

## REPORT ON MACHINERY.

No. 2602

REC'D NEW YORK

Received at London Office

Date of writing Report 26<sup>th</sup> June 1917 When handed in at Local Office 26<sup>th</sup> June 1917 Port of Philadelphia, Pa.  
No. in Survey held at Camden Date, First Survey 18<sup>th</sup> Oct 1915 Last Survey 18<sup>th</sup> June 1917  
Reg. Book. on the S.S. "Edward L. Doherty Junior" (Number of Vols. 93)  
Master Do Built at Camden By whom built New York P. B. Corp (12 170) Tons { Gross  
Engines made at Camden By whom made New York P. B. Corp when made 1917 Net  
Boilers made at Do By whom made Do when made 1917  
Registered Horse Power Owners Petroleum Transport Co Port belonging to Los Angeles  
Nom. Horse Power as per Section 28 568 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4  
Dia. of Cylinders 24", 35", 51", 75" Length of Stroke 51" Revs. per minute 80 Dia. of Screw shaft as per rule 15.6 Material of 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 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 Yes If two  
liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5' 4"  
Dia. of Tunnel shaft as per rule 13.48 Dia. of Crank shaft journals as per rule 14.15 Dia. of Crank pin 15" Size of Crank webs 10 1/2" Dia. of thrust shaft under  
collars 14 3/4" Dia. of screw 19-6" Pitch of Screw 14-6" No. of Blades 4 State whether moveable Yes Total surface 113.5 sq ft  
No. of Feed pumps 2 Diameter of ditto 12x8" Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Donkey Engines 8 Sizes of Pumps see other side No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 6-3 1/2" 1-3 1/2" 2-2 1/2" at forward of B/L room In Holds, &c. 2-3 1/2" 3-2" 2-2" 2-1 1/2" 1-2" 2nd pump Room  
after Pump Room 1-2" 1-6" 2-4" to forward after cofferdam 2-3 1/2" in oil fuel tank (when not used for oil fuel)  
No. of Bilge Injections 1 sizes 11" Connected to condenser, or to circulating pump 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 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 both  
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 Yes  
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 none Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record (+)) Manufacturers of Steel Lukens Iron & Steel Co  
Total Heating Surface of Boilers 7804 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 single Ended  
Working Pressure 220 lbs Tested by hydraulic pressure to 330 lbs Date of test 14.4.16 No. of Certificate 92  
Can each boiler be worked separately Yes Area of fire grate in each boiler 59 sq ft No. and Description of Safety Valves to  
each boiler double spring loaded Area of each valve 8.29 sq in Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 4-6" side Mean dia. of boilers 14.8" Length 11.6" Material of shell plates steel  
Thickness 1 1/16" Range of tensile strength 28/32 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. Riv.  
long. seams T. R. D. B.S. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 22 3/4"  
Per centages of strength of longitudinal joint rivets 87.9% Working pressure of shell by rules 240 lbs Size of manhole in shell 16" x 12"  
Size of compensating ring 36 1/2" x 32 1/2" x 1 1/16" No. and Description of Furnaces in each boiler 3 corrugated Material steel Outside diameter 3' 11 1/16"  
Length of plain part top 21" Thickness of plates bottom 32" Description of longitudinal joint weld No. of strengthening rings Yes  
Working pressure of furnace by the rules 226 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1"  
Pitch of stays to ditto: Sides 7" x 7 1/4" Back 7" x 7" Top 7 3/8" x 7 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 252  
Material of stays iron Area at smallest part 1.99 sq in Area supported by each stay 53.4 sq in Working pressure by rules 280 End plates in steam space:  
Material steel Thickness 1 1/16" Pitch of stays 16 1/2" x 15 1/2" How are stays secured D. N. & 1/2" Working pressure by rules 246 Material of stays steel  
Area at smallest part 6.49 sq in Area supported by each stay 255.75 sq in Working pressure by rules 263 Material of Front plates at bottom steel  
Thickness 1 1/16" Material of Lower back plate steel Thickness 1 3/32" Greatest pitch of stays 14 1/4" x 7" Working pressure of plate by rules 220  
Diameter of tubes 2 1/2" Pitch of tubes 3 5/8" x 3 1/2" Material of tube plates steel Thickness: Front 1 1/16" Back 13/16" Mean pitch of stays 8 7/8"  
Pitch across wide water spaces 12 3/4" Working pressures by rules 248 Girders to Chamber tops: Material steel Depth and  
thickness of girder at centre 9" x 2 @ 1" Length as per rule 2' 11" Distance apart 7 1/4" x 7 3/8" Number and pitch of stays in each 4 @ 7 3/8"  
Working pressure by rules 268 Steam dome: description of joint to shell Yes % of strength of joint Yes  
Diameter Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes  
Pitch of rivets Yes Working pressure of shell by rules Yes Crown plates Yes Thickness Yes How stayed Yes  
SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to Yes  
Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes  
Diameter of Safety Valve Yes Pressure to which each is adjusted Yes 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:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed & bilge pump valves: a quantity of assorted bolts & nuts: iron of various sizes: 36 boiler tubes: 27 condenser tubes: 1 set of air pump valves: 1 set of boiler check valves: 1 eccentric strap: 1 set of packing rings for all pistons

