

Rpt. 4.

## REPORT ON MACHINERY.

No. 486  
JUL 12 1921

Date of writing Report 16 June 1921 When handed in at Local Office 23 June 1921 Port of Philadelphia.  
No. in Survey held at Camden N.J. Date, First Survey 30 June 1920 Last Survey 21 June 1921  
Reg. Book. on the New Steel S.S. "PUENTE" (Number of Visits 66)  
Master *not appointed* Built at Chester Pa By whom built Merchants S.S. Corp. 381 Tons Gross 686.79  
Engines made at Camden N.J. By whom made New York Shipbuilding Corp. 13988 when made 1920 Net 424.5  
Boilers made at Chester Pa By whom made Sun Shipbuilding Company when made 1920  
Registered Horse Power Owners Union Oil Company Port belonging to New York  
Nom. Horse Power as per Section 28 584 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

## ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 21" x 45" x 45" Length of Stroke 51" Revs. per minute 80 Dia. of Screw shaft as per rule 15.5" Material of screw shaft Steel

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 If the liner is in more than one length are the joints burned 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

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5' 10 1/4"

Dia. of Tunnel shaft as per rule 14-0 x 8" 14-4 Dia. of Crank shaft journals as per rule 14-4 15-12 Dia. of Crank pin 15 1/8" Size of Crank webs 11" x 2 1/2" Dia. of thrust shaft under collars 15" Dia. of screw 18" Pitch of Screw 15-9" No. of Blades 4 State whether moveable Yes Total surface 89 sq ft

No. of Feed pumps Two Diameter of ditto over Stroke Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines over Sizes of Pumps over No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Boiler room 5' 0 3/2" In Holds, &amp;c. Forward cofferdam 1' 0 3/2"

After Cofferdam 2' 0 2 1/2" Cargo hold. 2' 0 2 1/2" Forward pump room 1' 0 2 1/2"

No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room &amp; 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 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 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door worked from Lukens Steel &amp; Iron Co

BOILERS, &amp;c.—(Letter for record Yes) Manufacturers of Steel

Total Heating Surface of Boilers 8331 Is Forced Draft fitted Yes No. and Description of Boilers 3 S. E. Sertich

Working Pressure 210 Tested by hydraulic pressure to 315 Date of test 20-8-20 No. of Certificate 475

Can each boiler be worked separately Yes Area of fire grate in each boiler 61.8 sq ft No. and Description of Safety Valves to

each boiler 3 1/2" Lever Area of each valve 9.62 sq in Pressure to which they are adjusted 210 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 15.4 7/8" Length 11-5" Material of shell plates Steel

Thickness 1 7/8" Range of tensile strength 60,000 to 70,000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DRL

long. seams TRDBS Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 8 1/16" Lap of plates or width of butt straps 20 3/4"

Per centages of strength of longitudinal joint rivets. 85.5% plate. 83.4% Working pressure of shell by rules 225 Size of manhole in shell 12" x 16"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 49 1/4"

Length of plain part top Thickness of plates crown. 6.4" Description of longitudinal joint Weld No. of strengthening rings

bottom Thickness of plates bottom. 6.4" Working pressure of furnace by the rules 210 Combustion chamber plates: Material Steel Thickness: Sides 7/8" Back 3/4" Top 7/8" Bottom 1 1/16"

Pitch of stays to ditto: Sides 9 1/2" x 6 7/8" Back 8 1/2" x 8 1/8" Top 7 1/4" x 7 1/8" If stays are fitted with nuts or riveted heads Both Working pressure by rules 211

Material of stays W1 Area at smallest part 1.997 Area supported by each stay 67.94 sq in Working pressure by rules 219 End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 16 1/4" x 15 1/2" How are stays secured D nuts Working pressure by rules 212 Material of stays Steel

Area at smallest part 6.2126 Area supported by each stay 266 sq in Working pressure by rules 243 Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 13" Working pressure of plate by rules 246

