

REPORT ON MACHINERY.

No. 20054

Received at London Office MON. JAN. 3 1921

te of writing Report 30th Dec. 1920 When handed in at Local Office 31st Dec. 1920 Port of **NEWPORT, MON.**
 o. in Survey held at **Shipton** Date, First Survey 14th Apr. Last Survey 30th Dec. 1920.
 Reg. B. **412** on the **S/S WAR FIG.** (Number of Visits **8**)
 Gross **2567.96**
 Tons Net **1425.22**
 Master **Turbine** Built at **Shipton** By whom built **Monmouth S.B. & L^d** When built **1920**
 Engines made at **Forest Brayton** By whom made **Metropolitan Edison & Co.** when made **1920**
 Boilers made at **Glasgow** By whom made **Messrs Bakers & Wilson** when made **1920**
 Registered Horse Power **1000** Owners **The Shipping Controller** Port belonging to **London**
 Shaft Horse Power at Full Power **1000** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

TURBINE ENGINES, &c.—Description of Engines **Patent Impulse H.P. & L.P.** No. of Turbines **2**

Diameter of Rotor Shaft Journals, H.P. **4** L.P. **4** Diameter of Pinion Shaft **3 3/4**
 Diameter of Journals **3 3/4** Distance between Centres of Bearings **22-48** Diameter of Pitch Circle **5.195-11.5**
 Diameter of Wheel Shaft **1 1/2** Distance between Centres of Bearings **48** Diameter of Pitch Circle of Wheel **57.145-66.5**
 Width of Face **13** Diameter of Thrust Shaft under Collars **1 1/2** Diameter of Tunnel Shaft as per rule **10**
 No. of Screw Shafts **one** Diameter of same as fitted **13** Diameter of Propeller **15'9"** Pitch of Propeller **15'6"**
 No. of Blades **four** State whether Moveable **No** Total Surface **77 1/2** Diameter of Rotor Drum, H.P. **✓** L.P. **✓** Astern **✓**
 Thickness at Bottom of Groove, H.P. **✓** L.P. **✓** Astern **✓** Revs. per Minute at Full Power, Turbine **4500** Propeller **70**

PARTICULARS OF BLADING.

	H. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION	2 + 1/2	27 1/2 + 28 1/2	2	1 1/2	28 1/2	1	1 1/2		
2ND	5/8	27 5/8	1	1 5/8	28 5/8	1	1 1/2 + 12 3/4	28 1/2 + 29 3/4	2
3RD	5/8	27 5/8	1	2 5/8	29 5/8	1			
4TH	5/8	27 5/8	1	4 3/4	31 3/4	1	L P		
5TH				6 1/4	33 1/4	1	1 1/2	28 1/2	1
6TH							3 1/2	30 1/2	1
7TH									
8TH									

No. and size of Feed pumps **2 8x6x18**
 No. and size of Bilge pumps **1 10x12 1/2 x 18**
 No. and size of Bilge suction in Engine Room **4-3 1/2**
 In Holds, &c. **N 1 1 P 1 S 3. N 2 1 P 1 S 3. N 3 1 P 1 S 3**

No. of Bilge Injections **1** sizes **9** Connected to condenser or to circulating pump **Yes** Is a separate Donkey Suction fitted in Engine Room & 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 all connections with the sea direct on the skin of the ship **Yes** Are they Valves or Cocks **Both**
 Are they fired 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 **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 **Hold suction** How are they protected **Wood casing**
 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 **Engine room top**

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **Hewart & Lloyds**

Total Heating Surface of Boilers **5526** Is Forced Draft fitted **No** No. and Description of Boilers **2. Bakers & Wilson**
 Working Pressure **180 lbs** Tested by hydraulic pressure to **360** Date of test **Sept 2nd** No. of Certificate **17**
 Can each boiler be worked separately **Yes** Area of fire grate in each boiler **84.5** No. and Description of Safety Valves to each boiler **2 Spring loaded**
 Smallest distance between boilers or uptakes and bunkers or woodwork **8'-0"** Pressure to which they are adjusted **185 lbs** Are they fitted with easing gear **Yes**
 Thickness **1 1/2** Range of tensile strength **28-32** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **SR Rap**
 long. seams **T.R. S.B.S** Diameter of rivet holes in long. seams **27 1/2** Pitch of rivets **3 3/4** Lap of plates or width of butt straps **7**
 Per centages of strength of longitudinal joint plates **77.5** Working pressure of shell by rules **210 lbs** Size of manhole in shell **15x11**