The foregoing is a correct description,

New York Shipbuilding Corporation

Manufacturer.

Dates of Survey while building: During progress of work in shops: 1915 Oct 18, 29, Nov 3, 9, 16, 23, Dec 2, 7, 9, 14, 17, 22, 29, Jan 4, 11, 14, 21, 28, 28 up to Jan 26, 1917. During erection on board vessel: Feb 3, 7, 12, 24, Mar 6, 12, 20, 27, 30, Apr 2, 12, 19, 24, 27, May 7, 16, 18, 25, 31, June 7, 13, 18. Total No. of visits: 93

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "

Dates of Examination of principal parts: Cylinders 17.8.16 Slides 18.1.17 Covers 10.11.16 Pistons 12.12.16 Rods 12.12.16 Connecting rods 24.10.16 Crank shaft 1.9.16 Thrust shaft 18.1.17 Tunnel shafts Screw shaft 18.1.17 Propeller 24.2.17 Stern tube 7.2.17 Steam pipes tested 18.12.16 Engine and boiler seatings 7.2.17 Engines holding down bolts 12.3.17 Completion of pumping arrangements 31.5.17 Boilers fixed 12.2.17 Engines tried under steam 27.4.17 Completion of fitting sea connections 24.4.17 Stern tube 24.4.17 Screw shaft and propeller 24.4.17 Main boiler safety valves adjusted 27.4.17 Thickness of adjusting washers Lock nuts fitted

Material of Crank shaft Steel Identification Mark on Do. 170 Material of Thrust shaft steel Identification Mark on Do. 170

Material of Tunnel shafts none Identification Marks on Do. Material of Screw shafts steel Identification Marks on Do. 170

Material of Steam Pipes steel Test pressure 660 lbs per sq. in.

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 yes If so, state name of vessel "Standard Arrow" Engines & boilers

General Remarks (State quality of workmanship, opinions as to class, &c. Donkey engines: 7 1/2 x 5 x 10: 16 x 10 x 14) 12 x 14 x 14 x 12: 7 1/2 x 6 x 10: 3 @ 6 x 4 x 6: 10 x 10 x 12

The machinery of this vessel has been built under special survey: the material and workmanship being good, and proved satisfactory on steam trial.

It is submitted that this vessel be eligible for a record of + L.M.C. 6.17 in the Register Book, also a notation "Fitted for Oil Fuel, flash point above 150°F."

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6.17. F.D.

Fitted for oil fuel 6.17. F.P. above 150°F.

The amount of Entry Fee ... \$ 15.00: Special ... \$ 242.00: Donkey Boiler Fee ... £ : Travelling Expenses (if any) \$ 10.00:

When applied for,

16/7 1917

When received,

21.9.19

A. T. Thomas

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

267

New York JUL 24 1917

Assigned

+ L.M.C. 6.17

Fitted for oil fuel 6.17 F.P. above 150°F. Elec Light

MACHINERY CERTIFICATE WRITTEN 9-8-17

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