

REPORT ON MACHINERY.

No. 2512

Port of Copenhagen

Received at London Office

FRI. 13 JUL 1907

No. in Survey held at Copenhagen
Reg. Book.Date, first Survey 19-1906 Last Survey 25/6 1907(Number of Visits 47)* Inspection on the Steel Steamer "St. Jan"Master R. V. C. Rambusch Built at Copenhagen By whom built J. S. Burmeister & Wainshaskins & Selsbygger When built 1907Engines made at Copenhagen By whom made J. S. Burmeister & Wainshaskins & Selsbygger when made 1907Boilers made at Copenhagen By whom made J. S. Burmeister & Wainshaskins & Selsbygger when made 1907Registered Horse Power 281 Owners Det Ostasiatiske Kompagni Port belonging to CopenhagenNom. Horse Power as per Section 28 281 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yesENGINES, &c.—Description of Engines Inverted Triple Expansion Surf. cond. No. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 21 1/2, 34 1/2, 60 Length of Stroke 39 Revs. per minute 80 Dia. of Screw shaft 12 1/2 as per rule 12 1/2 Material of S.M. Steel as fitted 12 1/2 screw shaftIs 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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If twoliners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 5'-0"Dia. of Tunnel shaft 10 3/4 as per rule 10 3/4 Dia. of Crank shaft journals 11 1/2 as per rule 11 1/2 Dia. of Crank pin 11 1/2 Size of Crank webs 8 x 15 3/4 Dia. of thrust shaft undercollars 11 1/2 Dia. of screw 15'-0" Pitch of Screw mean 15'-0" No. of Blades 4 State whether moveable no Total surface 65 sq. feetNo. of Feed pumps 2 Diameter of ditto 4" Stroke 19 1/2" Can one be overhauled while the other is at work yes One 15 tons steam engineNo. of Bilge pumps 2 Diameter of ditto 4" Stroke 19 1/2" Can one be overhauled while the other is at work yes One 15 tons steam engineNo. of Donkey Engines 1 Feed Donkey Sizes of Pumps 6 1/2 x 4 x 10" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 2 off, 3" dia. - 2 off 2 3/4" dia., one in dry well 3 1/2" dia. Holds, &c. - 1 hold 2 off 2 3/4" No. 2 hold 2 off 2 3/4" No. 3 hold 2 off 2 3/4"

Tunnel well 1 off 3" Suctions, main pipes 4 1/2" & 3 1/2", in D. B. tanks 3" & 2 1/2" F.P.T. & A.P.T. 2 1/2"

No. of Bilge Injections one sizes 6" Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 6"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 noneAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks yes except blow off cocks from boilersAre 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 aboveAre 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 yesWhat pipes are carried through the bunkers bilge suction pipes to fore hold How are they protected by the ceiling, pipes fitted in guttersAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesDates of examination of completion of fitting of Sea Connections 8/2. 07 of Stern Tube 11/2. 07 Screw shaft and Propeller 14/2. 07Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper deckOILERS, &c.—(Letter for record no) Manufacturers of Steel David B. Voiles & Sons, Furnaces from Thyssen & Co. MulheimTotal Heating Surface of Boilers 48,400 sq. ft. Is Forced Draft fitted no No. and Description of Boilers 2 single ended hor. return tubularWorking Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 5th Feb. 07 No. of Certificate 261 & 262Can each boiler be worked separately yes Area of fire grate in each boiler 63.25 sq. ft. No. and Description of Safety Valves toeach boiler 2 Spring loaded Area of each valve 11 sq. in. Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 11" Mean dia. of boilers 15'-6" Length 10'-7" Material of shell plates S.M. SteelThickness 1 5/16" Range of tensile strength 27-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double riv.long. seams triple riveted Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 5/8"Per centages of strength of longitudinal joint 88% 6% Working pressure of shell by rules 182.4 lbs. Size of manhole in shell 12" x 16"Size of compensating ring 3'-6 1/8" x 2'-7 1/2" No. and Description of Furnaces in each boiler Three horizontal Material S.M. Steel Outside diameter 4'-0"Length of plain part top 5' bottom 5' Thickness of plates top 9 1/16" x 3/16" bottom 9 1/16" x 3/16" Description of longitudinal joint welded No. of strengthening rings ✓Working pressure of furnace by the rules 187 lbs. Combustion chamber plates: Material S.M. Steel Thickness: Sides 7/16" x 3/2" Back 5/8" Top 9/16" x 3/2" Bottom 3/4"Pitch of stays to ditto: Sides 7 1/2" x 8" Back 7 1/4" x 7 3/4" Top 7 1/2" x 8" If stays are fitted with nuts or riveted heads yes Working pressure by rules Sides 202.5 lbs. Back 240.1 lbs.Material of stays Span Diameter at smallest part 5 1/8" Area supported by each stay Sides 60 sq. in. Back 50 sq. in. Working pressure by rules 224 lbs. End plates in steam space:Material S.M. Steel Thickness 1" Pitch of stays 16" x 16" How are stays secured double nuts Working pressure by rules 185 lbs. Material of stays S.M. SteelDiameter at smallest part 2.634" Area supported by each stay 256 sq. in. Working pressure by rules 213 lbs. Material of Front plates at bottom S.M. SteelThickness 3/16" x 1/2" Material of Lower back plate S.M. Steel Thickness 1/32" Greatest pitch of stays 7 3/4" x 13" Working pressure of plate by rules 199.3 lbs.Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" + 4 1/2" Material of tube plates S.M. Steel Thickness: Front 1" Back 1 3/16" + 1/32" Mean pitch of stays 11 1/4"Pitch across wide water spaces 1/4" Working pressures by rules 183 lbs. Girders to Chamber tops: Material S.M. Steel Depth andthickness of girder at centre 8 3/4" x 7 1/4" x 2" Length as per rule 2'-8" Distance apart 8" Number and pitch of stays in each 3 off, 7 1/2" pitchWorking pressure by rules 182 lbs. Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler workedseparately yes Diameter 10" Length 10" Thickness of shell plates 1" Material S.M. Steel Description of longitudinal joint no Diam. of rivetholes 1 3/8" Pitch of rivets 9 1/2" Working pressure of shell by rules 182 lbs. Diameter of flue 10" Material of flue plates S.M. Steel Thickness 1"Is stiffened with rings yes Distance between rings 16" Working pressure by rules 182 lbs. End plates: Thickness 1" How stayed by staysWorking pressure of end plates 182 lbs. Area of safety valves to superheater 182 lbs. Are they fitted with easing gear yes

