

Copy

REPORT ON MACHINERY.

No. 922

pt. 4.

Received at London Office

TUE 12 JAN 1921

of writing Report January 17 1920 When handed in at Local Office January 22 1920 Port of Seattle Wash. U.S.A.
in Survey held at Seattle Date, First Survey Oct 25 - 1919 Last Survey January 8 - 1920

Book. ENTRY on the Steel Steamer "ROBIN ADAIR" (Builder's No B-74) Tons Gross 6858.8
Net 5120.9

Master Chas. Smith Built at Seattle By whom built Skinner & Eddy Corporation When built 1919-20

Engines made at Schenectady N.Y. By whom made General Electric Company when made 1919

Boilers made at Seattle By whom made Commercial Boiler Works when made 1919

Registered Horse Power 637.20 Owners Robinson Steamship Co (Skinner & Eddy Corp Mgrs) Port belonging to Pan Francisco

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Curtis Turbine with Reductive gears No. of Cylinders ✓ No. of Cranks ✓

Dia. of Cylinders ✓ Length of Stroke ✓ Revs. per minute 90 Dia. of Screw shaft as per rule 14.47 Material of Steel
as fitted 15 screw shaft

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

the propeller boss Yes If the liner is in more than one length are the joints burned Yes 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 ✓ If two

shafts are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 61"

Dia. of Tunnel shaft as per rule 13.27 Dia. of Crank shaft journals as per rule Dia. of Crank pin ✓ Size of Crank webs ✓ Dia. of thrust shaft under

rollers as fitted 13.5 14.47 Dia. of screw 17' 0" Pitch of Screw 14' 3" No. of Blades 4 State whether moveable Yes Total surface 89.54

No. of Feed pumps 2 Diameter of ditto 9 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 3 Duplex Diameter of ditto 6x5 3/4 x 6 Stroke 12x14 1/2 x 12 Can one be overhauled while the other is at work Yes

No. of Donkey Engines as above Sizes of Pumps 5-3 1/2" Fire Room 4-3 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps

In Holds, &c. 10-3 1/2" Deep Tank 4-4 1/2" Shaft Tunnel 1-3 1/2"

No. of Bilge Injections 1 sizes 10" Connected to condensers to circulating pump Yes 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 the sluices on Engine room bulkheads always accessible How

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves

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

What pipes are carried through the bunkers Trunk air pipes How are they protected wood casings

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 casing at upper deck

OILERS, &c.—(Letter for record New York Aug. 12 1919 Manufacturers of Steel Illinois Steel Co and Carnegie Steel Co.

Total Heating Surface of Boilers 8346 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single end Scotch Marine

Working Pressure 210 lbs Tested by hydraulic pressure to 315 Date of test Nov. 20 No. of Certificate ✓

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 sq No. and Description of Safety Valves to

each boiler Two 3 1/2" Spring loaded Area of each valve 9.6 Pressure to which they are adjusted 210 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers on woodwork Uptakes 12" Mean dia. of boilers 14' 9" Length 11' 9" Material of shell plates Steel

Thickness 1 7/16 Range of tensile strength 60,000 min Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double Lap

long. seams Triple Butt Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 10 1/4 Lap of plates or width of butt straps 22 3/8

Per centages of strength of longitudinal joint rivets 86.2 Working pressure of shell by rules 229 Size of manhole in Upper Head 12" x 16"

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 48 1/16

Length of plain part top Thickness of plates bottom Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 222 Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 15/16

Pitch of stays to ditto: Sides 7 x 7 3/4 Back 7 1/2 x 7 3/4 Top 7 x 7 3/4 If stays are fitted with nuts or riveted heads Other Riveted Working pressure by rules Top 234

Material of stays Iron Area at smallest part 2.07 Area supported by each stay 1.16 Working pressure by rules Top 226 End plates in steam space:

Material Steel Thickness 1 1/4 Pitch of stays 18" x 18 1/2" How are stays secured Double Nuts Working pressure by rules 210 Material of stays Steel

Area at smallest part 8.29 Area supported by each stay 3.33 Working pressure by rules 258 Material of Front plates at bottom Steel

Thickness 1 3/16 Material of Lower back plate Steel Thickness 1 3/16 + 1/8 Greatest pitch of stays 7 1/4 x 12 1/2 Working pressure of plate by rules 300

Diameter of tubes 2 3/4 Pitch of tubes 3 3/4 x 3 7/8 Material of tube plates Steel Thickness: Front 1 3/16 Back 1 3/16 Mean pitch of stays 9.58

Pitch across wide water spaces 13 1/2 Working pressures by rules 248 Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 11 1/2 x 1 1/2 Length as per rule 34 Distance apart 9 1/2 Number and pitch of stays in each 4-7"

Working pressure by rules 234 Steam dome: description of joint to shell None % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

