

## REPORT ON MACHINERY.

No. 1682

Date of writing Report *Dec. 9<sup>th</sup> 1918* When handed in at Local Office *Dec. 9<sup>th</sup> 1918* Port of *Newport News Va*  
No. in Survey held at *Newport News Va* Date, First Survey *Mar. 5<sup>th</sup> 1917* Last Survey *Dec. 7<sup>th</sup> 1918*  
Reg. Book. *4* on the *STEEL S.S. "F. D. ASCHER"* (Number of Visits *58*)  
Master *✓* Built at *Newport News* By whom built *Newport News S.S. Co.* Tons { Gross *8294*  
Net *6332*  
Engines made at *Newport News Va* By whom made *New S.S. & D. Co.* when made *1918*  
Boilers made at *Newport News* By whom made *Newport News S.S. & D. Co.* when made *1918*  
Registered Horse Power *533* Owners *Standard Oil Co. of N.Y.* Port belonging to *Newport News*  
Nom. Horse Power as per Section 28 *533* 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 *75* Dia. of Screw shaft *as per rule 14.85* Material of *OH.S.*  
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 *✓* If two  
liners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *60"*  
Dia. of Tunnel shaft *as per rule 13.49* Dia. of Crank shaft journals *as per rule 14.18* Dia. of Crank pin *14.34* Size of Crank webs *9.34* Dia. of thrust shaft under  
collars *14.4* Dia. of screw *17.6* Pitch of Screw *18.0* No. of Blades *4* State whether moveable *yes* Total surface *101.4*  
No. of Feed pumps *3* Diameter of ditto *11.8* Stroke *24* Can one be overhauled while the other is at work *yes*  
No. of Bilge pumps *2* Diameter of ditto *3.5* Stroke *24* Can one be overhauled while the other is at work *yes*  
No. of Donkey Engines *3* Sizes of Pumps *12x8.5x12-9x8.5x10-8x5x12* No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room *Three 3.5"* In Holds, &c. *Two 3" in F.H.*

No. of Bilge Injections *1* sizes *9"* Connected *to condenser* to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *yes 3.5"*  
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 *Valves*  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes* Are the Discharge Pipes above *and* below the deep water line *yes*  
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 *Fuel tank & Oil tank sections* How are they protected *Iron covers*  
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 *✓* worked from

BOILERS, &c.—(Letter for record *S.*) Manufacturers of Steel *Lukens I & S Co. - Carnegie Steel Co.*  
Total Heating Surface of Boilers *7035.4* Is Forced Draft fitted *yes* No. and Description of Boilers *3 S.E. Scotch*  
Working Pressure *220* Tested by hydraulic pressure to *330* Date of test *Jan. 29. F. 6. 14* No. of Certificate *188-189-190*  
Can each boiler be worked separately *yes* Area of fire grate in each boiler *59.4* No. and Description of Safety Valves to  
each boiler *Two 3" Spring* Area of each valve *7.070* Pressure to which they are adjusted *220* Are they fitted with easing gear *yes*  
Smallest distance between boilers or uptakes and bunkers or woodwork *36"* Mean dia. of boilers *14.4* Length *11.6* Material of shell plates *S.*  
Thickness *1.32* Range of tensile strength *28-32* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *L.O.R.*  
long. seams *D.B.S.K.* Diameter of rivet holes in long. seams *1.5* Pitch of rivets *8.16* Lap of plates or width of butt straps *23"*  
Per centages of strength of longitudinal joint *rivets 94.1* Working pressure of shell by rules *239* Size of manhole in shell *16" x 12"*  
Size of compensating ring *38" x 34"* No. and Description of Furnaces in each boiler *3 Marston* Material *S.* Outside diameter *47.8"*  
Length of plain part *top 11.6* Thickness of plates *bottom 11.6* Description of longitudinal joint *Weld* No. of strengthening rings *✓*  
Working pressure of furnace by the rules *240* Combustion chamber plates: Material *S.* Thickness: Sides *1.32* Back *1.32* Top *.58* Bottom *1"*  
Pitch of stays to ditto: Sides *7/4 x 7* Back *7 x 7* Top *7/2 x 7* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *231*  
Material of stays *S.* Area at smallest part *148* Area supported by each stay *50.75* Working pressure by rules *233* End plates in steam space:  
Material *S.* Thickness *1.32* Pitch of stays *17 x 16* How are stays secured *I.N.* Working pressure by rules *230* Material of stays *S.*  
Area at smallest part *7.67* Area supported by each stay *272* Working pressure by rules *276* Material of Front plates at bottom *S.*  
Thickness *.32* Material of Lower back plate *S.* Thickness *.34* Greatest pitch of stays *13 x 7* Working pressure of plate by rules *267*  
Diameter of tubes *2.34* Pitch of tubes *4 x 3.34* Material of tube plates *S.* Thickness: Front *.25* Back *.16* Mean pitch of stays *12 x 7.5*  
Pitch across wide water spaces *18.34* Working pressures by rules *230* Girders to Chamber tops: Material *S.* Depth and  
thickness of girder at centre *10" x 1"* Length as per rule *33"* Distance apart *7.5"* Number and pitch of stays in each *Four 7"*  
Working pressure by rules *262* Steam dome: description of joint to shell *✓* % 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 *✓*  
Diameter of Safety Valve *✓* Pressure to which each is adjusted *✓* Is Easing Gear fitted *✓*