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 1/2" Material of tube plates Steel Thickness: Front 1" Back 3/4" Mean pitch of stays 10 1/2" x 7 1/2"

Pitch across wide water spaces 13" Working pressures by rules 212 Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 1/2" x 1 3/4" Length as per rule 35" Distance apart 7 1/4" Number and pitch of stays in each 4 @ 7 1/2"

Working pressure by rules 247 Steam dome: description of joint to shell % of strength of joint 59

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

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

002340 002351 00235



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:—

Two each bolts & nuts for top & bottom ends & main bearings  
One set bilge pump valves. One set coupling bolts one set piston rings for each piston  
One set of springs and valves for feed pump. Engine room bilge pump: pump room bilge  
pump and Donkey pump. 1 safety valve spring. Six spare boiler tubes. Two propeller  
blades. 1 rail shaft. a quantity of assorted half nuts of various sizes  
of mild steel of various sizes

The foregoing is a correct description,

For main boiler only  
A. A. Howitt for S. S. Co.  
SUN SHIPBUILDING COMPANY

Merchant Shipbuilding Corp.

New York Shipbuilding Corp.

Manufacturer.

W. M. Musher

Dates of Survey while building  
During progress of work in shops -- June 30 July 23-28 Aug 2-9-11-14 Sept 8-13-15-17-20-27 Oct 4-11-26-28 Nov 10-15-29 Dec 10-14-22-28  
During erection on board vessel -- July 9-19-22 Aug 11-17-18-19-21 Jan 4-5-10-20-25 Feb 9-18-23 March 3-11-21-22-29 Apr 1-5-12-13-19-26-27  
Total No. of visits 66  
Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 20-10-20 Slides 11-10-20 Covers 14-10-20 Pistons 29-11-20 Rods 29-11-20  
Connecting rods 14-10-20 Crank shaft 10-12-20 Thrust shaft 23-2-21 Tunnel shafts 12-4-21 Screw shaft 12-4-21 Propeller 12-4-21  
Stern tube 12-4-21 Steam pipes tested 19-4-21 Engine and boiler seatings 10-1-21 Engines holding down bolts 5-5-21  
Completion of pumping arrangements 24-5-21 Boilers fixed 10-1-21 Engines tried under steam 24-5-21  
Completion of fitting sea connections 28-4-21 Stern tube 28-4-21 Screw shaft and propeller 28-4-21  
Main boiler safety valves adjusted 31-5-21 Thickness of adjusting washers Lock nuts  
Material of Crank shaft Steel Identification Mark on Do. W.B. Material of Thrust shaft Steel Identification Mark on Do. W.B  
Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. W.B  
Material of Steam Pipes Steel Test pressure 700 lb  
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 duplicate of a previous case No If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery of this vessel has been  
built under special survey. Materials & workmanship good. The Boilers of this vessel have  
been built under special survey. Materials & workmanship good.  
The Engines and boilers have been securely fitted on board the vessel  
and proved satisfactory under steam trial. It is submitted that the  
vessel be eligible for a record of + LMC 6-21 Fitted for oil fuel 6-21  
Flash point above 150°F. in the Register Book

Pumps: Donkey pump 14x9 1/2 x 12 Engine room bilge 6x5x6 Sanitary 7 1/2 x 6 x 10 Fresh water 4 1/2 x 3 1/4 x 4  
Evaporator 6x4x6 Main feed two (2) 12x8x24 Service two (2) 6x3 1/2 x 6 Transfer 2 1/2 x 7 x 10  
Pump room bilge 6x5 1/4 x 6

At crank shaft coupling indented faced off again all good.

The amount of Entry Fee ... £ 30.00 : When applied for, 19  
Special ... £ 521.00 :  
Donkey Boiler Fee ... £ 175.00 :  
Travelling Expenses (if any) ... £ 60.00 :  
When received, 21/8/21

William Butler, J. Adamson  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York JUN 28 1921

Assigned + LMC-6-21

MACHINERY DEPT  
WRITTEN 28.7.21  
dated 12.7.21