

# REPORT ON MACHINERY.

No. 828

RECEIVED NEW YORK *May 1919*

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Date of writing Report *April 15 1919* When handed in at Local Office *April 22 1919* Port of *Seattle, Wash. U.S.A.*

Survey held at *Seattle* Date, First Survey *October 25 1918* Last Survey *April 14 1919*

Book No. *ENTRY* on the *New Steel Screw Steamer "WESTERN KNIGHT" (Builder's Yard No. 12)* Tons *Gross 5834.4 Net 3636.9*

Master *W.C.W. Remy* Built at *Seattle* By whom built *Ames Shipbuilding & Drydock Co.* When built *1919*

Engines made at *Seattle* By whom made *Ames Shipbuilding & Drydock Co.* when made *1919*

Boilers made at *Seattle* By whom made *Ames Shipbuilding & Drydock Co.* when made *1919*

Registered Horse Power *3500* Owners *U.S. Shipping Board & Emergency Fleet Corp.* belonging to *Seattle*

Com. Horse Power as per Section 28 *639* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *28 1/2 - 48 - 80* Length of Stroke *48* Revs. per minute *85* Dia. of Screw shaft *15 1/2* 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 *Yes*

Is 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 *No* If two liners are fitted, is the shaft lapped or protected between the liners *No* Length of stern bush *5'-2"*

Dia. of Tunnel shaft *14 1/2* as per rule *14 1/2* Dia. of Crank shaft journals *15 1/2* as per rule *15 1/2* Dia. of Crank pin *15 1/2* Size of Crank webs *27 1/2 x 27 1/2* Dia. of thrust shaft under rollers *15 1/2* Dia. of screw *16 1/2* Pitch of Screw *16'-3"* No. of Blades *4* State whether moveable *Yes* Total surface *86.8 sq ft*

No. of Feed pumps *2* Diameter of ditto *12 x 8* Stroke *18* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *6* Stroke *24* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *3 Duplex* Sizes of Pumps *1 General Service 7 1/2 x 5 x 6, 1 Ballast 12 x 8 x 12* No. and size of Suctions connected to both Bilge and Donkey pumps *In Holds, &c. No. 1 Hold 2-3 1/2, No. 2 Hold 2-3 1/2, No. 3 Hold 2-3 1/2*

No. of Bilge Injections *1* sizes *4-3 1/2" and 1-4"* In Holds, &c. *No. 1 Hold 2-3 1/2, No. 2 Hold 2-3 1/2, No. 3 Hold 2-3 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 *None*

Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Valves and Cocks*

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 *Hand pump suction and discharge* How are they protected *Wood casings*

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 *Yes* Worked from *Engine room platform*

BOILERS, &c.—(Letter for record *Dec 2 1907*) Manufacturers of Steel *Carnegie Steel Co.* *353*

Total Heating Surface of Boilers *9273* Is Forced Draft fitted *Yes* No. and Description of Boilers *3 Single and Section Marine*

Working Pressure *200* Tested by hydraulic pressure to *300* Date of test *Dec. 19-1918* No. of Certificate *—*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *78.7 sq ft* No. and Description of Safety Valves to each boiler *Duplex, Spring loaded* Area of each valve *9.62* Pressure to which they are adjusted *200* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers *20"* Mean dia. of boilers *15'-9"* Length *12'-5 1/2"* Material of shell plates *Steel*

Thickness *3/64* Range of tensile strength *60,000 to 71,680* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *Ends, Double Lap, Center, Triple Lap*

Working pressure of shell by rules *214* Size of manhole in shell *12" x 16"*

Percentage of strength of longitudinal joint *86* Working pressure of shell by rules *214* Size of manhole in shell *12" x 16"*

Size of compensating ring *1 3/8 x 30 x 32* No. and Description of Furnaces in each boiler *4 Morrison* Material *Steel* Outside diameter *45 5/32*

Length of plain part *—* Thickness of plates *3/16* Description of longitudinal joint *Welded* No. of strengthening rings *—*

Working pressure of furnace by the rules *202* Combustion chamber plates: Material *Steel* Thickness: Sides *1/16* Back *1/16* Top *1/16* Bottom *5/32*

Pitch of stays to ditto: Sides *7 x 8 1/4* Back *7 x 8 7/16* Top *7 x 8 3/4* If stays are fitted with nuts or riveted heads *Other method* Working pressure by rules *217* End plates in steam space: Material of stays *Steel* Area at smallest part *1.74 x 2.0* Area supported by each stay *61.25* Working pressure by rules *217* Material of stays *Steel*

Material *Steel* Thickness *1 3/16* Pitch of stays *17 1/2 x 17 1/2* How are stays secured *Double Nuts* Working pressure by rules *217* Material of Front plates at bottom *Steel*

Area at smallest part *7.069* Area supported by each stay *306.25* Working pressure by rules *217* Material of Front plates at bottom *Steel*

Thickness *3/64* Material of Lower back plate *Steel* Thickness *1/16 + 1/16* Greatest pitch of stays *7 x 8 7/16* Working pressure of plate by rules *217*

Diameter of tubes *2 1/2* Pitch of tubes *3 7/8* Material of tube plates *Steel* Thickness: Front *1/16* Back *3/4* Mean pitch of stays *7.25 x 10.87*

Pitch across wide water spaces *13"* Working pressures by rules *212* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *11 1/4 x 1 1/2* Length as per rule *33 1/2* Distance apart *8 3/4* Number and pitch of stays in each *4 - 7' pitch*

Working pressure by rules *264* Steam dome: description of joint to shell *None* % of strength of joint *—*

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 *None* 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 *—*

Pressure to which each is adjusted *—* Is Easing Gear fitted *—*