Size of compensating ring **2 1/2 x 22 x 7** No. and Description of Furnaces in each Boiler **✓** Material **✓** Outside diameter **✓**
 Length of plain part **✓** Thickness of plates **✓** Description of longitudinal joint **✓** No. of strengthening rings **✓**
 Working pressure of furnace by the rules **✓** Combustion chamber plates: Material **✓** Thickness: Sides **✓** Back **✓** Top **✓** Bottom **✓**
 Pitch of stays to ditto: Sides **✓** Back **✓** Top **✓** If stays are fitted with nuts or riveted heads **✓** Working pressure by rules **✓**
 Material of stays **✓** Diameter at smallest part **✓** Area supported by each stay **✓** Working pressure by rules **✓** End plates in steam space **✓**
 Material **✓** Thickness **✓** Pitch of stays **✓** How are stays secured **✓** Working pressure by rules **✓** Material of stays **✓**
 Diameter at smallest part **✓** Area supported by each stay **✓** Working pressure by rules **✓** Material of Front plates at bottom **✓**
 Thickness **✓** Material of lower back plate **✓** Thickness **✓** Greatest pitch of stays **✓** Working pressure of plate by rules **✓**
 Diameter of tubes **✓** Pitch of tubes **✓** Material of tubes **✓** Thickness: Front **✓** Back **✓** Mean pitch of stays **✓**
 Pitch across wide water spaces **✓** Working pressures by rules **✓** Girders to Chamber tops: Material **✓** Depth and thickness of girder at centre **✓**
 Working pressure by rules **✓** Steam dome: description of joint to shell **✓** 1/10 of strength of joint **✓** Diameter **✓**
 Thickness of shell plates **✓** Material **✓** Description of longitudinal joint **✓** Diameter of rivet holes **✓** Pitch of rivets **✓**
 Working pressure of shell by rules **✓** Crown plates: Thickness **✓** How stayed **✓**

SUPERHEATER.

Date of Test

Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Diameter of Safety Valve

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

IS A DONKEY BOILER FITTED?

Yes.

If so, is a report now forwarded? Yes. Glasgow Rep. No. 3978

SPARE GEAR.

State the articles supplied:

One set of pins each for Machel & turbine thrust blocks. One set of bearing bushes each for turbine rotor. Low speed wheel shaft. Intermediate gear shaft also for pinion. One pinion with flexible coupling. One rotor pump plunger. One set of valves for lubricating pump. One bucket & rod for lubricating pump. One escape valve of each size. 570 condenser tubes & ferrules. One impeller shaft. One air pump rod, bucket & valves. One set of coupling bolts, assorted bolts & nuts.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops --
During erection on board vessel --
Total No. of visits

Apr 14. June 10. 28. Sept 2. 27. Nov 15. Dec 30

Is the approved plan of main boiler forwarded herewith

No.

Dates of Examination of principal parts—Casings

Rotors

Blading

Gearing

Rotor shaft

Thrust shaft

Tunnel shafts

Screw shaft

Propeller

Stern tube

Steam pipes tested

Engine and boiler seatings

Engines holding down bolts

Completion of pumping arrangements

Boilers fixed

Engines tried under steam

Main boiler safety valves adjusted

Thickness of adjusting washers

Engines tried under steam

Material and tensile strength of Rotor shafts

Mild steel 32.8 + 30.7 lb/in²

Identification Mark on Do. 6401 + 0414

Material and tensile strength of Pinion shaft

Mild steel 40 lb/in²

Identification Mark on Do. 14PC. 4.12.19

Material of Wheel shaft

Identification Mark on Do.

1647

Material of Thrust shaft

Identification Mark on Do.

1647

Material of Tunnel shafts

Steel

Identification Marks on Do.

368

Material of Screw shafts

Steel

Identification Marks on Do.

368

Material of Steam Pipes

Cap welded steel

Identification Marks on Do.

368

Test pressure

36 lb

Identification Marks on Do.

368

Is an installation fitted for burning oil fuel

No

Is the flash point of the oil to be used over 150°F.

Yes

Have the requirements of Section 49 of the Rules been complied with

Yes

Is this machinery a duplicate of a previous case

Yes

If so, state name of vessel

Nash Light

General Remarks

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

The boiler (see Glasgow Report No. 3978)

machinery (see Marchmont & Loman Reports 4572 + 82456 respectively) have been fitted & secured on board & the boiler tested under hydraulic pressure to 36 lb. A donkey boiler (Glasgow Report No. 39955) has also been fitted & secured on board & its safety valves adjusted. The machinery & boiler have been tested under full working condition & found satisfactory & are now eligible in our opinion to have record of T.L.M.C. 12.20.

The amount of Entry Fee

£

Special

£

Donkey Boiler Fee

£

Travelling Expenses (if any)

£

When applied for,

11.1.19.20

When received,

11.1.19.20

John W. Gwynne & John M. Gibson.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. JAN. 7 1920

Assigned

+ L.M.C. 12.20

Subject.

CERTIFICATE WRITTEN.



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