

# REPORT ON MACHINERY.

No. 5774<sup>b</sup>

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Date of writing Report 31 July 1908 When handed in at Local Office 19 Port of Rotterdam

No. in Survey held at Rotterdam Date, First Survey 15 Jan. Last Survey 20 July 1908

Reg. Book. 757 on the Steel Screw Tug "Seine" (Number of Visits 25) Tons { Gross 307.74 Net 1.16 When built 1908

Master N. Koen 08.08 Built at Rotterdam By whom built Rotterd. Droogdok Maats.

Engines made at Rotterdam By whom made Same firm when made 1908

Boilers made at D By whom made same firm when made 1908

Registered Horse Power ✓ Owners Internationale Sleepdienst Maats. Port belonging to Rotterdam

Nom. Horse Power as per Section 28 111 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

## ENGINES, &c.—Description of Engines Inverted, triple Expansion No. of Cylinders three No. of Cranks three

Dia. of Cylinders 15", 25", 41" Length of Stroke 30" Revs. per minute 110 Dia. of Screw shaft as per rule 8 7/32 Material of steel screw shaft as fitted 9 5/16

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 in 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 yes If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 40"

Dia. of Tunnel shaft as per rule 7 13/16 Dia. of Crank shaft journals as per rule 8 7/32 Dia. of Crank pin 9" Size of Crank webs 6 1/4" x 4" Dia. of thrust shaft under collars 8 3/4" Dia. of screw 10 1/2" Pitch of Screw 11'-2" No. of Blades 4 State whether moveable no Total surface 37 sq. ft.

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 14" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 14" Can one be overhauled while the other is at work yes

No. of Donkey Engines 1 Feed, 1 Ballast Sizes of Pumps F 5 1/4 x 3 1/2 x 5", B 6 x 6 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room One 2" in boiler room, One 2" in engine room. In Holds, &c. One 2" in hold.

No. of Bilge Injections 1 sizes 3 1/2" Connected to centrifugal condenser, or to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size yes 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 none

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 ✓

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

Dates of examination of completion of fitting of Sea Connections 18 June of Stern Tube 18 June Screw shaft and Propeller 18 June

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door ✓ worked from ✓

## BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Rheinisch Stahlwerke, Frodingen Iron, Steel Co.

Total Heating Surface of Boilers 1836 sq. ft. Is Forced Draft fitted no No. and Description of Boilers 2 single ended marine

Working Pressure 185 lbs Tested by hydraulic pressure to 370 lbs Date of test 18 June 08 No. of Certificate 254

Can each boiler be worked separately yes Area of fire grate in each boiler 28 sq. ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 4.91 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 9" Mean dia. of boilers 11" Length 10' Material of shell plates steel

Thickness 15/16 Range of tensile strength 28-32 T Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap, dbl. long. seams dbl butt 5x Diameter of rivet holes in long. seams 1" Pitch of rivets 7" Lap of plates or width of butt straps 15"

Per centages of strength of longitudinal joint rivets 88.4 plate 85.7 Working pressure of shell by rules 185.6 Size of manhole in shell 12 x 16"

Size of compensating ring 11" Nech 10x1 No. and Description of Furnaces in each boiler 2 Morrison's Material steel Outside diameter 3'-5 3/8"

Length of plain part top ✓ bottom ✓ Thickness of plates crown 19/32 bottom ✓ Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 201 lb Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 11/16" Top 5/8" Bottom 11/16"

Pitch of stays to ditto: Sides 8 x 8" Back 8 x 8" Top 8 x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 210 lb

Material of stays steel Diameter at smallest part 1.76 Area supported by each stay 64" Working pressure by rules 220 lb End plates in steam space:

Material steel Thickness 15/16 Pitch of stays 16 x 15" How are stays secured all n, r, w. Working pressure by rules 187 Material of stays steel

Diameter at smallest part 4.3 Area supported by each stay 240.5 Working pressure by rules 185 Material of Front plates at bottom steel

Thickness 13/16 Material of Lower back plate steel Thickness 11/16 Greatest pitch of stays 13 3/4 x 8" Working pressure of plate by rules 240

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 8 3/4", 15 1/2"

Pitch across wide water spaces 15" Working pressures by rules 212 lb Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8" x 1 1/4" Length as per rule 23 9/16 Distance apart 8" Number and pitch of stays in each 2-8"

Working pressure by rules 242 lb Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked separately ✓

Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓ 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 ✓

