

REPORT ON MACHINERY.

No. 16393.
3320

Received at London Office

of writing Report *5th July 1919* when made at Local Office *7th July 1919* Port of *New York & Philadelphia*
 in Survey held at *Philadelphia* Date, First Survey *23rd Oct 1918* Last Survey *3rd July 1919*
 g. Book. *"SALVATION LASS"* (Number of Visits *32*)
 on the *STEEL SCREW STEAMER "SALVATION LASS"* Tons *Gross 5753*
Net 3562

ster Built at *Philadelphia* By whom built *American International Corp* When built *1919*
 engines made at *Schenectady N.Y.* By whom made *General Electric Corp.* when made *1918*
 ilers made at *Bayonne N.J.* By whom made *Babcock & Wilcox Co.* MB 593 when made *1918*
 MINAL 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*

RBINE ENGINES, &c.—Description of Engines *Grand turbine turbine 13547* gear *3380* No. of Turbines *One*
 meter of Rotor Shaft Journals, H.P. *8"* L.P. *7"* Diameter of Pinion Shaft *H.S.P. 7-612*
 meter of Journals *H.S.P. 4-10"* Distance between Centres of Bearings *H.S.P. 4-28"* Diameter of Pitch Circle *H.S.P. 11-442*
 meter of Wheel Shaft *14"* Distance between Centres of Bearings *H.S.P. 6-34"* Diameter of Pitch Circle of Wheel *H.S.P. 9-54-053*
 th of Face *20-44* Diameter of Thrust Shaft under Collars *13-25"* Diameter of Tunnel Shaft *as per rule 12-48"*
 of Screw Shafts *one* {continuous} Diameter of same *as per rule 14-5"* Diameter of Propeller *17'-0"* Pitch of Propeller *13'-9"*
 of Blades *4* State whether Moveable *no* Total Surface *98.8* 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	25-1-25	2'-11 1/2"	2				8-125-1-5	2'-3"	2
"	6-25	3'-5"	1				3-375	2'-3"	1
"	1-25	3'-10 1/2"	1						
"	2-5	4'-0"	1						
"	6	4'-2"	1						
"									
"									
"									
"									

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"; Tunnel well one - 3 1/2".
 of Bilge Injections *one* sizes *10"* Connected to condenser, or to circulating pump *Pump* 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*
 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*
 hat 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*
 the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *Upper engine platform*

ILERS, &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*
 orking Pressure *200* Tested by hydraulic pressure to *200* Date of test *1918* No. of Certificate *1918*
 an each boiler be worked separately *yes* Area of fire grate in each boiler *1918* No. and Description of Safety Valves to *1918*
 ch boiler *1918* Area of each valve *1918* Pressure to which they are adjusted *1918* Are they fitted with easing gear *1918*
 smallest distance between boilers or uptakes and bunkers or woodwork *1918* Mean dia. of boilers *1918* Length *1918* Material of shell plates *1918*
 thickness *1918* Range of tensile strength *1918* Are the shell plates welded or flanged *1918* Descrip. of riveting: cir. seams *1918*
 ng. seams *1918* Diameter of rivet holes in long. seams *1918* Pitch of rivets *1918* Lap of plates or width of butt straps *1918*
 Water Capa *1918* Tons. *1918* Working pressure of shell by rules *1918* Size of manhole in shell *1918*
 ercentages of strength of longitudinal joint *1918* rivets *1918* plates *1918* Material *1918* Outside diameter *1918*
 ize of compensating ring *1918* No. and Description of Furnaces in each Boiler *1918* Material *1918* Outside diameter *1918*
 1005. *1918* length of plain part *1918* Thickness of plates *1918* crown *1918* bottom *1918* Description of longitudinal joint *1918* No. of strengthening rings *1918*
 8795. *1918* Working pressure of furnace by the rules *1918* Combustion chamber plates: Material *1918* Thickness: Sides *1918* Back *1918* Top *1918* Bottom *1918*
 1315. *1918* Pitch of stays to ditto: Sides *1918* Back *1918* Top *1918* If stays are fitted with nuts or riveted heads *1918* Working pressure by rules *1918*
 Material of stays *1918* Diameter at smallest part *1918* Area supported by each stay *1918* Working pressure by rules *1918* End plates in steam space *1918*
 Material *1918* Thickness *1918* Pitch of stays *1918* How are stays secured *1918* Working pressure by rules *1918* Material of stays *1918*
 Diameter at smallest part *1918* Area supported by each stay *1918* Working pressure by rules *1918* Material of Front plates at bottom *1918*
 Thickness *1918* Material of Lower back plate *1918* Thickness *1918* Greatest pitch of stays *1918* Working pressure of plate by rules *1918*
 Diameter of tubes *1918* Pitch of tubes *1918* Material of tube plates *1918* Thickness: Front *1918* Back *1918* Mean pitch of stays *1918*
 Pitch across wide water spaces *1918* Working pressures by rules *1918* Girders to Chamber tops: Material *1918* Depth and *1918*
 thickness of girder at centre *1918* Length as per rule *1918* Distance apart *1918* Number and pitch of stays in each *1918*
 Working pressure by rules *1918* Steam dome: description of joint to shell *1918* % of strength of joint *1918* Diameter *1918*
 thickness of shell plates *1918* Material *1918* Description of longitudinal joint *1918* Diameter of rivet holes *1918* Pitch of rivets *1918*
 Working pressure of shell by rules *1918* Crown plates: Thickness *1918* How stayed *1918*

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, 38 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. A. Berg

1918.
Dates of Survey while building
During progress of work in shops -- *Nov. 1, 7, 13, 25, Dec. 3, 9, 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 *28/10/18*

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 *Prod. 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 *Prod.* 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 *% Scania & 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 materials 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 *£ 250.00* When applied for, *19*

Special *2/3* *Philadelphia* *250.00* When received, *5/8/19*

Donkey Boiler Fee *£* Travelling Expenses (if any) *£*

Committee's Minute *New York JUL 1 5 1919*

Assigned *+ LMC. 7.19 subject*

MACHINERY CERTIFICATE WRITTEN *5/8/19*

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

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