

REPORT ON MACHINERY.

No. 71462

Received at London Office

of writing Report 25th Nov 1918. When handed in at Local Office 10 Port of **NEWCASTLE-ON-TYNE**
 in Survey held at **Newcastle on Tyne** Date, First Survey **19th Sept 1917** Last Survey **3rd Dec. 1918**
 Book. on the **SCREW STEAMER "WAR RAJAH."** (Number of Visits 81) Tons { Gross 5576 Net 3444

ster Built at **Newcastle** By whom built **Shaw Hunter & Wigham Richardson** When built **1918**
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 istered Horse Power Owners **The Shipping Controller (British Tanker Co. Ltd)** Port belonging to **London**
 n. Horse Power as per Section 28 **514** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

GINES, &c.—Description of Engines **Triple Expansion** No. of Cylinders **Three** No. of Cranks **Three**
 . of Cylinders **24-44-73** Length of Stroke **48"** Revs. per minute **48** Dia. of Screw shaft **14 1/4"** Material of **Steel**
 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
 the propeller boss **Yes** If the liner is in more than one length are the joints burned **Length** 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 **Yes** If two
 rs are fitted, is the shaft lapped or protected between the liners **Yes** Length of stern bush **5' 0 1/2"**
 a. of Tunnel shaft **13 3/4"** Dia. of Crank shaft journals **13 9/8"** Dia. of Crank pin **14 1/2"** Size of Crank webs **23 x 9** Dia. of thrust shaft under
 lars **14 1/4"** Dia. of screw **18' 6"** Pitch of Screw **16' 6"** No. of Blades **4** State whether moveable **No** Total surface **98.2 sq. ft.**
 . of Feed pumps **2** Diameter of ditto **4"** Stroke **24"** Can one be overhauled while the other is at work **Yes**
 . of Bilge pumps **2** Diameter of ditto **4"** Stroke **24"** Can one be overhauled while the other is at work **Yes**
 . of Donkey Engines **3** Sizes of Pumps **10 x 14 1/2 x 18 9/16 x 18 9/16** No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room **Four-3 1/2"** In Holds, &c. **Forward Hold 2-3 1/2" dia**
 for Hold **2-2 1/2" dia** Tunnel Well **1-2 1/2" dia**
 . of Bilge Injections **1** sizes **8"** Connected to condenser, or to circulating pump **C.P.** Is a separate Donkey Suction fitted in Engine room & size **Yes 3 1/2"**
 re 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**
 re all connections with the sea direct on the skin of the ship **Yes** Are they Valves or Cocks **Both**
 re 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 **Below**
 re 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**
 That pipes are carried through the bunkers **None** How are they protected **Yes**
 re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **Yes**
 re 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 **21/11/18** of Stern Tube **2/11/18** Screw shaft and Propeller **2/11/18**
 the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **No** worked from **Entered by trunkways**

BOILERS, &c.—(Letter for record **S.**) Manufacturers of Steel **J. Spencer & Sons**
 total Heating Surface of Boilers **4668** Is Forced Draft fitted **Yes** No. and Description of Boilers **3: Crown & Knel Single**
 Working Pressure **180 lbs** Tested by hydraulic pressure to **360 lbs** Date of test **3/10/18** No. of Certificate **9163**
 Can each boiler be worked separately **Yes** Area of fire grate in each boiler **62 sq. ft.** No. and Description of Safety Valves to
 ach boiler **2: Direct Spring & Lever** of each valve **9.62"** 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 **24"** Mean dia. of boilers **15' 6"** Length **11' 6"** Material of shell plates **Steel**
 Thickness **1 1/4"** Range of tensile strength **28 to 32 lbs** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **Lap riveted**
 ng. seams **5: B.S. Triple** Diameter of rivet holes in long. seams **1 5/16"** Pitch of rivets **9 1/2" 4 1/2"** Lap of plates or width of butt straps **19 1/2"**
 Per centages of strength of longitudinal joint rivets **87.5** Working pressure of shell by rules **182 lbs** Size of manhole in shell **End 16 x 12"**
 plate **85.6** Size of compensating ring **Plan flanged** No. and Description of Furnaces in each boiler **3: Deighton's** Material **Steel** Outside diameter **50 3/16"**
 Length of plain part **7' 6"** Thickness of plates **19"** Description of longitudinal joint **Weld** No. of strengthening rings **None**
 Working pressure of furnace by the rules **188 lbs** Combustion chamber plates: Material **Steel** Thickness: Sides **3 1/2"** Back **7 1/2"** Top **3 1/2"** Bottom **3 1/2"**
 Pitch of stays to ditto: Sides **9 1/2 x 10 1/8** Back **10 1/2 x 8 1/2** Top **10 1/2 x 9 1/2** If stays are fitted with nuts or riveted heads **None** Working pressure by rules **180 lbs**
 Material of stays **Steel** Diameter at smallest part **2-36** Area supported by each stay **98"** Working pressure by rules **215 lbs** End plates in steam space
 Material **Steel** Thickness **1 1/2"** Pitch of stays **2 1/2 x 2 1/8** How are stays secured **Double hats & washers** Working pressure by rules **189 lbs** Material of stays **Steel**
 Diameter at smallest part **8.29** Area supported by each stay **456"** Working pressure by rules **184 lbs** Material of Front plates at bottom **Steel**
 Thickness **3 1/2"** Material of Lower back plate **Steel** Thickness **2 3/2"** Greatest pitch of stays **13 1/8"** Working pressure of plate by rules **187 lbs**
 Diameter of tubes **2 3/4"** Pitch of tubes **4' x 3 1/8"** Material of tube plates **Steel** Thickness: Front **3 1/2"** Back **3 1/4"** Mean pitch of stays **9.81"**
 Pitch across wide water spaces **13 1/8"** Working pressures by rules **181 lbs 209 lbs** Girders to Chamber tops: Material **Steel** Depth and
 thickness of girder at centre **10 x 1 1/2"** Length as per rule **25 9/16"** Distance apart **10 1/8"** Number and pitch of stays in each **3: 9 1/4"**
 Working pressure by rules **187 lbs** Superheater or Steam chest; how connected to boiler **None** Can the superheater be shut off and the boiler worked
 separately **Yes** Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

