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REPORT ON MACHINERY.

No. 16393.
3320

Received at London Office.....

Writing Report *5th July 1919* at Local Office *Philadelphia* *7th July 1919* Port of *New York & Philadelphia*
 in Survey held at *Schenectady N.Y.* Date, First Survey *23rd Oct 1918* Last Survey *3rd July 1919*
 g. Book. on the *STEEL SCREW STEAMER "SALVATION LASS"* (Number of Visits *32*)

Tons } Gross *5753*
 Net *3562*

ster Built at *Philadelphia* By whom built *American International Corp* When built *1919*
 gines made at *Schenectady N.Y.* By whom made *General Electric Co.* when made *1918*
 ilers made at *Bayonne N.J.* By whom made *Babcock & Wilcox Co.* MB 593 when made *1918*
 ginal Horse Power *600* Owners *United States Shipping Board* Port belonging to *Philadelphia*
 ft Horse Power at Full Power *2500* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

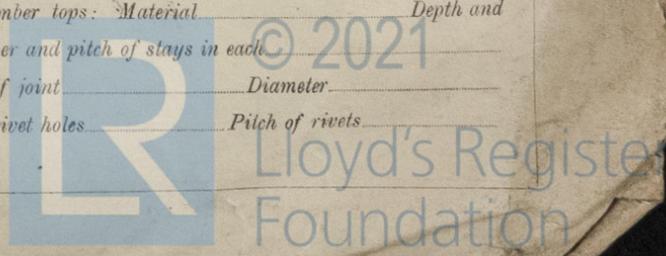
TURBINE ENGINES, &c.—Description of Engines *Grand turbine turbine. 13547.* No. of Turbines *One*
 meter of Rotor Shaft Journals, H.P. *8"* L.P. *✓* Diameter of Pinion Shaft *7"* H.S.P. *7-612*
 meter of Journals *"6.10"* Distance between Centres of Bearings *"6.28"* Diameter of Pitch Circle *"6.57.889"* L.S.P. *11.442*
 meter of Wheel Shaft *14"* Distance between Centres of Bearings *L.S.P. 63 1/4"* Diameter of Pitch Circle of Wheel *"6.54.053"*
 th of Face *20.44* Diameter of Thrust Shaft under Collars *13.25"* Diameter of Tunnel Shaft as per rule *12.48"* ✓
 as fitted *12.625"*
 of Screw Shafts *one* (continuous) ✓ Diameter of same as per rule *14"* ✓ Diameter of Propeller *17'-0"* Pitch of Propeller *13'-9"*
 as fitted *14.5"*
 of Blades *4* State whether Moveable *no* Total Surface *98.8 f* Diameter of Rotor Drum, H.P. *✓* L.P. *✓* Astern *✓*
 ickness at Bottom of Groove, H.P. *✓* L.P. *✓* Astern *✓* Revs. per Minute at Full Power, Turbine *3234* Propeller *90*

PARTICULARS OF BLADING.

| | H.P. | | | L.P. | | | ASTERN. | | |
|-----------|--------------------------|-------------------------|--------------|-------------------|------------------|--------------|--------------------------|-------------------------|--------------|
| | ACTIVE HEIGHT OF BLADES. | PITCH. DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | ACTIVE HEIGHT OF BLADES. | PITCH. DIAMETER AT TIP. | NO. OF ROWS. |
| EXPANSION | <i>25'-1.25"</i> | <i>2'-11 1/2"</i> | <i>2</i> | | | | <i>8.125'-1.5"</i> | <i>2'-3"</i> | <i>2</i> |
| " | <i>6.25"</i> | <i>3'-9"</i> | <i>1</i> | | | | <i>3.375"</i> | <i>2'-3"</i> | <i>1</i> |
| " | <i>1.25"</i> | <i>3'-10 1/2"</i> | <i>1</i> | | | | | | |
| " | <i>2.5"</i> | <i>4'-0"</i> | <i>1</i> | | | | | | |
| " | <i>6"</i> | <i>4'-2"</i> | <i>1</i> | | | | | | |

and size of Feed pumps *Two 10" x 6" x 24"*
 and size of Bilge pumps *Two 12" x 8 1/2 x 12" and 10" x 12" x 12"*
 and size of Bilge suction in Engine Room *Two - 3 1/2" dia, Thrust recess one - 2 1/2", Fire Room - Two - 3 1/2",*
In Holds, &c. No 1 Two - 3 1/2", one - 2 1/2"; No 2 Two - 3 1/2"; No 3 Two - 3 1/2";
No 4 One - 3 1/2"; No 5 one - 3 1/2"; Sessel well one - 3 1/2".
 of Bilge Injections *one* sizes *10"* Connected to condenser, or to circulating pump *✓* Is a separate Donkey Suction fitted in Engine Room & size *yes - 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 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*
 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*
 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*
 Is the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *Upper engine platform*

