

REPORT ON MACHINERY.

No. 1904

Port of Copenhagen

MUN. 28 MAR 1904

Received at London Office

19

No. in Survey held at Copenhagen
Reg. Book.Date, first Survey 7th July 1903Last Survey 27th February 1904(Number of Visits 21)5 1/2 in. Splint on the Steel Sc. Sr. "Björn"Master C. HuusBuilt at CopenhagenBy whom built Kjöbenhavns Flydedok & Skibsværft

Tons

Gross 1162.90Net 403.99When built 1904Engines made at CopenhagenBy whom made Aktieselskabet Kjöbenhavns Flydedok & Skibsværftwhen made 1904Boilers made at CopenhagenBy whom made Aktieselskabet Kjöbenhavns Flydedok & Skibsværftwhen made 1904Registered Horse Power 131Owners Dampskibsselskabet Viking (A. P. Andersen & Co., Aps)Port belonging to CopenhagenNom. Horse Power as per Section 28 131Is Refrigerating Machinery fitted NoIs Electric Light fitted No

ENGINES, &c.—Description of Engines

Inverted triple expansion, surface condensing

No. of Cylinders 3No. of Cranks 3Dia. of Cylinders 18" 29" 48"Length of Stroke 33"Revs. per minute about 62Dia. of Screw shaft as per rule 10 3/4"Material of S.M. SteelIs the screw shaft fitted with a continuous liner the whole length of the stern tube Yes no liners, plain shaft as fitted 11 13/16" screw shaftin the propeller boss ✓ If the liner is in more than one length are the joints burned ✓ 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 ✓ If twoliners are fitted, is the shaft lapped or protected between the liners ✓ white metal Length of stern bush 4'-6"Dia. of Tunnel shaft as per rule 8 1/16" as fitted 9 1/16" Dia. of Crank shaft journals as per rule 9 1/8" as fitted 9 1/2" Dia. of Crank pin 9 1/2" Size of Crank webs 6 1/2" x 14 1/2" Dia. of thrust shaft undercollars 9 1/2" Dia. of screw 13'-0" Pitch of screw 14'-0" No. of blades 4 State whether moveable No Total surface 54 sq ftNo. of Feed pumps 2 ✓ Diameter of ditto 4 1/4" Stroke 8 1/4" Can one be overhauled while the other is at work Yes One 5 Tons evaporatorNo. of Bilge pumps 2 ✓ Diameter of ditto 3 1/2" Stroke 16 1/2" Can one be overhauled while the other is at work Yes Niemeyers PatentNo. of Donkey Engines 2 Duplex Worthington Sizes of Pumps 6" steam cyl. 8" water cyl. 6" stroke No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Four - 2 1/4" One - 2" In Holds, &c. Forehold: Two - 2 1/4" Afterhold: Two - 2 1/4"Tunnel well: One - 2 1/4" Tank suction: Main pipes 4" in D.B. tanks 3 1/2" in FPT 3" in APT 3"No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump ✓ Is a separate donkey suction fitted in Engine room & size Yes - 2 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 has noneAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves, but cocks for blow offAre 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 Suction pipes to Forehold How are they protected By a strong iron boxAre 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 YesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock while building Is the screw shaft tunnel watertight YesIs it fitted with a watertight door Yes worked from Upper deck

