

## REPORT ON MACHINERY.

No. 2710

REC'D NEW YORK

May 7, 1917

Received at London Office

Jan 31, 1918

Date of writing Report

When handed in at Local Office

24-12-14

Port of

Pittsburgh &amp; Philadelphia

No. in Survey held at

Pittsburgh and Chester, Pa.

Date, First Survey

4<sup>th</sup> Dec 1916

Last Survey

3<sup>rd</sup> Dec 1914

Reg. Book.

4.3 on the

Steel S.S. "Hisko"

(Chester S.B. Coys No 350 SS)

Number of Visits

56

Tons

Gross 5665

Net

Master L.E. Congdon USN

Built at

Chester Pa USA

By whom built

Chester S.B. Coys

When built

1914

Engines made at

East Pittsburgh Pa

By whom made

Westinghouse Machine Coys

when made

1914

Boilers made at

Camden

By whom made

New York S.B. Corp

when made

1917

Registered Horse Power

484

Owners

United States Shipping Board

Port belonging to

New York

Shaft Horse Power at Full Power

2900

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

## TURBINE ENGINES, &amp;c.

Description of Engines

Double Reduction Geared Turbines

No. of Turbines

4

Diameter of Rotor Shaft Journals, H.P.

11 1/2"

L.P.

11 1/2"

Diameter of Pinion Shaft

16 1/2"

Diameter of Pitch Circle

11 1/2"

Diameter of Pitch Circle of Wheel

10 1/2"

Diameter of Pitch Circle of Wheel

10 1/2"

Diameter of Pitch Circle of Wheel

10 1/2"

Diameter of Journals

11 1/2"

Distance between Centres of Bearings

11 1/2"

Diameter of Wheel Shaft

11 1/2"

Distance between Centres of Bearings

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Width of Face

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

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Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

Diameter of Thrust Shaft under Collars

11 1/2"

No. of Screw Shafts

6

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

Diameter of same

15 1/2"

No. of Blades

4

State whether Moveable

No

Total Surface

96

Diameter of Rotor Drum, H.P.

14"

L.P.

24"

Revs. per Minute at Full Power, Turbine

3840

Propeller

45

Pitch of Propeller

14-6"

Diameter of Rotor Drum, H.P.

14"

L.P.

24"

Revs. per Minute at Full Power, Turbine

3840

## PARTICULARS OF BLADING.

H.P. 233

L.P. ALL REACTION.

ASTERN. IMPULSE.

IMPULSE.

H.P. 233

L.P. 233

ASTERN. IMPULSE.

	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION	1 1/2"	33 3/8" mean	2	3"	30	3	HP 1 1/2"	33 3/8" mean	2
2ND	2"	21"	8	4"	32	2	LP 2 1/2"	36	2
3RD	3"	23"	6	5"	34	1			
4TH				6"	36	4			
5TH									
6TH									
7TH									
8TH									

No. and size of Feed pumps 2 @ 12" x 8" x 24"

No. and size of Bilge pumps 1 @ 8" x 5 3/4" x 6" ; 1 @ 7 1/2" x 8 1/2" x 6"

No. and size of Bilge suction in Engine Room 3 - 3 1/2" ; 1 - 3 1/2" special ; 1 - 3 1/2" in oil fuel filler way in 1st room

In Holds, &c. 6-4" in after end ; 2-4" in pump room ; 6-4" in forward end ;

No. of Bilge Injections 1 sizes 12" Connected to condenser, or to circulating pump pump 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 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 Above

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 None How are they protected Yes

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 Yes worked from Yes

BOILERS, &c. (Letter for record (4)) Manufacturers of Steel WORTH BROS

Total Heating Surface of Boilers 8862 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 270 lbs Date of test 28-2-17 No. of Certificate 119

Can each boiler be worked separately Yes Area of fire grate in each boiler 58.75 sq ft No. and Description of Safety Valves to each boiler Double spring loaded Area of each valve 4.6 sq ft Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 15-1 3/4" Length 11' 9" Material of shell plates Steel

Thickness 1 5/16" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. Riv. long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 8 5/16" Temp of plates or width of butt straps 20 1/4"

Per centages of strength of longitudinal joint rivets 94 Working pressure of shell by rules 191 lbs Size of manhole in shell 16" x 12"

Size of compensating rings 3' 1" x 2' 8" x 1 1/2" No. and Description of Furnaces in each Boiler 3 Corrugated Material Steel Outside diameter 3' 8 1/2"

Length of plain part top 17" Thickness of plates crown 17" Description of longitudinal joint Weld No. of strengthening rings 1

bottom 32" bottom 32" 23" 23" 23" 1"

Working pressure of furnace by the rules 182 Combustion chamber plates: Material Steel Thickness: Sides 32 Back 32 Top 32 Bottom 1"

Pitch of stays to ditto: Sides 7 1/2" x 8 5/8" Back 8 1/2" x 7 3/4" Top 8 1/4" x 7 1/2" If stays are fitted with nuts or riveted heads No Working pressure by rules 268

Material of stays Iron Diameter at smallest part 1.99 Area supported by each stay 6.5' 6" Working pressure by rules 228 End plates in steam space

Material Steel Thickness 1 3/16" Pitch of stays 18" x 16" How are stays secured D. nuts Working pressure by rules 217 Material of stays Steel

Diameter at smallest part 6.49 Area supported by each stay 288 Working pressure by rules 234 Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 1 3/32 Greatest pitch of stays 14 3/4" Working pressure of plate by rules 180

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 9 3/8"

Pitch across wide water spaces 13 7/16" Working pressures by rules 198 Girders to Chamber tops: Material Steel Depth and


thickness of girder at centre 9 1/2" x 2 @ 1" Length as per rule 3' 0" Distance apart 8 3/4" Number and pitch of stays in each 4 @ 7 1/2"

Working pressure by rules 238 Steam dome: description of joint to shell % of strength of joint Diameter

Thickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets

Working pressure of shell by rules Crown plates: Thickness How stayed





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