

## REPORT ON MACHINERY

No. 2091

SAT. FEB. 7-1914

Received at London Office

Date of writing Report 24.1.1914 When handed in at Local Office 28.1.1914 Port of

PHILADELPHIA

No. in Survey held at Reg. Book. PHILADELPHIA.

Date, First Survey 12.6.13

Last Survey Jan 7. 1914

(Number of Visits 28)

up 52 on the S.S. HAMPDEN

Master E. E. Crowley Built at Camden

By whom built New York C &amp; C

Tons Gross 5725.29

Net 2779.09

When built 1914.1

Engines made at Camden

By whom made

when made 1914.1

Boilers made at Camden

By whom made

when made 1914.1

Registered Horse Power 357

Owners Conshohocken Steamship Co

Port belonging to Boston

Nom. Horse Power as per Section 28 357

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

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

Triple

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 24.4.38.2.6.7

Length of Stroke 45

Revs. per minute 70

Dia. of Screw shaft

as per rule 13.62

Material of screw shaft Steel

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 No

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 fitted close

If two

Length of stern bush 5.0 3/8

Dia. of Tunnel shaft

Dia. of Crank shaft journals

as per rule 12.3

Dia. of Crank pin 3.2

Size of Crank webs 24x8.2

Dia. of thrust shaft under

bars 13.2

Dia. of screw 16.6

Pitch of Screw 16.0

No. of Blades 4

State whether moveable Yes

Total surface 90 sq

No. of Feed pumps 2

Diameter of ditto 4

Stroke 18

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4.2

Stroke 18

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3

Sizes of Pumps duplex 10x7.12, 12x14.12

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room

Three 3.2' dia. 3"

In Holds, &amp;c. two 3.2' each. peaks 1-3' each

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-3.2'

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 none

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 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 Bilge Suctions

How are they protected heavy wood casing

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

Dates of examination of completion of fitting of Sea Connections 20.11.13

of Stern Tube 20.11.13

Screw shaft and Propeller 20.11.13

Is the Screw Shaft Tunnel watertight no tunnel

Is it fitted with a watertight door

worked from

## OILERS, &amp;c.—(Letter for record T)

Manufacturers of Steel Wm &amp; B. Co. Louisville

Total Heating Surface of Boilers 5838 sq

Is Forced Draft fitted No

No. and Description of Boilers 2 Mult. Casing ended

Working Pressure 185 lb

Tested by hydraulic pressure to 278 lb

Date of test 31.10.13

No. of Certificate 57

Can each boiler be worked separately Yes

Area of fire grate in each boiler 102 sq

No. and Description of Safety Valves to

each boiler 2. Anvil Spring

Area of each valve 9.62

Pressure to which they are adjusted 185 lb

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers 3.0

Mean dia. of boilers 14.3

Length 12.27

Material of shell plates Steel

Thickness 1/32

Range of tensile strength 28.32 lb

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams 1.7. Luf.

long. seams D.B.S.T.R

Diameter of rivet holes in long. seams 1 9/16

Pitch of rivets 10.8

Lap of plates or width of butt straps 22 3/4

Per centages of strength of longitudinal joint

rivets 84.7

plate 84.5

Working pressure of shell by rules 200 lb

Size of manhole in shell 16x12

Size of compensating ring 36.2x32.2x1.32

No. and Description of Furnaces in each boiler 4 Morrison

Material Steel

Outside diameter 51 1/8

Length of plain part

top 4

bottom 4

Thickness of plates

crown 3/16

bottom 3/16

Description of longitudinal joint welded

No. of strengthening rings none

Working pressure of furnace by the rules 208 lb

Combustion chamber plates: Material Steel

Thickness: Sides 7/16

Back 7/16

Top 3/16

Bottom 7/16

Working pressure by rules 222 lb

Pitch of stays to ditto: Sides 7 1/8 x 6 5/8

Back 7 3/8 x 7

Top 8 x 6 5/8

If stays are fitted with nuts or riveted heads 7 nuts

Working pressure by rules 222 lb

Material of stays iron

Diameter at smallest part 1 1/4

Area supported by each stay 42 sq

Working pressure by rules 204 lb

End plates in steam space:

Material Steel

Thickness 1/32

Pitch of stays 1 1/4 x 1 1/4

How are stays secured D.N.

