

REPORT ON MACHINERY.

No.

9310

Port of

Hamburg

THUR. 30 AUG 1906

Received at London Office

19

Survey held at

Kiel

Date, first Survey

19th Feb. 06

Last Survey

25th Aug. 1906

(Number of Visits 20)

in the *Hel. S. S. "Secalia"*

Gross 2639

Net 1683

When built 1906 8

A. Jensen Built at

Kiel

By whom built

Howaldtswerke

at Kiel

By whom made

Howaldtswerke

when made

1906

at Kiel

By whom made

Howaldtswerke

when made

1906

Horse Power 206

Owners Dampskibsselskabet "Dan" (Peter L. Fisker Mgt.)

Port belonging to

Copenhagen

Power as per Section 28 206

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

S, & C.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

inders 20 1/4, 33 1/4, 55 1/8

Length of Stroke 35 1/2

Revs. per minute 70

Dia. of Screw shaft

as per rule 11 3/4

Material of screw shaft

Steel

shaft fitted with a continuous liner the whole length of the stern tube

yes

Is the after end of the liner made water tight

eller boss

If the liner is in more than one length are the joints burned one length If the liner does not fit tightly at the part

bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

fits tightly

If two

fitted, is the shaft lapped or protected between the liners

yes

Length of stern bush

3' 10"

el shaft

as per rule 10 1/4

Dia. of Crank shaft journals

as per rule 10 5/8

Dia. of Crank pin

10 1/4

Size of Crank webs

19 1/2 x 16 1/2

Dia. of thrust shaft under

1/16

Dia. of screw

13 1/2

Pitch of Screw

15

No. of Blades 4

State whether moveable

no

Total surface

48.5 sq. ft.

pumps 2

Diameter of ditto

3 1/2

Stroke 21 1/4

Can one be overhauled while the other is at work

yes

e pumps 2

Diameter of ditto

3 1/2

Stroke 21 1/4

Can one be overhauled while the other is at work

yes

key Engines 3

Sizes of Pumps

See Specifications

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

Room 4 off 2 3/4 — 1 off 3 1/8 — 1 off 2 1/4

in Tanks: 5 off 3 1/2 — 4 off 2

from after peak: 1 off 2 1/4

Injections 1

sizes 4 3/4

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes, 3 1/8"

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

connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

both

Are the Discharge Pipes above or below the deep water line

water line

ed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

yes

ch 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

s are carried through the bunkers

none

How are they protected

ipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

yes

ilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

yes

examination of completion of fitting of Sea Connections

2 1/2 P. 6

of Stern Tube

2 1/2

Screw shaft and Propeller

20 1/8

ew Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

S, & C.—(Letter for record

S)

Manufacturers of Steel

Glasgow Iron & Steel Co. Ltd., Wishaw.

ating Surface of Boilers

327929

Is Forced Draft fitted

no

No. and Description of Boilers

2 single ended multitubular

Pressure

185 lbs

Tested by hydraulic pressure to

370 lbs

Date of test

26.5.06

No. of Certificate

boiler be worked separately

yes

Area of fire grate in each boiler

50 sq. ft.

No. and Description of Safety Valves to

2 spring loaded

Area of each valve

5.86 sq. in.

Pressure to which they are adjusted

istance between boilers

on uptakes and bunkers

on woodwork

12"

Mean dia. of boilers

12 5/8"

Length

10' 2"

Material of shell plates

Steel

1.25" Range of tensile strength

27-30 tons

Are the shell plates welded or flanged

flanged

Descrip. of riveting: cir. seams

lapd. riv.

as 1/4" Dia. of rivet holes in long. seams

1.12"

Pitch of rivets

6.8"

Lap of plates or width of butt straps

15.75 x 8.75

Working pressure of shell by rules

196.8 lbs

Size of manhole in shell

12" x 16"

ges of strength of longitudinal joint

rivets 93.4%

plate 83.7%

No. and Description of Furnaces in each boiler

3 Reighart's

Material

Steel

Outside diameter

35.25"

plain part

top 8"

Thickness of plates

bottom 10"

Description of longitudinal joint

welded

No. of strengthening rings

none

pressure of furnace by the rules

196.4

Combustion chamber plates: Material

Steel

Thickness: Sides

6.25"

Back

6.25"

Top

6.25"

Bottom

8.75"

ays to ditto: Sides

7"

Back

7.5"

Top

7.2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

196.8 lbs

of stays

Steel

Diameter at smallest part

1.37"

Area supported by each stay

28 sq. in.

Working pressure by rules

214.3

End plates in steam space:

Steel

Thickness

9.15"

Pitch of stays

15 x 14"

How are stays secured

all water wash

Working pressure by rules

230.2

Material of stays

Steel

at smallest part

2.25"

Area supported by each stay

107.5 sq. ft.

