

REPORT ON MACHINERY.

No. 2438

Received at London Office NOV. 2 1916

1st Sept 1916 When handed in at Local Office 1st Sept 1916 Port of Philadelphia
Date, First Survey 8th Sept 1916 East Survey 30th Sept 1916
Survey held at Philadelphia
eg. Book. on the S.S. "Standard Arrow"
Built at Philadelphia By whom built New York P. B. Co. (No. 167) When built 1916
Engines made at Philadelphia By whom made New York P. B. Co. when made 1916
Boilers made at Do By whom made Do when made 1916
Registered Horse Power Owners Standard Oil Co. Port belonging to New York
Nom. Horse Power as per Section 28 568 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 34" 35" 51" 75" Length of Stroke 51" Revs. per minute 80 Dia. of Screw shaft 15.47" as per rule 15.69" Material of iron
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
the propeller boss Yes 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 5' 4"

Dia. of Tunnel shaft as per rule 13.48" Dia. of Crank shaft journals as per rule 14.15" Dia. of Crank pin 15" Size of Crank webs 10 1/2" Dia. of thrust shaft under
collars 14 3/4" Dia. of screw 19.6" Pitch of Screw 15-0" No. of Blades 4 State whether moveable Yes Total surface 113.5 sq ft

No. of Feed pumps 2 Diameter of ditto 2 x 8" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 14 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 8 Sizes of Pumps See separate sheet No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room & Blr Room 6-3 1/2" & 1-3 1/2" In Holds, &c. 2-3 1/2" in oil fuel tank 2-3 1/2" in
Total Hold 1-3" in after Pump Room

No. of Bilge Injections 1 sizes 11" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size 4-3 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 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 Both

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

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

OILERS, &c.—(Letter for record (+)) Manufacturers of Steel Worth Bros

Total Heating Surface of Boilers 7804 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended

Working Pressure 220 lbs Tested by hydraulic pressure to 330 lbs Date of test 29.1.16 No. of Certificate 85

Can each boiler be worked separately Yes Area of fire grate in each boiler 59 sq ft No. and Description of Safety Valves to

each boiler Double spring loaded Area of each valve 8.29 sq in Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 14' 0" Mean dia. of boilers 14' 8" Length 11' 6" Material of shell plates steel

Thickness 1 1/16" 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 1/16" Pitch of rivets 9 1/16" Lap of plates or width of butt straps 22 3/4"

Per centages of strength of longitudinal joint rivets 87.9 plate 83.6 Working pressure of shell by rules 240 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 3' 0 1/2" x 2' 8 1/2" No. and Description of Furnaces in each boiler 3 corrugated Material steel Outside diameter 3' 11 1/16"

Length of plain part top 21" bottom 32" Thickness of plates crown 32" Description of longitudinal joint weld No. of strengthening rings

Working pressure of furnace by the rules 226 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1"

Pitch of stays to ditto: Sides 7" x 7 1/4" Back 7" x 7" Top 7 3/8" x 7 1/4" If stays are fitted with nuts or riveted heads No Working pressure by rules 252

Material of stays steel Area at smallest part 1.99 Area supported by each stay 53.4 Working pressure by rules 280 End plates in steam space:

Material steel Thickness 1 3/16" Pitch of stays 16 1/2" x 15 1/2" How are stays secured D.N. & W. Working pressure by rules 246 Material of stays steel

Area at smallest part 6.49 Area supported by each stay 255.75 Working pressure by rules 263 Material of Front plates at bottom steel

Thickness 1 1/16" Material of Lower back plate steel Thickness 1 3/16" Greatest pitch of stays 14 1/4" x 7" Working pressure of plate by rules 220

Diameter of tubes 2 1/2" Pitch of tubes 3 5/8" x 3 1/2" Material of tube plates steel Thickness: Front 1 1/16" Back 1 3/16" Mean pitch of stays 8 7/8"

Pitch across wide water spaces 12 3/4" Working pressures by rules 248 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 9" x 20" Length as per rule 2' 11" Distance apart 7 1/4" Number and pitch of stays in each 4 @ 7 1/4"

Working pressure by rules 268 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?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of big pump valves: a quantity of assorted bolts & nuts: iron of various sizes: spare tail shaft: 1 section of crank shaft: 2 spare propeller blades: I.O. & L.O. spare piston rods: H.O. & L.O. spare valve spindles etc.

