

REPORT ON MACHINERY.

No. 12167

FRI. 3 MAR. 1922

Received at London Office

Date of writing Report 22-2-1922 When handed in at Local Office

19

Port of Rotterdam

In Survey held at

Schiedam

Date, First Survey 1-9-20 Last Survey 21-2-1922

Reg. Book.

on the Steel Screw Steamer "GEMMA"

(Number of Visits 40)

Tons { Gross 8420
Net 5334

Master

Built at

Schiedam

By whom built

New Waterway Shipb. Co

When built 1922

Engines made at

London & Rugby

By whom made

The British Thomson Houston Co Ltd

when made 1921

Boilers made at

Schiedam

By whom made

New Waterway Shipb. Co

when made 1922

Registered Horse Power

915 NHP

Owners

Newell Goudubans Stoomv.

Port belonging to Rotterdam

Shaft Horse Power at Full Power

4000

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

TURBINE ENGINES, &c.—Description of Engines

Curtis impulse Turbine, double reduction gear

No. of Turbines 2

Diameter of Rotor Shaft Journals, H.P.

L.P.

Diameter of Pinion Shaft

See London report of 84631

Diameter of Journals

Distance between Centres of Bearings

Diameter of Pitch Circle

Diameter of Wheel Shaft

Distance between Centres of Bearings

Diameter of Pitch Circle of Wheel

Width of Face

Diameter of Thrust Shaft under Collars

15 1/4"

Diameter of Tunnel Shaft

as fitted 15" (14 1/4" Rule Size)

No. of Screw Shafts

One

Diameter of same

as fitted 16 1/2"

Diameter of Propeller

19' 6"

Pitch of Propeller 16' 6"

No. of Blades

4

State whether Moveable

No

Total Surface

119 sq ft

Diameter of Rotor Drum, H.P.

L.P.

Astern

Thickness at Bottom of Groove, H.P.

L.P.

Astern

Revs. per Minute at Full Power, Turbine

Propeller 85

PARTICULARS OF BLADING.

H.P.

L.P.

ASTERN.

	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
ST EXPANSION									
ND									
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No. and size of Feed pumps 2 Woodlums pumps 10" x 13 1/2" x 21"

No. and size of Bilge pumps 4 5' x 5' x 6" 10' x 7' x 12" 10' x 12' x 12" 7' x 5' x 8"

No. and size of Bilge suction in Engine Room Well 3 2 1/2" 1 in tunnel 2 3"

In Holds, &c. 2 in No. 1 hold 2 1/2" 2 in No. 2 hold 2 1/2" 2 in No. 3 hold 2 1/2" 2 in No. 4 hold 1 1/2" 2 in No. 5 hold 1 1/2"

No. of Bilge Injections 1 sizes 1 1/2" Connected to circulating pump Is a separate Donkey Suction fitted in Engine Room & size 1 1/2" x 4"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes

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 bilge pumps How are they protected Casings.

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 Top platform

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

William Beardmore & Co Ltd

Total Heating Surface of Boilers 13400 sq ft

Forced Draft fitted

Yes

No. and Description of Boilers

4 Single ended Marine boilers

Working Pressure 100 lbs

Tested by hydraulic pressure to

270 lbs

Date of test

6-10-21

No. of Certificate

454

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

80.5 sq ft

No. and Description of Safety Valves to

each boiler 2 spring loaded

Area of each valve

12.5 sq ft

Pressure to which they are adjusted

190 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

10"

Mean dia. of boilers

17"

Length

12'

Material of shell plates

M Steel

Thickness

1 1/8"

Range of tensile strength

20-32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams lap 2 x riv

long. seams Double butt 3 x riv

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9 1/2"

Lap of plates or width of butt straps

21 1/2"

Per centages of strength of longitudinal joint

rivets 97

plates 84.1

Working pressure of shell by rules

190 lbs

Size of manhole in shell

17 1/2" x 20 1/2"

Size of compensating ring

9 1/2" x 13 1/2"

Material

M Steel

Description of Furnaces in each Boiler

4 Monsons

Material

M Steel

Outside diameter

3' 10"

Length of plain part

top 1

Thickness of plates

crown 7 9/16"

Description of longitudinal joint

Welded

No. of strengthening rings

None

Bottom 1 1/8"

Working pressure of furnace by the rules

192 lbs

Combustion chamber plates: Material

M Steel

Thickness: Sides

3/4"

Back

3/4"

Top

1 1/8"

Pitch of stays to ditto: Sides

8 1/2" x 8 1/2"

Back

8 1/2"

Top

8 1/2" x 9"

If stays are fitted with nuts or riveted heads

Working pressure by rules

211 lbs

End plates in steam space

Material of stays

M Steel

Diameter at smallest part

1 1/8"

Area supported by each stay

68 sq in

Working pressure by rules

207 lbs

Material of stays

M Steel

Material of stays

M Steel

Thickness

1 1/8"

Pitch of stays

10 1/2" x 17"

How are stays secured

Working pressure by rules

182 lbs

Material of stays

M Steel

Diameter at smallest part

5.99 in

Area supported by each stay

315 sq in

Working pressure by rules

196 lbs

Material of Front plates at bottom

M Steel

Thickness

7/8"

Material of Lower back plate

M Steel

Thickness

7/8"

Greatest pitch of stays

14 1/2"

Working pressure of plate by rules

232 lbs

Diameter of tubes

3"

Pitch of tubes

4"

Material of tube plates

M Steel

Thickness: Front

7/8"

Back

3/4"

Mean pitch of stays

8' x 12"

Pitch across wide water spaces

15"

Working pressures by rules

224 lbs

Girders to Chamber tops: Material

M Steel

Depth and

thickness of girder at centre

9' x 2' x 7/8"

Length as per rule

Working pressure by rules

100 lbs

Steam dome: description of joint to shell

%

of strength of joint

Diameter

Pitch of rivets

Diameter of rivet holes

Pitch of rivets

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diameter of rivet holes

Pitch of rivets

Diameter

Pitch of rivets

Diameter

Pitch of rivets

Diameter

Working pressure of shell by rules

Crown plates: Thickness

How stayed

%

of strength of joint

Diameter

Pitch of rivets

Diameter

Pitch of rivets

Diameter

Working pressure of shell by rules

Crown plates: Thickness

How stayed

%

of strength of joint

Diameter

Pitch of rivets

Diameter

Pitch of rivets

Diameter

Working pressure of shell by rules

Crown plates: Thickness

How stayed

%

of strength of joint

Diameter

Pitch of rivets

Diameter

Pitch of rivets

Diameter

Working pressure of shell by rules

Crown plates: Thickness

How stayed

%

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Working pressure of shell by rules

Crown plates: Thickness

How stayed

%

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Working pressure of shell by rules

Crown plates: Thickness

How stayed

%

of strength of joint

Diameter

Pitch of rivets

Diameter

Pitch of rivets

