

## REPORT ON MACHINERY.

No. 12138

Received at London Office. FILED 17 1922

Date of writing Report 6-1-1922 When handed in at Local Office

Port of Rotterdam

No. in Survey held at Flushing

Date, First Survey 18-4-21 Last Survey 30-1-1922

Reg. Book.

on the *Hedden Heema* CHRISTIANBORG

(Number of Visits 1)

Tons

Gross

Net

Master Built at Amsterdam By whom built Schepers &amp; van der Meer When built 1921

Engines made at Wallsend on Tyne By whom made The Parsons Marine Turbine Co Ltd when made 1921

Boilers made at Flushing By whom made Hon. Mr. De Schelde when made 1921

Registered Horse Power 356 Owners C. K. Hansen

Port belonging to Copenhagen

Shaft Horse Power at Full Power 1350 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE ENGINES, &amp;c.—Description of Engines Parsons turbine (Double reduction gear) No. of Turbines 2

Diameter of Rotor Shaft Journals, H.P. See *Cherwell report No 44157*

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 Collar 12" Diameter of Tunnel Shaft as fitted 11 1/2"

No. of Screw Shafts One no liners. Diameter of same as fitted 13 1/2" Diameter of Propeller 16'0" Pitch of Propeller 16'

No. of Blades 4 State whether Moveable No Total Surface 854 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 40

## ARTICULARS 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.
1ST EXPANSION									
2ND									
3RD									
4TH									
5TH									
6TH									
7TH									
8TH									

No. and size of Feed pumps *Wauwermans & Co 8x6x11" Dun. Watson 7 1/2 x 5 x 6"*No. and size of Bilge pumps *2 Duplex pumps 6x4 1/2 x 6" Boulcast donkey 10x12x10"*No. and size of Bilge suction in Engine Room *4 in 3 1/2 x 2 1/2 x 4" 2 in boiler room tank 3 1/2" 2 in Cofferdam 2 1/2" one in tunnel well 3 1/2" In Holds, &c. 2 in C1 hold. 2 in C2 hold. 2 in C3 hold. 2 in bunkers 3 1/2"*

No. of Bilge Injections One sizes 1 1/2" Connected to condenser to circulating pump Yes Is a separate Donkey Suction fitted in Engine Room &amp; size Yes 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 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, &amp;c.—(Letter for record 5) Manufacturers of Steel David Colvill &amp; Sons John Brown

Total Heating Surface of Boilers 5410 sq. ft. Forced Draft fitted Yes No. and Description of Boilers 3 single ended Marine boilers

Working Pressure 100 lbs Tested by hydraulic pressure to 350 lbs Date of test 11-8-21 No. of Certificate 348

Can each boiler be worked separately Yes Area of fire grate in each boiler 44 sq. ft. No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 4.9 sq. ft. Pressure to which they are adjusted 100 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork over 10" Mean dia. of boilers 12 1/2" Length 11 1/2" Material of shell plates 1/2" Steel

Thickness 1 1/2" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap &amp; riv

ng. seams Double butt 3x riv Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 8 1/4" Lap of plates or width of butt straps 20 3/8"

Per centages of strength of longitudinal joint rivets 87 1/2% plates 85% Working pressure of shell by rules 211 lbs Size of manhole in shell 14"x18"

Size of compensating ring 9"x17/16" No. and Description of Furnaces in each Boiler 2 Dugton's Material 1/2" Steel Outside diameter 4 1/2"

Length of plain part top bottom Thickness of plates crown bottom } 21" Description of longitudinal joint Welded No. of strengthening rings None

Working pressure of furnace by the rules 220 lbs Combustion chamber plates: Material 1/2" Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1"

Pitch of stays to ditto: Sides 7 3/4 x 7 1/2" Back 7 1/2 x 7 1/2" Top 7 1/2 x 8" If stays are fitted with nuts or riveted heads Riveted but not in Manoeuvring Working pressure by rules 201 lbs

Material of stays 1/2" Steel Diameter at smallest part 1 3/8" Area supported by each stay 5 1/2 sq. ft. Working pressure by rules 223 lbs End plates in steam space

Material 1/2" Steel Thickness 1 1/2" Double pitch of stays 10" How are stays secured Nuts outside Working pressure by rules 210 lbs Material of stays 1/2" Steel

