

## REPORT ON MACHINERY.

No. 42.

FRI. SEP. 11. 1914

Received at London Office

Date of writing Report 12 August 1914 When handed in at Local Office 13 August 1914 Port of Cleveland Ohio  
No. in Survey held at Detroit and Ecorse (Mich) Date, First Survey 15<sup>th</sup> April 1914 Last Survey 30 July 1914  
Reg. Book. on the Steel single screw Steamer "INTERNATIONAL" (Number of Vents 16) Gross 1815 Tons Net 1343  
Master Jas. Acton Built at Ecorse (Mich) By whom built Great Lakes Engineering Works When built 1914  
Engines made at Detroit (Mich) By whom made Great Lakes Engineering Works when made 1914  
Boilers made at Lorain (Ohio) By whom made American Shipbuilding Co. when made 1914  
Registered Horse Power Owners Atlantic Coast S.S. Co. Port belonging to New York

Horse Power as per Section 28 170 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

VES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

Cylinders 16-21 1/2-45 Length of Stroke 33 Revs. per minute 90 Dia. of Screw shaft 9 1/2 Material of ONS

Screw shaft fitted with a continuous liner the whole length of the stern tube no Is the after end of the liner made water tight

Propeller boss yes If the liner is in more than one length are the joints burned no If the liner does not fit tightly at the part

the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive no If two

fitted, is the shaft lapped or protected between the liners yes Length of stern bush 45 1/2

Shaft as per rule 8.36 Dia. of Crank shaft journals 9 1/2 Dia. of Crank pin 9 Size of Crank webs 17 1/2 x 16 1/2 Dia. of thrust shaft under

9 Dia. of screw 11-3 Pitch of Screw 10-9 No. of Blades 4 State whether moveable yes Total surface 45 sq

ed pumps 1 Diameter of ditto 5 Stroke 6 Can one be overhauled while the other is at work yes

ge pumps 2 Diameter of ditto 3 1/2 Stroke 10 Can one be overhauled while the other is at work yes

Donkey Engines 5 Sizes of Pumps 1-9 x 6 x 10 DUPLEX No. and size of Suctions connected to both Bilge and Donkey pumps

Room 1-4 In Holds, &c. Suction from bilge & donkey pumps connected to bilge manifold

Injection 1 sizes 6 Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 4"

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

connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves

are 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

sh 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 no

are carried through the bunkers none How are they protected yes

es, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

ge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

amination of completion of fitting of Sea Connections 18<sup>th</sup> June of Stern Tube 12<sup>th</sup> June Screw shaft and Propeller 18<sup>th</sup> June

Shaft Tunnel watertight none Is it fitted with a watertight door yes worked from yes

, &c.—(Letter for record 5) Manufacturers of Steel Worth Bros Coatesville PA.

ng Surface of Boilers 32492 Is Forced Draft fitted yes No. and Description of Boilers 2 Single ended multitubular

ressure 180 lbs Tested by hydraulic pressure to 270 Date of test 4<sup>th</sup> June 1914 No. of Certificates 38 & 39

ler be worked separately yes Area of fire grate in each boiler 40 sq No. and Description of Safety Valves to

2 spring loaded Area of each valve 12.56 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes

nce between boilers or uptakes and bunkers or woodwork 2-3 Mean dia. of boilers 12-6 Length 11-6 Material of shell plates steel

Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double lap

able butt-Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 6 1/4 Lap of plates or width of butt straps 14

strength of longitudinal joint 81.7 Working pressure of shell by rules 183 lbs Size of manhole in shell 15" x 11"

ating ring 4 1/2" x 1" No. and Description of Furnaces in each boiler 2 Material steel Outside diameter 50.2

part bottom Thickness of plates 32 Description of longitudinal joint welded No. of strengthening rings 5

re of furnace by the rules 188 lbs Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 5/8

o ditto: Sides 7 1/8 x 7 1/4 Back 7 1/8 x 7 1/8 Top 7 1/2 x 7 If stays are fitted with nuts or riveted heads riveted heads Working pressure by rules 183.8 lbs

Material steel Diameter at smallest part 1.474 Area supported by each stay 54.4 Working pressure by rules 216 lbs End plates in steam space:

Thickness 1" Pitch of stays 15 1/4 x 15 How are stays secured double nuts Working pressure by rules 189.8 lbs Material of stays steel

allest part 4.91 Area supported by each stay 236.25 Working pressure by rules 216 lbs Material of Front plates at bottom steel

Material of Lower back plate steel Thickness 5/8 Greatest pitch of stays 7 1/8 x 7 1/2 Working pressure of plate by rules 183.8 lbs

Pitch of tubes 4 1/2 x 4 5/8 Material of tube plates steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9 1/2

side water spaces 13 1/4 Working pressures by rules 204 lbs Girders to Chamber tops Material steel Depth and

at centre 8 1/2 x 1 1/2 Length as per rule 29 Distance apart 4 1/2 Number and pitch of stays in each 3-7

by rules 241 lbs Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked

separately yes Diameter yes Length 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 Diameter of flue yes Material of flue plates yes Thickness yes

If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes

Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

1030-652900-802900



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_  
 Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_  
 Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long seams \_\_\_\_\_ Rivets \_\_\_\_\_  
 Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Plates \_\_\_\_\_  
 Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_  
 Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied :—

The foregoing is a correct description,

Manufacturer.

*apomatonson for Great Lakes Engineering works*

Dates of Survey while building  
 During progress of work in shops —  
 During erection on board vessel —  
 Total No. of visits

April 1914. 15<sup>th</sup> May 1<sup>st</sup> 2<sup>nd</sup> 9<sup>th</sup> 13<sup>th</sup> 16<sup>th</sup> 20<sup>th</sup> 29<sup>th</sup> June 5<sup>th</sup> 12<sup>th</sup> 18<sup>th</sup>  
 June 1914. 29<sup>th</sup> July 13<sup>th</sup> 16<sup>th</sup> 29<sup>th</sup> 30<sup>th</sup>  
 16

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 29<sup>th</sup> May Slides 5<sup>th</sup> June Covers 5<sup>th</sup> June Pistons 5<sup>th</sup> June Rods 5<sup>th</sup> June  
 Connecting rods 5<sup>th</sup> June Crank shaft 12<sup>th</sup> June Thrust shaft 29<sup>th</sup> May Tunnel shafts ✓ Screw shaft 29<sup>th</sup> May Propeller 12<sup>th</sup> June  
 Stern tube 9<sup>th</sup> May Steam pipes tested 16<sup>th</sup> July Engine and boiler seatings 5<sup>th</sup> June Engines holding down bolts 29<sup>th</sup> June  
 Completion of pumping arrangements 29<sup>th</sup> July Boilers fixed 29<sup>th</sup> June Engines tried under steam 29<sup>th</sup> July  
 Main boiler safety valves adjusted 29<sup>th</sup> July Thickness of adjusting washers *fitted with lock nuts*  
 Material of Crank shaft *Steel* Identification Mark on Do. 193. L.R. 29.4.14 E.E. Material of Thrust shaft *Steel* Identification Mark on Do. 193. L.R. 29.4.14 E.E.  
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Steel* Identification Marks on Do. 193. L.R. 29.4.14 E.E.  
 Material of Steam Pipes *Steel* ✓ Test pressure 450 lbs ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The machinery and boilers of this vessel have been built under Special Survey, in accordance with the rules and approved plans. The safety valves have been adjusted under steam and the engines tried under working conditions with satisfactory results.*

*The workmanship and materials are of good quality, and the machinery is in our opinion, eligible for classification with record + L.M.C. 8.14.*

It is submitted that this vessel is eligible for

THE RECORD. + L.M.C. 7.14.

*subject to the spare gear being placed on board & to the fastening of the propeller to the screw shaft being specially reported upon at each dry docking.*

The amount of Entry Fee \$15.00 : When applied for, 29<sup>th</sup> August 1914  
 Special \$102.00 :  
 Donkey Boiler Fee \$ : When received.  
 Travelling Expenses (if any) \$149.00 : 19....

Committee's Minute

THU. DEC. 31, 1914

Assigned

*Deferred*

*J.M. J.W. 19/3/15.*  
*Goan Gaurad Chelle*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

FRI. MAR. 19, 1915

FRI. JUL. 2—1915  
 TUE. NOV. 23

+ L.M.C. 7.14  
 Subject

THE MAR 31, 1915

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