

REPORT ON MACHINERY.

No. 13

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Date of writing Report 29th Aug 1912 When handed in at Local Office 29th Aug 1912 Port of Cleveland, Ohio

No. in Survey held at Buffalo, N.Y. Date, First Survey 25 April Last Survey 19 Aug 1912
 Reg. Book. on the S/S 'NELSON' (Number of Visits 10)

Master ✓ Built at Quincy, Mass. By whom built Fore River Shipbuilding Co. When built 1912

Engines made at Quincy, Mass. By whom made Fore River Shipbuilding Co. when made 1912

Boilers made at Buffalo, N.Y. By whom made Lake Erie Boiler Works when made 1912

Registered Horse Power ✓ Owners Cuba Distilling Company Port belonging to ✓

Nom. Horse Power as per Section 28 ✓ Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

ENGINES, &c.—Description of Engines

No. of Cylinders ✓ No. of Cranks ✓

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

Is the screw shaft fitted with a continuous liner the whole length of the stern tube ✓ 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 ✓

Dia. of Tunnel shaft ✓ as per rule ✓ Dia. of Crank shaft journals ✓ as per rule ✓ Dia. of Crank pin ✓ Size of Crank webs ✓ Dia. of thrust shaft under collars ✓ Dia. of screw ✓ Pitch of Screw ✓ No. of Blades ✓ State whether moveable ✓ Total surface ✓

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

No. of Bilge pumps ✓ Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

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

In Engine Room ✓ In Holds, &c. ✓

No. of Bilge Injections ✓ sizes ✓ Connected to condenser, or to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size ✓

Are all the bilge suction pipes fitted with roses ✓ Are the roses in Engine room always accessible ✓ Are the sluices on Engine room bulkheads always accessible ✓

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates ✓ Are the Discharge Pipes above or below the deep water line ✓

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓

What pipes are carried through the bunkers ✓ How are they protected ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ✓

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges ✓

Dates of examination of completion of fitting of Sea Connections ✓ of Stern Tube ✓ Screw shaft and Propeller ✓

Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Plates Lukens & S. Co. Stays Lackawanna Steels

Total Heating Surface of Boilers 6501 Is Forced Draft fitted ✓ No. and Description of Boilers 3 Scotch type

Working Pressure 190 lbs. Tested by hydraulic pressure to 380 lbs. Date of test 19 Aug 1912 No. of Certificate 16

Can each boiler be worked separately ✓ Area of fire grate in each boiler 51.5 sq No. and Description of Safety Valves to each boiler ✓ Area of each valve ✓ Pressure to which they are adjusted ✓ Are they fitted with easing gear ✓

Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Mean dia. of boilers 13-9" Length 11-10" Material of shell plates steel

Thickness 1 5/16" Range of tensile strength 28/32 Are the shell plates welded or flanged no. Descrip. of riveting: cir. seams double butt

long. seams butt Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 8" Lap of plates or width of butt straps 18 1/2"

Per centages of strength of longitudinal joint rivets 86.9 Working pressure of shell by rules 211 lbs. Size of manhole in shell 12" x 16"

plate 83.6 Size of compensating ring 8" x 1 5/16" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 46 3/16"

Length of plain part top alt 6" Thickness of plates 19/32 Description of longitudinal joint welded No. of strengthening rings ✓

bottom 5/16" Working pressure of furnace by the rules 304 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 7 1/4 x 7 1/2" Back 7 3/4" Top 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 225

Material of stays steel Diameter at smallest part 1 1/8" Area supported by each stay 600" Working pressure by rules 197 End plates in steam space: ✓

Material steel Thickness 1 5/16" Pitch of stays 15" x 13" How are stays secured double nuts Working pressure by rules 228 Material of stays steel

Diameter at smallest part 2 1/2" Area supported by each stay 1950" Working pressure by rules 260 Material of Front plates at bottom steel

Thickness 1 5/16" Material of Lower back plate steel Thickness 1 5/16" Greatest pitch of stays 16" x 7 3/4" Working pressure of plate by rules 340

Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" x 3-33" Material of tube plates steel Thickness: Front 1 5/16" Back 3/4" Mean pitch of stays 10 1/2"

Pitch across wide water spaces 13" Working pressures by rules 192 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2" x 1 7/16" Length as per rule 30" Distance apart 7 1/2" Number and pitch of stays in each 5-7 1/2"

Working pressure by rules 205 Superheater or Steam chest; how connected to boiler ✓ 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 ✓

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