6110-40019

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description			When made	Where fixed
Made at	By whom made				
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler			Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	Plates
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:—1 connecting rod top end bolts and nuts. 2 connecting rod bottom end bolts and nuts. 2 main bearing bolts and nuts. 1 set of coupling bolts. 1 set of feed and bilge pump valves and seats. 1 Ram bottom ring for each piston. 1 quantity of assorted bolts and nuts. 1 set of various sizes. 1 Propeller. 1 propeller shaft. 1 pair of connecting rod bottom and top end brasses. 1 pair of air pump valves. 2 check valves. 3 valves for each donkey pump. 6 jointed lifting bolts. 35 boiler tubes. 36 condenser tubes. 1 set of safety valve springs. 24 water gauge glasses. For centrifugal circulating pump. 1 set main bearing brasses. 1 set cross head & crank brasses.

The foregoing is a correct description,

AKTIESELSKABET
BURMEISTER & WAINSKIN- OG SKIBSBYGGERI.

Manufacturer.

John Rasmussen

Dates of Survey while building	During progress of work in shops—	3/18, 3/9, 15/9, 22/9, 25/9, 27/9, 3/10, 6/10, 9/10, 11/10, 17/10, 22/10, 24/10, 27/10, 29/10, 3/11, 7/11, 16/11, 19/11, 31/11, 27/12, 4/12, 20/12.
	During erection on board vessel—	22/12, 28/12—06; 7/1, 26/1, 5/2, 8/2, 11/2, 14/2, 22/2, 15/3, 26/3, 27/3, 4/4, 10/4, 18/4, 16/5, 22/5, 24/5, 11/6, 13/6, 14/6, 17/6, 19/6—26-07
	Total No. of visits	47

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

Dates of Examination of principal parts—Cylinders	7/1	Slides	26/1	Covers	28/12	Pistons	26/1	Rods	27/11
Connecting rods	27/11	Crank shaft	21/11	Thrust shaft	27/11	Tunnel shafts	27/11	Screw shafts	27/11 & 5/2
Stern tube	16/11	Steam pipes tested	27/12	Engine and boiler seatings	22/12 & 8/2	Engines holding down bolts	28/2		
Completion of pumping arrangements	8/2	Boilers fixed	28/2	Engines tried under steam	20/6				
Main boiler safety valves adjusted	19/6	Thickness of adjusting washers	7/16						
Material of Crank shaft	<i>4 1/2" Steel</i>	Identification Mark on Do.	<i>11.06. A.T.P.</i>	Material of Thrust shaft	<i>3 1/2" Steel</i>	Identification Mark on Do.	<i>11.06. A.T.P.</i>		
Material of Tunnel shafts	<i>3 1/2" Steel</i>	Identification Marks on Do.	<i>11.06. A.T.P.</i>	Material of Screw shafts	<i>3 1/2" Steel</i>	Identification Marks on Do.	<i>11.06. A.T.P.</i>		
Material of Steam Pipes	<i>Steel</i>	Test pressure	<i>360 lbs.</i>						

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

In accordance with the rules for special survey we have examined the material and workmanship from the commencement until the final trial under steam and found it good in every respect. All the forgings are of Siemens Martin Steel and have been found good. All the castings are sound and good, the bearings of proper dimensions and sound material. The boiler material has been tested as per rules as per test notes received, and satisfactory hot & cold tests of the material has been carried out by us. The dimensions are as specified and in accordance with the rules and the approved plan. On the trial trip the engines and boilers worked satisfactorily.

It is submitted that
this vessel is eligible for
THE RECORD.



L.M.C. 6.07.

Elec light

J.M.

15-7-07

The amount of Entry Fee..	£ 2 : .	When applied for,	11/7 1907
Special	£ 34 : 1	When received,	15-7-07
Donkey Boiler Fee	£ 5 : .		
Travelling Expenses (if any) £	:		

WRITTEN.

Committee's Minute

TUES. JUL 16 1907

Assigned

L.M.C. 6.07
Elec. light



Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Lloyd's Register
Foundation

Certificate (if required) to be sent to Surveyors' office, Copenhagen.

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