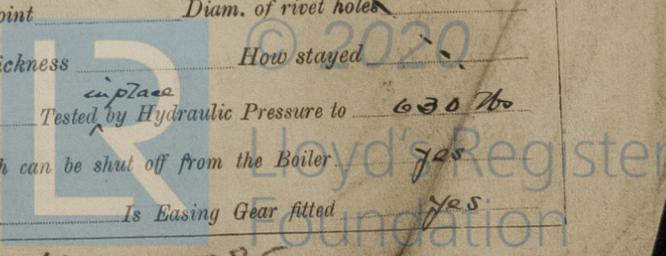
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

42 SUPERHEATER. Type Low Pressure Date of Approval of Plan September 19 - 1919 Tested by Hydraulic Pressure to 630 lbs

Date of Test December 30 1919 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 1/2" Pressure to which each is adjusted 210 Is Easing Gear fitted Yes

006387-006400-0085



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied :-

- TURBINE SPARES**
- 1 Complete set of turbine and gear bearings
 - 1 Complete set of packing rings for turbine head and diaphragms
 - 1 High speed pinion with half coupling
 - 1 Set turbine thrust collars
 - 1 Emergency governor complete.
 - 1 Set of pins and bushings for each size of slip coupling
 - 1 Set bolts and nuts for motor bearings
 - 1 Set bolts and nuts for gear wheel and pinion bearings
 - 1 Set bolts and nuts for turbine and gear case joints
 - 6 Thermometers: 25 Anderson tubes and 50 Ferrules
- PROPELLER & SHAFTS**
- 1 Propeller shaft complete - 2 Propeller blades

- 6 Coupling bolts for intermediate shafts
 - 2 Thrust shoes for main thrust block.
- AUXILIARIES**
- 1 Set brasses and piston rings for circulating pump
 - 1/2 Set valves, glands, springs and studs for main and auxiliary oil pumps, oil cooling and fuel service pumps
 - 1 Full set valves, glands, springs and studs for feed pump lubricating oil pump and cargo pumps
- BOILERS**
- 2 Feed check valves
 - 24 Plain boiler tubes
 - 2 Safety valve springs
 - 1 Complete set for bars and levers for one boiler
 - 3 Fuel oil burners
 - a quantity of assorted bolts, nuts, pipe and gaskets of various sizes.

The foregoing is a correct description,

Shimizu T. G. Corporation
per A. S. ... Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1919 Oct 25 - Nov 20 - 29 Dec 2 - 9 - 12 - 16 - 20 - 29 (9)	Is the approved plan of main boiler forwarded herewith <i>copy</i>
	During erection on board vessel - - -	1919 Nov 17 - 29 Dec 9 - 12 - 18 - 20 - 27 - 30 1920 January 2 - 5 - 8 (11)	
	Total No. of visits	20	

Dates of Examination of principal parts -	Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	Crank 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			
Completion of fitting sea connections	Stern tube	Screw shaft and propeller			
Main boiler safety valves adjusted	Thickness of adjusting washers				
Material of Crank shaft	Identification Mark on Do.	Material of Thrust shaft	Steel	Identification Mark on Do.	
Material of Tunnel shafts	Steel	Material of Screw shafts	Steel	Identification Marks on Do.	
Material of Steam Pipes	Steel	Test pressure	630 lbs		
Is an installation fitted for burning oil fuel	<i>yes</i>	Is the flash point of the oil to be used over 150°F.	<i>yes</i>		
Have the requirements of Section 49 of the Rules been complied with	<i>yes</i>				
Is this machinery duplicate of a previous case	<i>yes</i>	If so, state name of vessel	"ROBIN HOOD"		

General Remarks (State quality of workmanship, opinions as to class, &c. *Turbine and reduction gears made by the General Electric Co. Schenectady N.Y., surveyed during construction by a Surveyor and then installed on board the vessel with all shafting, auxiliaries, pipes, fittings and connections under special survey in accordance with the approved plans.*

The Boilers built by the Commercial Boiler works, Seattle, installed with all main fittings and connections under special survey in accordance with the approved plans.

The materials tested as required by the rules of the Society and together with the workmanship found of good quality.

The machinery eligible, in my opinion, to have the record of LMC 1-20 made in the Register Book in the case of this vessel.

Turbine No. 18687 }
Gear " 3034 } New York Report No. 17847 herewith forwarded

The amount of Entry Fee ...	\$ 15 : 00	When applied for,
Special	New York \$ 86 : 40 Seattle \$ 172 : 87	January 22 1920
Donkey Boiler Fee ...	£ :	When received,
Travelling Expenses (if any)	\$ 61 : 00	March 13 1920

James Fowler
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. MAY. 20 1921

Committee's Minute New York JAN - 4 1921

Assigned + L.M.C. 1.20



MACHINERY TESTED
WRITTEN 18-1-21

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