Working pressure by rules 226 lb

Material of stays Steel

Diameter at smallest part 2 1/8

Area supported by each stay 293 sq

Working pressure by rules 230

Material of Front plates at bottom Steel

Thickness 3/4

Material of Lower back plate Steel

Thickness 5/8

Greatest pitch of stays 4 5/8 x 5/8

Working pressure of plate by rules 253 lb

Material of stays all headed

Diameter of tubes 3 1/4

Pitch of tubes 4 1/2 x 4 1/2

Material of tube plates Steel

Thickness: Front 3/4

Back 7/16

Mean pitch of stays

Pitch across wide water spaces 14 1/4

Working pressures by rules 223 lb

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 10 x 2

Length as per rule 39 3/4

Distance apart 8

Number and pitch of stays in each 5-6 5/8

Working pressure by rules 224 lb

Superheater or Steam chest; how connected to boiler none

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *—*

SPARE GEAR. State the articles supplied:—

*Two propeller blades, 2 crossheads, 2 crank pins & 2 main bearing bolts & nuts. 1 set coupling bolts & nuts. 1 set valve spindle braces. 1 set pump link braces. 1 set feed & bilge pump valves. 1 set of valves for each donkey pump. A quantity of bolts & nuts & assorted iron.*

The foregoing is a correct description,

New York Shipbuilding Company,

*H. H. Lagom*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- June 12. 25 July 2. 8. 17. 24 Aug 1. 12. 27. Sept 11. 15. 25. 29. Oct 9. 14. 27. 31. Nov 8. 11. 1913. Dec 20. 31. 1. 4. 9. 19. 26. 27. 1913. Jan 2. 7. 1914. During erection on board vessel -- Total No. of visits 28

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

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 17. 10. 13 Slides 17. 10. 13 Covers 17. 10. 13 Pistons 20. 11. 13 Rods 20. 11. 13 Connecting rods 20. 11. 13 Crank shaft 11. 11. 13 Thrust shaft 8. 11. 13 Tunnel shafts — Screw shaft 17. 10. 13 Propeller 20. 11. 13 Stern tube 20. 11. 13 Steam pipes tested 15. 12. 13 Engine and boiler seatings 31. 10. 13 Engines holding down bolts 19. 12. 13 Completion of pumping arrangements 26. 12. 13 Boilers fixed 31. 10. 13 Engines tried under steam 27. 12. 13 Main boiler safety valves adjusted 27. 12. 13 Thickness of adjusting washers P. Boiler F 7/8 A 7/8. Sh. Boiler F 3/2 A 9/16 Material of Crank shaft Steel Identification Mark on Do. 1020 R.H. Material of Thrust shaft Steel Identification Mark on Do. 1020 R.H. Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts Steel Identification Marks on Do. 1020 R.H. Material of Steam Pipes Solid drawn copper Test pressure 400 lbs. ✓

Is an installation fitted for burning oil fuel *no*

Is the flash point of the oil to be used over 150° F. *—*

Have the requirements of Section 49 of the Rules been complied with *—*

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 constructed & fitted on board under special survey the workmanship is found to be good throughout.*

*The machinery has been tried under steam & found to work well which in my opinion renders the vessel eligible for the record of +LMC 1-14 in the Register Book.*

It is submitted that  
this vessel is eligible for  
THE RECORD. +LMC 1. 14.

The amount of Entry Fee ... \$ 15. 00: When applied for, Special ... £ 289. 25: 24. 1. 1914 Donkey Boiler Fee ... £ - - - : not When received, Travelling Expenses (if any) £ 6. 75: 26. 2. 1914

Committee's Minute

TUE. FEB. 10. 1914

Assigned

+LMC 1. 14.

Robert Haig  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Foundation

MACHINERY CERTIFICATE  
WRITTEN