

REPORT ON MACHINERY.

No. 10303

Received at London Office

FRI. JAN. 19. 1917

Date of writing Report 3 Jan 1917 When handed in at Local Office 19

Port of Rotterdam

No. in Survey held at
Reg. Book.

Bolnes

Date, First Survey 10 Jan

Last Survey 19 Dec 1916

on the Steel Screw Steamer "FROLAND"

Tons Gross 1290

Master O M Dentstad Built at Hendrik Ido Ambacht By whom built Voncken & Stams

When built 1916

Engines made at Bolnes

By whom made NV Machinefabriek "Bolnes"

when made 1916

Boilers made at Flushing

By whom made Kon. Mij. de Schelde

when made 1916

Registered Horse Power

Owners Akkersehabet Ch. Christoffen & Co

Port belonging to Brevik

Nom. Horse Power as per Section 28 144

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

ENGINES, &c.—Description of Engines

Vertical triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 17 1/2 x 24 1/2 x 46 1/2

Length of Stroke 36 1/2

Revs. per minute 110

Dia. of Screw shaft 10 1/2

Material of screw shaft Steel

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 Yes

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 48"

Dia. of Tunnel shaft 9 1/2

Dia. of Crank shaft journals 9 1/2

Dia. of Crank pin 9 1/2

Size of Crank webs 6 1/2 x 4 1/2

Dia. of thrust shaft under

collars 9 1/2

Dia. of screw 12 1/2

Pitch of Screw 10 1/2

No. of Blades 4

State whether moveable No

Total surface 54.76

No. of Feed pumps 2

Diameter of ditto 3 1/2

Stroke 18"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 3 1/2

Stroke 18"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2

Sizes of Pumps 6 x 4 x 6

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 x 3"

In boiler room 2 x 3"

In holds, &c. In forehold 2 x 3" and in afterhold

2 x 3"

No. of Bilge Injections 1

sizes 4 1/2"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size Yes 2 x 3"

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

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper platform

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Please see report on boilers attached to this report

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

Thickness of plates

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Working pressure by rules

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

End plates in steam space:

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

Material of stays

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of Front plates at bottom

Area at smallest part

Area supported by each stay

Working pressure by rules

Material of plate by rules

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Girders to Chamber tops: Material

Depth and

Pitch across wide water spaces

Working pressures by rules

Thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

% of strength of joint

Working pressure by rules

Steam dome: description of joint to shell

Diam. of rivet holes

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

How stayed

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

Tested by Hydraulic Pressure to

SUPERHEATER. Type

Date of Approval of Plan

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Date of Test

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Working pressure of shell by rules

Crown plates

Thickness

Tested by Hydraulic Pressure to

Lloyd's Register

Date of Test

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Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Working pressure of shell by rules

Crown plates

Thickness

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:—

2 Top end bolts and nuts, 2 Bottom end bolts and nuts, 2 main bearing bolts and nuts, One set of coupling bolts, One set of feed pump valves, One set of bilge pump valves, one set of piston springs for each cylinder, a quantity of assorted bolts and nuts and iron of various sizes.

The foregoing is a correct description
Naaml. Venn. MACHINEFABRIEK "BOLNES"

voorzien J. H. van CAPPELLEN

as Directeur

J. H. van Cappellen

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Jan 20 March 6 April 21 23 June 28 Aug 10 31 Sept 20 Oct 2
During erection on board vessel -- Sept 21 Oct 13 24 Nov 9 14 Dec 28 29
Total No. of visits 16

Is the approved plan of main boiler forwarded herewith also pumping arrangement and shafting " " " donkey " " "

Dates of Examination of principal parts—Cylinders 24/25 28/31 Slides 10-8-16 Covers 10-8-16 Pistons 10-8-16 Rods 30-8-16

Connecting rods 21-4-16 Crank shaft ^{Made in Germany} Thrust shaft 21-4-16 Tunnel shafts 21-9-16 Screw shaft 31-8-16 Propeller 31-8-16

Stern tube 21-8-16 Steam pipes tested 24-10-16 Engine and boiler seatings 21-9-16 Engines holding down bolts 13-10-16

Completion of pumping arrangements 14-12-16 Boilers fixed 9-11-16 Engines tried under steam 29-12-16

Completion of fitting sea connections 21-9-16 Stern tube 21-9-16 Screw shaft and propeller 21-9-16

Main boiler safety valves adjusted 28-12-16 Thickness of adjusting washers SB boiler 12 mill Port boiler 12 mill

Material of Crank shaft SM Steel Identification Mark on Do. LLOYDS EX 10418 KH-2-16 Material of Thrust shaft SM Steel Identification Mark on Do. LLOYDS EX 10418 KH-2-16

Material of Tunnel shafts SM Steel Identification Marks on Do. LLOYDS EX 10418 KH-2-16 Material of Screw shafts SM Steel Identification Marks on Do. LLOYDS EX 10418 KH-2-16

Material of Steam Pipes Steel Test pressure 540 lbs.

Is an installation fitted for burning oil fuel No 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 Yes

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

The machinery and boilers have been made in accordance with the Rules, approved plans and Letter Patents, material tested as required, workmanship good and the whole having been found in a good working order during a trial trip on the river, I am of opinion that the vessel is eligible to be recorded in the Society's Register book with **+ LMC 12-16**

It is submitted that this vessel is eligible for THE RECORD + LMC 12.16.

JWD.
19/1/17.

GRK

J. H. van Cappellen

Engineer/Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 14.00
Special ex bonus ... £ 189.00
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 28.00

When applied for,

31 1917

When received,

19

Committee's Minute

TUE. JAN. 23. 1917

Assigned

+ LMC 12.16

MACHINERY CERTIFICATE
WRITTEN.



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Lloyd's Register
Foundation

Certificate (if required) to be sent to Surveyors Rotterdam

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

If not, state whether, and when, one will be sent

In a Report also sent on the Hull of the Ship

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