The foregoing is a correct description,

New York Shipbuilding Co.

CAMDEN N.J.

Philip M. Young

Manufacturer.

1915
Dates of Survey while building { During progress of work in shops -- Aug 8. 12. 16. Sept 23. 27. Oct 16. 18. 19. 29. Nov 5. 9. 16. 23. Dec 2. 7. 9. 14. 17. 22. 29 up to June 1. 1916
During erection on board vessel -- June 5. 9. 12. 28. July 6. 14. 17. 20. 21. 25. Aug 1. 4. 7. 17. 28. 30.
Total No. of visits 74

Is the approved plan of main boiler forwarded herewith

yes no

" " " donkey " " " none

Dates of Examination of principal parts—Cylinders 21. 2. 16 Slides 28. 3. 16 Covers 28. 3. 16 Pistons 28. 3. 16 Rods 28. 3. 16
Connecting rods 21. 1. 16 Crank shaft 19. 1. 16 Thrust shaft 3. 3. 16 Tunnel shafts ✓ Screw shaft 22. 3. 16 Propeller 3. 3. 16
Stern tube 22. 3. 16 Steam pipes tested 1. 6. 16 Engine and boiler seatings 19. 4. 16 Engines holding down bolts 5. 6. 16
Completion of pumping arrangements 20. 7. 16 Boilers fixed 20. 7. 16 Engines tried under steam 28. 8. 16
Completion of fitting sea connections 19. 4. 16 Stern tube 19. 4. 16 Screw shaft and propeller 19. 4. 16
Main boiler safety valves adjusted 21. 7. 16 Thickness of adjusting washers lack nuts fitted

Material of Crank shaft Steel Identification Mark on Do. 1500 Material of Thrust shaft Steel Identification Mark on Do. 1500
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. 1500

Material of Steam Pipes Steel ✓ Test pressure 660 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 no ✓ If so, state name of vessel

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

The machinery of this vessel has been built under special survey: the material and workmanship being good and proved satisfactory on steam trial

It is submitted that this vessel be eligible for a record of + L.M.C. 8. 16 in the Register Book.

Fitted for oil fuel 8. 16 F.P. above 150°F

It is submitted that this vessel be eligible for THE RECORD + LMC 8. 16 F.D.

Fitted for oil fuel 8. 16 F.P. above 150°F

J.W.D.
15/11/16

A. T. Howard
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... \$ 15.00:
Special ... \$ 242.00:
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) \$ 10.00:
When applied for, 19. :
When received, 21. 11. 1916

Committee's Minute New York OCT 19 1916

Assigned, + L.M.C. 8. 16
Fitted for oil fuel 8. 16 F.P. above 150°F Elec. Light

MACHINERY CERTIFICATE
Dated 2/11/16

Total number of lights provided for	43	lights each of	40W	candle power requiring a total current of	15.4	Amperes
A	39	lights each of	40W	candle power requiring a total current of	14.0	Amperes
A'	2	lights each of	40W	candle power requiring a total current of	12.2	Amperes
					9.7	

Rpt. 9a.

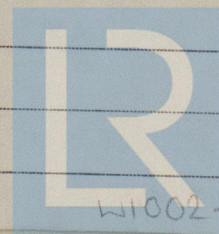
THU. 2-NOV. 1916

Port of Philadelphia

(Continuation of Report No. 2438 dated 1st Sept 1916 on the

S.S. "Standard Arrow" :- Dredge Engines

16" x 10" x 14" Duplex : 12 x 8 x 12 Duplex : 7 1/2" x 6" x 10" Duplex : 6" x 4" x 6" 2
 7 1/2" x 6" x 10" Duplex : 2 @ 6" x 4" x 6" : Combined air & circal. 12" x 14" x 14" x 12"



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Lloyd's Register
Foundation

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes Are all joints in accessible

positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes