Rpt. 4.

No. 422442

REPORT ON MACHINERY.

Port of Newcastle

No. in Reg. Book. 1508 — Survey held at Newcastle — Date, first Survey Dec 6th 1900 — Received at London Office 19 — Last Survey Aug 16th 1901 — (Number of Visits 24)

on the S/S "SWAZI" — Tons Gross 4940 Net 3215

Master A.W. Dobbs — Built at Newcastle — By whom built Armstrong Whitworth & Co — When built 1901-8

Engines made at Newcastle — By whom made The Wallsend Slipway & Engg Co — when made 1901-8

Boilers made at Newcastle — By whom made The Wallsend Slipway & Engg Co — when made 1901-8

Registered Horse Power — Owners Bucknall Bros — Port belonging to London

Nom. Horse Power as per Section 28 463 — Is Refrigerating Machinery fitted No — Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple — No. of Cylinders 3 — No. of Cranks 3

Dia. of Cylinders 26" 43" 72" — Length of Stroke 48" — Revs. per minute — Dia. of Screw shaft as per rule 13.95" as fitted 15" — Lgth. of stern bush 5'-0"

Dia. of Tunnel shaft as per rule 13" as fitted 13" — Dia. of Crank shaft journals as per rule 13.65" as fitted 14" — Dia. of Crank pin 14½ — Size of Crank webs 9⅝ × 21 — Dia. of thrust shaft under collars 14" — Dia. of screw 16'-0" — Pitch of screw 18'-0" — No. of blades 4 — State whether moveable yes — Total surface 91 ☐ft

No. of Feed pumps 2 Weirs — Diamster of ditto 12½ × 9 × 21 — Stroke / — Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 — Diameter of ditto 4½" — Stroke 26" — Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 — Sizes of Pumps 8" × 5" × 10" & 9" × 11" × 10" — No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room five 3½" In Holds, &c. Fore, main & after main holds two 3½" each, Hold well one 3½", tunnel well one 3½".

No. of bilge injections 1 sizes 4" — Connected to condenser, or to circulating pump pumps — Is a separate donkey suction fitted in Engine room & size yes 3½"

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 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 none — How are they protected ✓

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock 12-8-07 — Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes — worked from upper deck.

BOILERS, &c.— (Letter for record S) — Total Heating Surface of Boilers 6531 ☐ft — Is forced draft fitted yes

No. and Description of Boilers 3 Multi. Single ended — Working Pressure 180 lbs — Tested by hydraulic pressure to 360 lbs

Date of test 2/3.07 — Can each boiler be worked separately yes — Area of fire grate in each boiler 48 ☐ft — No. and Description of safety valves to each boiler 2 direct Spring — Area of each valve 8.29 ☐" — 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 3-0" — Mean dia. of boilers 14.9" — Length 10.9" — Material of shell plates Steel

Thickness 1 23/64" — Range of tensile strength 29-32 — Are they welded or flanged No — Descrip. of riveting: cir. seams D×T R — long. seams D B S, T R

Diameter of rivet holes in long. seams 1 13/32" — Pitch of rivets 9½" — ~~Lap of plates or~~ width of butt straps 20⅝"

Per centages of strength of longitudinal joint rivets 89. plate 85. — Working pressure of shell by rules 214 lbs — Size of manhole in shell 16" × 12"

Size of compensating ring 6½" × 1 9/16" — No. and Description of Furnaces in each boiler 3 Deightons — Material Steel — Outside diameter 48"

Length of plain part top — bottom — Thickness of plates crown 19/32" bottom 19/32" — Description of longitudinal joint welded — No. of strengthening rings none

Working pressure of furnace by the rules 196 lbs — Combustion chamber plates: Material Steel — Thickness: Sides ⅝" Back ⅝" Top ⅝" Bottom 21/32"

Pitch of stays to ditto: Sides 8" × 8" Back 8" × 7¾" Top 8" × 7½" — If stays are fitted with nuts or riveted heads Nuts — Working pressure by rules 210 lbs

Material of stays Steel — Diameter at smallest part 1⅜ ☐ft — Area supported by each stay 64 ☐" — Working pressure by rules 180 lbs — End plates in steam space:

Material Steel — Thickness 15/16" — Pitch of stays 15" × 14¼" — How are stays secured D N T W — Working pressure by rules 184 lbs — Material of stays Steel

Diameter at smallest part 2 9/16" — Area supported by each stay 213.75 ☐" — Working pressure by rules 236 — Material of Front plates at bottom Steel

Thickness 1" — Material of Lower back plate Steel — Thickness ⅞" — Greatest pitch of stays 15¼" — Working pressure of plate by rules 209 lbs

Diameter of tubes 2½" — Pitch of tubes 3¾" × 3¾" — Material of tube plates Steel — Thickness: Front 1" Back ¾" — Mean pitch of stays 7½"

Pitch across wide water spaces 14" — Working pressures by rules 195 lbs — Girders to Chamber tops: Material Steel — Depth and thickness of girder at centre 7¼" × ¾" 2 plate — Length as per rule 27½" — Distance apart 7½" — Number and pitch of Stays in each two - 8"

Working pressure by rules 194 lbs — Superheater or Steam chest; how connected to boiler None — Can the superheater be shut off and the boiler worked separately — 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 —

If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the Ship?

[2000—4/12/00—Copyable Ink.]

2488-4

DONKEY BOILER— No. 0 Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves

No. of safety valves Area of each None fitted Pressure to which they are adjusted If fitted with easing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams Dia. of rivet holes Whether punched or drilled Pitch of rivets

Lap of plating Per centage of strength of joint Rivets Plates Thickness of shell crown plates Radius of do. No. of Stays to do.

Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint Thickness of furnace crown plates Stayed by Working pressure of shell by rules

Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied :— Two top two bottom end bolts, two main bearing bolts, one set coupling bolts, one set feed & bilge pump valves three sets piston springs, one propeller shaft, one air one circulating pump bucket; one eccentric strap, one top bottom end sets of brasses, two main donkey feed check

The foregoing is a correct description;

Manufacturer.

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.

Dates of Survey while building — During progress of work in shops— 1900. Dec. 6. 1901. Feb. 12. 26. Mch. 5. 20. 21. 26. Apl. 29. May. 2. 7. 14. 15. 24. 29. 31. June 11. 17. 18. July 19. 25. 30

During erection on board vessel — Aug. 2. 7. 16

Total No. of visits 27.

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " —

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

Material of screw shaft Bar iron 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 is in more than one length are the joints burned No

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 Liner fitted close If two liners are fitted, is the shaft lapped or protected between the liners ✓

The machinery of this vessel has been constructed & fitted on board under special survey. The workmanship is found good. The machinery has been tried under steam as required by the Rules & found satisfactory and is in my opinion eligible for the record of +LMC. 8-01 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD.

+L.M.C. 8.01 & Ll. Light.

26/8/01

26.8.01

Certificate (if required) to be sent to Newcastle-on-Tyne.

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee.. £ 3 : : When applied for, 24 AUG 1901

Special .. .. .. £ 43 3 :

Donkey Boiler Fee .. £ : :

Travelling Expenses (if any) £ : : When received, 11-9 1901

Committee's Minute TUES. AUG 27 1901

Assigned +L.M.C. 8.01 7D

Robert Haig.

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

ENGINEERY CERTIFICATE WRITTEN.