12/12/18  
Main boiler safety valves adjusted 21/8/19 Thickness of adjusting washers P 5 1/16 S 1 1/32

Material of Crank shaft steel Identification Mark on Do. 2229 WNS Material of Thrust shaft steel Identification Mark on Do. 2230 WNS

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts iron Identification Marks on Do. 2977 WNS

Material of Steam Pipes Steel (solid drawn) ✓ Test pressure 540 lbs/sq. in.

Is an installation fitted for burning oil fuel? ✓ 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.)

The machinery of this vessel has been constructed under Special Survey in accordance with the approved plans & the Rules of the Society. The materials & workmanship are good. The boiler & steam pipe have been tested as above & found sound & good. The machinery has been properly fitted & secured on board the vessel & on completion was tested at full power for two hours as required by the Admiralty & found satisfactory. The safety valves have been adjusted under steam & accumulation did not exceed 9 lbs. In my opinion the vessel is eligible for the record + LMC 9.19

It is submitted that this vessel is eligible for THE RECORD + LMC 9.19.

The amount of Entry Fee ... £ 2 : 0 :  
Special ... £ 26 : 2 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 22/10/19  
When received, 27/10/19

FRI. 31 OCT. 1919

Committee's Minute

Assigned

+ LMC 9.19

QUALITY CERTIFICATE

Engineer Surveyor to Lloyd's Register of Shipping.



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