MANUFACTURERS, &c.—(Letter for record *S*) Manufacturers of Steel
 Total Heating Surface of Boilers *8700* Is Forced Draft fitted *yes* No. and Description of Boilers *3 Watertube*
 Working Pressure *200* Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to _____
 on each boiler _____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates _____
 Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
 Long. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 Working pressure of shell by rules _____ Size of manhole in shell _____
 Size of compensating ring _____ 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 tube plates _____ 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 _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Working pressure by rules _____ Steam dome: description of joint to shell _____ % 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 _____



1510-1851M

SUPERHEATER. Type *Foster* Date of Approval of Plan *In New York office* Tested by Hydraulic Pressure to *400 lbs.*
 Date of Test *4/4/19* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes*
 Diameter of Safety Valve *1"* Pressure to which each is adjusted *300 lbs.* Is Easing Gear fitted *Yes*

IS A DONKEY BOILER FITTED? *No.* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:— *Two bolts and nuts or studs for each rotor bearing, gear and pinion bearings; one set of coupling bolts for each size used; 20 of total number of bolts for each gear case joint and turbine casing joint; two thermometers for oil circulating; one complete set of bearing bushes for rotor, pinion and gear shafts; complete set of packing sleeves for turbine head and diaphragm; two main thrust shoes; one set of thrust rings for turbine; one set of feed pump valves; one set of bilge pump valves; one set of valves for lubricating oil pump; one bucket and rod for lubricating oil pump; one emergency governor complete; quantity of assorted bolts studs & nuts, bars plates of mild steel; one high speed pinion shaft; one propeller; 14 boiler tubes, 15 ripples, 15 hand hole doors, 39 condenser tubes, one set of boiler feed check valves and two safety valve springs.*

The foregoing is a correct description,
General Electric Co. Manufacturer.
per H. Berg

1911.
 Dates of Survey while building: During progress of work in shops -- *Nov. 17, 13, 25, Dec. 29, 10*
 During erection on board vessel -- *1918. Oct. 23, 1919. Feb. 6, 13, 21, 28. Mar. 3, 10, 13, 19, 28. April 2, 4, 9, 17, 22, 24, 30. May 7, 12, 16, 22, 24*
 Total No. of visits *38.*

Is the approved plan of main boiler forwarded herewith *no*
 " " " donkey " " " *Yes*
 Dates of Examination of principal parts—Casings *1-11-18* Rotors *13-11-18* Blading *13-11-18* Gearing *9-12-18*
 Rotor shaft *1-11-18* Thrust shaft *28/5/19* Tunnel shafts *28/5/19* Screw shaft *28/10/18* Propeller *23/10/18*
 Stern tube *30/4/19* Steam pipes tested *10/6/19* Engine and boiler seatings *12/5/19* Engines holding down bolts *4/6/19*
 Completion of pumping arrangements *25/6/19* Boilers fixed *4/4/19* Engines tried under steam *24/6/19*
 Main boiler safety valves adjusted *23/6/19* Thickness of adjusting washers *lock nuts*
 Material and tensile strength of Rotor shaft *Steel 80,000 lbs. 7" thinning* Identification Mark on Do. *T.G.D.*
 Material and tensile strength of Pinion shaft *" 85,000 " "* Identification Mark on Do. *T.G.D.*
 Material of Wheel shaft *Steel* Identification Mark on Do. *T.G.D.* Material of Thrust shaft *steel* Identification Mark on Do. *J.S.*
 Material of Tunnel shafts *steel* Identification Marks on Do. *J.S.* Material of Screw shafts *steel* Identification Marks on Do. *J.S.*
 Material of Steam Pipes *steel* Test pressure *600 lbs.*
 Is an installation fitted for burning oil fuel *yes* 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 *% Scantia & previous vessels*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These engines have been constructed under Special Survey in accordance with the approved plans. The material and workmanship are sound and good. The engines have been shipped to Philadelphia, Pa. to be fitted on board.*

Philadelphia: The boilers & machinery of this vessel have been securely fitted on board and satisfactorily tried under steam. It is submitted that the vessel be eligible for a record + LMC 7-19; Fitted for oil fuel. 7-19; Flash point above 150°F in the Register Book.

The amount of Entry Fee ... £ : :
 Special *Philadelphia* *250.00* : :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 19...
 When received, *5/8/19*

H. B. Dodd and J. B. Block
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *New York JUL 1 5 1919*
 Assigned *+ LMC. 7.19 subject*

MACHINERY CERTIFICATE
 WRITTEN *5/8/19*

