

REC'D NEW YORK APR -5 1921

REPORT ON MACHINERY

No. 4142

WED. 27 APR. 1921

4.

Date of writing Report

Mar 15 1921

When handed in at Local Office

Mar 30 1921

Date, First Survey

Received at London Office

Port of Philadelphia Pa

Last Survey

March 23 1921

in Survey held at

New Steel S.S. Solana

g. Book.

Master

Thomas Boyd

Built at

Camden N.J.

By whom built

New York S.S. Corp.

Tons

Gross 6402.8

Net 4203

When built

1921-3

Engines made at

Camden N.J.

By whom made

New York S.S. Corp.

when made

1921-3

Boilers made at

Camden

By whom made

New York S.S. Corp.

Port belonging to

San Francisco

Registered Horse Power

✓

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

yes

Norm. Horse Power as per Section 28

601

No. of Cylinders

Three

No. of Cranks

Three

ENGINES, &c.—Description of Engines

Triple Expansion

Dia. of Cylinders

21" x 45" x 45"

Length of Stroke

51

Revs. per minute

80

Dia. of Screw shaft

as per rule 15.23

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

Is the propeller boss

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

yes

If two

Dia. of Tunnel shaft

as per rule 14.018

Dia. of Crank shaft journals

as per rule 14.018

Dia. of Crank pin

15 1/4

Size of Crank webs

11 x 2 1/2

Dia. of thrust shaft under

collars

15"

Dia. of screw

18-0

Pitch of Screw

15-6

No. of Blades WITH AUTOMATIC CONTROL

State whether moveable

yes

Total surface

100.5

No. of Bilge pumps

Two

Diameter of ditto

2 1/8

Stroke

2 1/2

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

Two

Diameter of ditto

1 1/2

Stroke

2 1/2

Can one be overhauled while the other is at work

yes

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

In Holds, &c. 1 @ 1" dia. main pump room

In Engine Room

4 BOILER 4 @ 3 1/2" & 1 @ 3 1/2" Special

No. of Bilge Injections

1 @ 1" dia. 2nd pump room

1 @ 3" dia. in Cofferdam

Is a separate Donkey Suction fitted in Engine room & size

yes 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

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 or below the deep water line

below

Are they each fitted with a Discharge Valve always accessible on the plating of the cessel

yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

yes

How are they protected

✓

What pipes are carried through the bunkers

none

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

Manufacturers of Steel

Carnegie Steel Corp

BOILERS, &c.—(Letter for record)

Total Heating Surface of Boilers

8952.2

Is Forced Draft fitted

yes

No. and Description of Boilers

Three single ended

Working Pressure

195 lbs

Tested by hydraulic pressure to

293 lbs

Date of test

11-10-20

No. of Certificate

489

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63.95

No. and Description of Safety Valves to

Are they fitted with easing gear

yes

each boiler

Two spring loaded

Area of each valve

9.62

Pressure to which they are adjusted

195 lbs

Material of shell plates

Steel

Smallest distance between boilers or uptakes and bunkers or woodwork

15"

Mean dia. of boilers

15-10"

Length

11-11"

Descrip. of riveting: cir. seams

D.R.

Thickness

1 1/2"

Range of tensile strength

61680 lbs

Are the shell plates welded or flanged

no

or width of butt straps

22 3/4"

long. seams

T.R.D.B.S. Diameter of rivet holes in long. seams

1 1/16"

Pitch of rivets

10"

Size of manhole in shell

16" x 12"

Per centages of strength of longitudinal joint

88.4

Working pressure of shell by rules

216 lbs

No. and Description of Furnaces in each boiler

3 Corrugated

Material

Steel

Outside diameter

4'-2 1/4"

Size of compensating ring

3'-0 1/2" x 2'-8 1/2"

Description of longitudinal joint

weld

No. of strengthening rings

15

Thickness of plates

7/8"

Back

5/8"

Top

7/8"

Bottom

15/16"

Working pressure of furnace by the rules

200 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

5/8"

Working pressure by rules

269 lbs

End plates in steam space:

Material of stays

Steel

Pitch of stays to ditto: Sides

4 1/8" x 4 1/8"

Back

6 1/8" x 4 1/8"

Top

4 1/8" x 4 1/8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

196 lbs

Material of stays

Hot Iron

Area at smallest part

1.62

Working pressure by rules

222 lbs

Material of Front plates at bottom

Steel

Material

Steel

Thickness

1 1/16"

Pitch of stays

1 1/2" x 1 1/2"