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Crank shaft; Tail shaft; Two bronze blades, propeller hub; A.T. rod & bracket; C.T. impeller; Pump links; Feed and bilge pump valves; Slide valve rods; Eccentric straps; Top & bottom end brasses and bolts; Main bearing bolts; Set of coupling bolts; Piston rings; Condenser tubes; Boiler tubes; Nuts, bolts, Iron of various sizes—

The foregoing is a correct description,

Newport News Shipbuilding & Dry Dock Co.,

By

Manufacturer.

Dates of Survey while building

During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

No. 5. 12. 23. 27. D. 4. 10. 12. 14. 18. 20. 21. 1917- J. 11. 16. 19. 23. 29 F. 2. 6. 8. 14. 18. 21. 1918  
A. 8. 31. M. 7. 17. 20. 24. 28. J. 1. 10. 24. 28. F. 3. 10. 22. 27. 29. A. 8. 21. S. 5. 9. 18. 19. 0. 21. 24  
N. 1. 9. 12. 16. 19. 27. 30. D. 2. 3. 5. 7. 1918  
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Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders A. 3. 11. 24 Slides J. 10 Covers J. 27 Pistons M. 17 Rods J. 23

Connecting rods M. 17 Crank shaft J. 10 Thrust shaft S. 9 Tunnel shafts A. 21 Screw shaft J. 3 Propeller J. 27

Stern tube M. 28 Steam pipes tested N. 9. 12. 16 Engine and boiler seatings M. 27 Engines holding down bolts N. 27

Completion of pumping arrangements D. 3. 5. Boilers fixed N. 30 Engines tried under steam N. 30

Completion of fitting sea connections N. 19. Stern tube N. 19 Screw shaft and propeller N. 19

Main boiler safety valves adjusted N. 30 Thickness of adjusting washers Lock nuts.

Material of Crank shaft OHS. Identification Mark on Do. J. 10. 7. 18 Material of Thrust shaft OHS. Identification Mark on Do. J. 9. 9

Material of Tunnel shafts OHS. Identification Marks on Do. J. 10. 7. 18 Material of Screw shafts OHS. Identification Marks on Do. J. 3. 1

Material of Steam Pipes STEEL & COPPER Test pressure S. 660. C. 440

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 S.S. "H.M. FLAGLER"

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery has been built under special survey in accordance with approved plans and Rules for the intended Class of L.M.C.

Engines tested & found to work well.

The vessel is fitted to burn oil fuel. The fuel is carried in fuel tank and No. 5 summer tanks.

The piping arrangements are separated from cargo and bilge systems & Sec. 49 Requirements are complied with.

The oil is atomized by mechanical burner and supplied to furnaces by separate fuel pumps in stockhold.

The vessel is eligible in my opinion to have the records of L.M.C. 12. 18 TMS 220 lbs. IB 180 lbs.

"Notes for oil fuel F.P. above 150°F" in the Register Book—

It is submitted that this vessel is eligible for THE RECORD. + LMC 12-18 FD

FITTED FOR OIL FUEL 12-18 F.P. ABOVE 150°F

The amount of Entry Fee ... \$15.00

Special ... \$233.00

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for, 9. 12. 18

When received, 21. 12. 18

Committee's Minute

Assigned + LMC 12. 18

Fitted for oil fuel 12. 18 F.P. above 150°F.

Now York DEC 17 1918

MACHINERY CERTIFICATE WRITTEN 2. 1. 19

Engineer Surveyor to Lloyd's Register of Shipping.

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