Working pressure by rules

193

Material of Front plates at bottom

Steel

666" Material of Lower back plate

Steel

Thickness

866"

Greatest pitch of stays

23.5"

Working pressure of plate by rules

274.8 lbs

of tubes

3.25"

Pitch of tubes

4 1/2"

Material of tube plates

Steel

Thickness: Front

866"

Back

8"

ross wide water spaces

13.7"

Working pressures by rules

257.9 lbs

Girders to Chamber tops: Material

Cast Steel

Depth and

ss of girder at centre

7.5" x 12.5"

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description	By whom made	When made	Where fixed
Made at	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Working pressure	No. of Safety Valves	Area of each	Pressure to which they are adjusted	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
Working pressure of shell by rules	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
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by	Dates of survey	
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes		

SPARE GEAR. State the articles supplied:— 1 Propeller, 12 coupling bolts with nuts, 2 bolts and nuts for connecting rods, 2 bolts and nuts for connecting rod top end and bottom end, 1 slide rod, 1 rod for air pump, 1/2 connecting rod top end brasses, 2 1/2 connecting rod bottom end brasses, 1 eccentric strap, 1 set spare springs and packing rings for each piston, 30 condenser tubes and 60 screw glands, 3 safety valves and springs for cylinders, 1 steam piston and rod, 1 slide rod, 1 pair connecting rod bottom and top end brasses for circulating pump, 2 valves for ballast donkey, 2 valves for feed donkey, 2 valves for auxiliary feed donkey, 2 feed valves, 1 set air pump valves, 1 link block, 6 holding down bolts with nuts for bed plate, 6 tubes for donkey boiler, 12 tubes for main boiler, 2 valves for feed pumps, 2 valves for diege pumps, 1 set safety valves spring for boilers, a large number of bolts, nuts, and iron assorted.

The foregoing is a correct description, *Donkey boiler, 12 tubes for main boiler, 2 valves for feed pumps, 2 valves for diege pumps, 1 set safety valves spring for boilers, a large number of bolts, nuts, and iron assorted.*

HOWALDTSWERKE Manufacturer.

George Howaldt Surveyor.

Dates of Survey while building: During progress of work in shops: 19/2, 24/2, 14/4, 19/4, 24/4, 26/5, 29/5, 24/5, 13/6, 29/6, 9/7, 21/7, 06
During erection on board vessel: 24/4, 7/5, 15/5, 24/5, 24/8, 25/8, 06
Total No. of visits: 20

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

Dates of Examination of principal parts: Cylinders *24/4.06* Slides *24/4.06* Covers *24/4.06* Pistons *24/4.06* Rods *24/4.06*
Connecting rods *24/4.06* Crank shaft *24/3.06* Thrust shaft *24/3.06* Tunnel shafts *24/3.06* Screw shaft *24/3.06* Propeller *24/4.06*
Stern tube *24/4.06* Steam pipes tested *15/8.06* Engine and boiler seatings *24/4.06* Engines holding down bolts *15/8.06*
Completion of pumping arrangements *24/8.06* Boilers fixed *24/8.06* Engines tried under steam *25/8.06*
Main boiler safety valves adjusted *24/8.06* Thickness of adjusting washers *4 1/2" 4 1/4" 3 1/4" 3 1/4" 3 1/4" 3 1/4"*
Material of Crank shaft *Steel* Identification Mark on Do. *181 7 1/2* Material of Thrust shaft *Steel* Identification Mark on Do. *182 7 1/2*
Material of Tunnel shafts *Steel* Identification Marks on Do. *183 7 1/2 184 7 1/2 185 7 1/2 186 7 1/2* Material of Screw shafts *Steel* Identification Marks on Do. *187 7 1/2 188 7 1/2 189 7 1/2 190 7 1/2*
Material of Steam Pipes *Copper* Test pressure *400 lbs.*

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

Specification of Auxiliary Pumps:

- A. 1 Duplex etc. actg. 4" diam. 6" str. Fed, bilge, and general purposes.
- B. 1 " " " 8 1/2" " 10" " Ballast, bilge, Condenser service.
- C. 1 " " " 2 1/4" " 4" " Donkey Boiler Feed.

Materials and workmanship of these Engines and Boilers are first class and eligible for a vessel to be classed in the Society's Register Book. The invoices of the Steel Boiler Materials, signed by the testing officers, have been produced and stamp marks verified. The Frying certificates of the Steel Shaping will be found attached. I attended at a trial trip when the Machinery worked to satisfaction.

The Machinery of this vessel having been constructed under Special Supervision, and being in my opinion in accordance with the Society's Rules and in thorough efficient condition, I beg to recommend that she be classed and that *L.M.C. 8.06.* be entered against her name in the Register Book.

The amount of Entry Fee..	£ 2: 0: 0	When applied for.
Special	£ 30: 6: 0	25/8 1906
Donkey Boiler Fee	£ 2: 2: 0	When received,
Travelling Expenses (if any) £	6: 6: 0	24/8 1906
Towing Shipping	7: 0: 0	
Committee's Minute		

Mr. Russell
It is an Engineer's Surveyor to Lloyd's Register of British & Foreign Shipping.
this vessel is eligible for
THE RECORD
L.M.C. 8.06
FRI. 31 AUG 1906
Assigned

MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to Hamburg Office

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

Lloyd's Register Foundation