BOILERS, &c.—

(Letter for record (S))Total Heating Surface of Boilers 1912 sq ftIs forced draft fitted NoNo. and Description of Boilers 2 single ended, horizontal, return tubular Working Pressure 165 lbs Tested by hydraulic pressure to 330 lbsDate of test 27-10-03 Can each boiler be worked separately Yes Area of fire grate in each boiler 24 sq ft No. and Description of safety valves toeach boiler 2 spring loaded (Adams patent) Area of each valve 4.9 sq in Pressure to which they are adjusted 165 lbs Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 9" & specially Mean dia. of boilers 11'-0 5/16" Length 10'-0" Material of shell plates S.B. steelThickness 15/16" Range of tensile strength 27-32 tons Are they welded or flanged No Descrip. of riveting: cir. seams lap joint long. seams double butt strapsDiameter of rivet holes in long. seams 1" Pitch of rivets 6 1/4" Lap of plates or width of butt straps 15"Per centages of strength of longitudinal joint 84 75% Working pressure of shell by rules 142.5 lbs Size of manhole in shell 12" x 16"Size of compensating ring 24" x 28" x 1 1/8" No. and Description of Furnaces in each boiler 2 off, Deighton patent Material S.B. steel Outside diameter 3'-6 1/2"Length of plain part top bottom Thickness of plates crown 9 1/16" Description of longitudinal joint welded No. of strengthening rings ✓Working pressure of furnace by the rules 207.3 lbs Combustion chamber plates: Material S.B. steel Thickness: Sides 5/8" Back 9/16" Top 1/8" + 1/32" Bottom 7/8"Pitch of stays to ditto: Sides 9 5/8" x 8" Back 8" x 7 1/8" Top 8 9/16" x 8 1/2" If stays are fitted with nuts or riveted heads heads outside Working pressure by rules 142 lbs End plates in steam space: Sides 142 lbs Back 143 lbs Top 167 lbsMaterial of stays S.M. Steel Diameter at smallest part 1.384" Area supported by each stay 65 sq in Working pressure by rules 185 lbsMaterial S.B. steel Thickness 7/8" 13/16" 1/2" Pitch of stays 16 1/2" x 14" How are stays secured washed outside Working pressure by rules 141 lbs Material of stays S.M. SteelDiameter at smallest part 2.384" Area supported by each stay 231 sq in Working pressure by rules 93.2 lbs Material of Front plates at bottom S.B. SteelThickness 13/16" Material of Lower back plate S.B. Steel Thickness 3/4" + 1/32" Greatest pitch of stays 13 1/2" x 7 1/16" Working pressure of plate by rules 144.8 lbsDiameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S.B. steel Thickness: Front 7/8" Back 3/4" + 1/32" Mean pitch of stays 10 1/8"Pitch across wide water spaces 13 1/2" Working pressures by rules 142 lbs Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 6 1/2" x 3 1/4" x 2 Length as per rule 25 1/2" Distance apart 8 1/2" Number and pitch of Stays in each 2 off - 8 9/16"Working pressure by rules 140.8 lbs Superheater or Steam chest; how connected to boiler has none Can the superheater be shut off and the boiler workedseparately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivetholes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

W263-0027

DONKEY BOILER— No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves

No. of safety valves Area of each Pressure to which they are adjusted 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 Thickness of shell crown plates Radius of do. No. of Stays to do.

Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint

Thickness of furnace crown plates Stayed by Working pressure of shell by rules

Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts 8 nuts, 2 connecting rod bottom end bolts 7 nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed pump valves, 1 set of bilge pump valves, 1 Ramobottom ring for each piston, 60 bolts 7 nuts, iron of various sizes, 1 spare propeller, 6 main boiler tubes, 12 condenser tubes, 4 air pump valves, 2 valves for circulating pump, 1 spring for safety valves.

The foregoing is a correct description,

A. Uggerløse.

Manufacturer.

AKTIESELSKABET

KJØBENHAVNS FLYDEDOK OG SKIBSVÆRFT.

Dates of Survey while building

During progress of work in shops - Sundry dates from 7th July 1903 on boilers, material, in machinshop & outboard, when lining up the shafts, fitting sea-cocks, pumps, pipes &c until completion on the 24th February 1904.

During erection on board vessel -

Total No. of s Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

General Remarks (State quality of workmanship, opinions as to class, &c. In accordance with the Rules for Special Survey we have examined the material & workmanship from the commencement until the final test under steam and found it good in every respect. The shafts have been forged of Siemens Martin Steel by Georg. Marien Hütte, Osnaabrück, tested as required by the Rules, and we have examined them when forged, rough turned and finished and found them sound as far as can be seen, connecting rods, piston rods & small forgings have also been made of Siemens Martin Steel and found to be sound and good. The bearings are of good material and proper dimensions. Castings good. The sea connections are fastened to the plating of the vessel as per Rule. The boiler material is steel, plates from the Glasgow Iron & Steel Co., Lim.; furnaces from Deighton's Patent Flue & Tube Co., Ltd., Leeds; stays from the Steel Company of Scotland, Ltd.; rivets forged by Henze Bros of Copenhagen of steel bars from the Steel Company of Scotland, Ltd; all material tested according to the Rules as per testnotes received and we have besides at different times made cold bend and temper tests and found it of good quality. The workmanship is good, the scantlings as specified and in accordance with the approved plans. The main steam pipes tested as required by the Rules and found good. The boilers have been tested by hydraulic pressure and we found by gauges no alterations in the form and the boilers were tight and good. The safety valves were set to their working pressure and adjusted under steam. On the trial trip the engines worked satisfactorily.

It is submitted that
this vessel is eligible for
THE RECORD

ILM.C.2.04.

29.3.04 28.3.04

The amount of Entry Fee, £ 2 : 4 : When applied for,

Special £ 19 : 13 : 14/3.....1904.

Donkey Boiler Fee £ : : When received,

Traveling Expenses (if any) £ : : 15/3.....1904.

Committee's Minute

Assigned

WED. 6 APR 1904

ILM.C.2.04

MACHINERY CERTIFICATE
WRITTEN.

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



© 2019

Lloyd's Register
Foundation