Diameter at smallest part 3" Area supported by each stay 3.24 sq. ft. Working pressure by rules 220 lbs Material of Front plates at bottom 1/2" Steel

Thickness 1 1/2" Material of Lower back plate 1/2" Steel Thickness 3/4" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 210 lbs

Diameter of tubes 3" Pitch of tubes 4 1/8" Material of tube plates 1/2" Steel Thickness: Front 1 1/16" Back 1 1/16" Mean pitch of stays 12 3/4 x 8 1/4"

Pitch across wide water spaces 13 1/2" Working pressures by rules 279 lbs Girders to Chamber tops: Material 1/2" Steel Depth and

Thickness of girder at centre 8 1/2 x 2 x 7/8" Length as per rule 2-7" Distance apart 8" Number and pitch of stays in each 3 at 7 1/4"

Working pressure by rules 237 lbs Steam dome: description of joint to shell No. of strength of joint Diameter

Thickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets

Working pressure of shell by rules Crown plates: Thickness How stayed



SUPERHEATER. Type *Mamm* Date of Approval of Plan *1921* Tested by Hydraulic Pressure to *105 lbs*

Date of Test

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

Diameter of Safety Valve *1 1/2"*

Pressure to which each is adjusted *105 lbs*

Is Easing Gear fitted *Yes*

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *No*

SPARE GEAR. State the articles supplied.

*All found as per Newcastle report 74157 plus one screw shaft, one propeller, different parts for pumps, a large number of bolts and studs various sizes, safety valve springs. Iron of various size*

The foregoing is a correct description,  
KON.MY."DE SCHELDE".

*Wm. Smith & Co.*

*H. W. Russell*

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- *1921 April 18. May 3. 20. June 10. 22 Aug. 2. 11. 30 Sept 27.*  
During erection on board vessel -- *1921 Oct 18. Nov 10. Dec 7. 20. 1922 Jan 9. 23. 24. 30.*  
Total No. of visits *14*

Is the approved plan of main boiler forwarded herewith *Retained in London Office*

Dates of Examination of principal parts—Casings *L* Rotors *L* Blading *L* Gearing *L*

Rotor shaft *L* Thrust shaft *Matched 22-10-21* Tunnel shafts *10-10-21* Screw shaft *27-9-21* Propeller *27-9-21*

Stern tube *27-9-21* Steam pipes tested *9-1-22* Engine and boiler seatings *10-10-21* Engines holding down bolts *9-1-22*

Completion of pumping arrangements *23-1-22* Boilers fired *10-10-21* Engines tried under steam *24-1-22*

Main boiler safety valves adjusted *30-1-22* Thickness of adjusting washers *Port Centre SB P10.SA.B. P10.SB10 P10.SB10 melle.*

Material and tensile strength of Rotor shaft *L*

Identification Mark on Do. *L*

Material and tensile strength of Pinion shaft *L*

Identification Mark on Do. *L*

Material of Wheel shaft *L* Identification Mark on Do. *L*

Material of Thrust shaft *SM Steel* Identification Mark on Do. *L*

Material of Tunnel shafts *SM Steel* Identification Marks on Do. *L*

Material of Screw shafts *SM Steel* Identification Marks on Do. *L*

Material of Steam Pipes *Steel*

Test pressure *600 lbs*

Is an installation fitted for burning oil fuel *Yes*

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 a duplicate of a previous case *No*

If so, state name of vessel *L*

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 Secretary's letters, material tested as required and workmanship good, the whole found in a good working condition during a trial trip. I am of opinion that this vessel is eligible to be recorded in the Society's Register Book with **LMC 1-22**. fitted for burning oil fuel flash point above 150°F. Screw shaft without liners, running in oil, with Bestwells patent gland on both ends.*

The amount of Entry Fee

*£600.00*

When applied for.

Special

Donkey Boiler Fee

Travelling Expenses (if any)

*£120.00*

When received.

Committee's Minute

*TUE 21 FEB 1922*

Assigned

*+ L.M.C. 1.22. F.D.*

*Fitted for oil fuel 1.22  
F.P. above 150°F.*

Engineer in Charge to Lloyd's Register of Shipping.



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