How are stays secured

Nuts

Working pressure by rules

226 lbs

Working pressure of plate by rules

318 lbs

Area at smallest part

6.49

Material of Lower back plate

Steel

Thickness

1 1/2"

Greatest pitch of stays

1 1/2" x 1 1/2"

Working pressure of plate by rules

318 lbs

Mean pitch of stays

9"

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/2" x 3 1/4"

Material of tube plates

Steel

Thickness: Front

1"

Back

3/4"

Mean pitch of stays

9"

Pitch across wide water spaces

13"

Working pressures by rules

212 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9" x 2"

Length as per rule

2-11 1/2"

Distance apart

4 3/4"

Number and pitch of stays in each

4 @ 4 1/2"

Working pressure by rules

249 lbs

Steam dome: description of joint to shell

none

Diam. of rivet holes

✓

Diameter

✓

Thickness of shell plates

✓

Material

✓

Description of longitudinal joint

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two each bolts & nuts for top & bottom ends & main bearings. One set coupling bolts. One set feed & bilge pump valves. Quantity of assorted bolts nuts & iron. 16 cyl studs & nuts 16 V Cams Studs & nuts 36 Crank Tubes 120 Piston pumps 2 Sp + 1 Pist On rod hooks 1 HP ring & 12 studs 1 set air pp valves 1 valve & 2 prop blades with studs & nuts 1 HP Valve spindle & pkg 1 ice strap, 1 air pp with cum pumps fitted:— Two independent feed pumps. 12 x 8 x 21 one auxiliary air pp 12 x 14 x 14 x 12. One bilge & ballast dky 14 x 10 x 12. One sanitary pp. 4 1/2 x 7 x 10. 2 fuel oil pps (Dh) 5 1/2 x 3 1/2 x 5. One fresh water dky. 6 x 5 3/4 x 6. One evapor feed 4 1/2 x 3 1/2 x 4. Four oil cargo pps 16 x 14 x 18 one pump room service pump. one food fuel oil pp, one food bilge pumps. each 6 x 5 3/4 x 4.

The foregoing is a correct description,

New York Shipbuilding Corporation Manufacturer.

Dates of Survey while building: During progress of work in shops -- Apr 16, 20, May 4-7-17-19 June 8-16 30 July 13, 20, 28 Aug 7-9-11-16 Sept 8, 12, 15, 20, 23, 27 Oct 4, 11, 18, 26, 28 During erection on board vessel --- Nov 4-8-10-19-23 Dec 10-14-20-22-26-30 1921 Jan 3-14-20-21 Feb 4-9-10-16-18-20 Mar 4-10-11-15-23 Total No. of visits 54

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

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders 19-11-20 Slides 2-8-20 Covers 2-8-20 Pistons 11-8-20 Rods 11-8-20. Connecting rods 11-10-20 Crank shaft 28-10-20 Thrust shaft 17-17-20 Tunnel shafts ✓ Screw shaft 28-12-20 Propeller 20-12-20 Stern tube 20-12-20 Steam pipes tested 21-2-21 Engine and boiler seatings 2-1-21 Engines holding down bolts 4-2-21 Completion of pumping arrangements 4-2-21 Boilers fixed 7-2-21 Engines tried under steam 11-2-21 Completion of fitting sea connections 2-1-21 Stern tube 20-12-20 Screw shaft and propeller 2-1-21 Main boiler safety valves adjusted 11-2-21 Thickness of adjusting washers Lock nuts. Material of Crank shaft *st steel* Identification Mark on Do. *W.B.* Material of Thrust shaft *st steel* Identification Mark on Do. *W.B.* Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *st steel* Identification Marks on Do. *W.B.* Material of Steam Pipes *Solid drawn Steel 6" dia 3/8" thick* Test pressure 600 lbs 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. Candor. (reg'd by Reg to 254).*

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

The machinery of this vessel has been built under special survey. Materials & workmanship good hydraulic tests satisfactory. The whole of the machinery is satisfactorily installed in the vessel & was tried under steam & is in good safe working condition & eligible in my opinion to be classed & have marks **LMC 3-21** fitted for oil fuel FP above 150°F 3-21 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + LMC. 3.21. F.D. C.L.

Fitted for Oil Fuel 3.21. FP above 150°F

Boell
6/5/21
9/28

The amount of Entry Fee ... *30* : When applied for. Special ... *52.50* : 19. Donkey Boiler Fee ... £ : When received. Travelling Expenses (if any) £ *10* : 22/7/21

William Dutler
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York APR 12 1921

Assigned

MACHINERY CERT. WRITTEN.

27-4-21
issued 26/5/21.



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