

REPORT ON MACHINERY.

No. 1940

copy.

Date of writing Report June 21st 1921 When handed in at Local Office June 21st 1921 Port of Barcelona
 No. in Survey held at Ferrol Date, First Survey March 2nd 1919 Last Survey May 21st 1921
 Reg. Book. 47414 on the Steel Twin Sc. "Alfonso XIII" (No 1 Sestao) (Number of Visits 8)
 Tons { Gross 10,137
 Net 5,564
 Master _____ Built at Bilbao By whom built Soc. Espanola de Construcción Naval When built _____
 Engines made at Ferrol By whom made Soc. Espanola de Construcción Naval when made 1919-21
 Boilers made at Bilbao By whom made do do do (Sestao) when made _____
 Registered Horse Power _____ Owners Via Transatlantica Port belonging to Barcelona
 Shaft Horse Power at Full Power 10,300 max. Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

TURBINE ENGINES, &c.—Description of Engines Single Reduction Geared No. of Turbines 2 sets
 Diameter of Rotor Shaft Journals, H.P. 170 m/m L.P. 170 m/m Diameter of Pinion Shaft 150 m/m
 Diameter of Journals 150 m/m Distance between Centres of Bearings 857 m/m Diameter of Pitch Circle 8.59 inches
 Diameter of Wheel Shaft 380 m/m Distance between Centres of Bearings 1928 m/m Diameter of Pitch Circle of Wheel 114.46 inches
 Width of Face 1474 m/m Diameter of Thrust Shaft under Collars 375 m/m Diameter of Tunnel Shaft as per rule 13 3/8 inches
 No. of Screw Shafts 2 Diameter of same as per rule 14 3/8 inches Diameter of Propeller 15'-0" Pitch of Propeller 14'-0"
 No. of Blades 4 State whether Moveable no. Total Surface 68 sq ft Diameter of Rotor Drum, H.P. 680 m/m L.P. 700 m/m Astern 700 m/m
 Thickness at Bottom of Groove, H.P. 102 m/m L.P. disc Astern 168 m/m Revs. per Minute at Full Power, Turbine 1830 max Propeller 152 max
1700 service 134 service

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.
1-2	30	620	8	52	1124	2	27	754	2
1-	38	636	8	64	1148	2	38	776	2
RD	48	656	8	79	1178	2	54	808	2
TH	40	760	5	98	1216	2	76	852	2
TH	49	778	5	120	1260	2	108	916	2
TH	60	860	5	146	1312	2	108	916	2
TH	74	828	5	178	1376	2	108	916	2
TH	90	860	5	216	1452	2			
				255	1530	3			

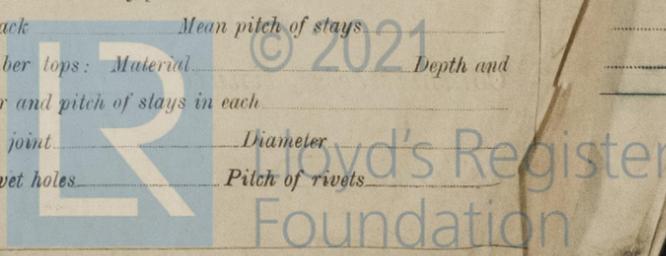
No. and size of Feed pumps _____
 No. and size of Bilge pumps _____
 No. and size of Bilge suction in Engine Room _____

In Hold, etc.

No. of Bilge Injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate Donkey Suction fitted in Engine Room & size _____
 Are all the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____
 Are all connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
 Are they fixed sufficiently high on the ship's side to be seen without lifting the smokehold plates _____ Are the Discharge Pipes above or below the deep water line _____
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate _____
 What pipes are carried through the bunkers _____ How are they protected _____
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times _____
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges _____
 Is the Screw Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

OILERS, &c.—(Letter for record)

Manufacturers of Steel _____
 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 _____ 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 _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 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 _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____
 thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Working pressure by rules _____ Steam dome: description of joint to shell _____ % 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 _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
 Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
 Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

IS A DONKEY BOILER FITTED? _____ If so, is a report now forwarded? _____

SPARE GEAR. State the articles supplied:—

Jobe placed on Board in Bilbao.

The foregoing is a correct description,
 (Sgd) *W Black* Worksmen for La _____ Manufacturer.
Sociedad Espanola de Construccion Naval.

Dates of Survey while building { During progress of work in shops -- } *March 2, May 2, June 4, July 14, 15, 1919. Jan 29, March 30, 31, May 20, 21, July 11, Oct. 6, 7, 8 Nov 2*
 { During erection on board vessel --- } *Nov 23, May 14, 21, 1920-21.*
 Total No. of visits *Eighteen.* Is the approved plan of main boiler forwarded herewith *No.*

Dates of Examination of principal parts—Casings *2. 5. 19* Rotors *17. 7. 19* Blading *6. 10. 20* Gearing *22. 11. 20.*
 Rotor shaft *6. 10. 20.* Thrust shaft *29. 1. 20. 31. 3. 20* Tunnel shafts *29. 1. 20. 31. 3. 20* Screw shaft *29. 1. 20. 31. 3. 20* Propeller *29. 1. 20.*
 Stern tube *30. 3. 20* Steam pipes tested Engine and boiler seatings Engines holding down bolts
 Completion of pumping arrangements Boilers fixed Engines tried under steam
 Main boiler safety valves adjusted Thickness of adjusting washers
 Material and tensile strength of Rotor shaft *Steel 28-32* Identification Mark on Do. *See list attached*
 Material and tensile strength of Pinion shaft *Steel 28-32* Identification Mark on Do. *do do*
 Material of Wheel shaft *Steel* Identification Mark on Do. _____ Material of Thrust shaft *steel* Identification Mark on Do. *do do*
 Material of Tunnel shafts *Steel* Identification Marks on Do. _____ Material of Screw shafts *steel* Identification Marks on Do. *do do*
 Material of Steam Pipes Test pressure
 Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150°F.
 Have the requirements of Section 49 of the Rules been complied with
 Is this machinery a duplicate of a previous case *No.* If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c.)
These machines being well constructed of material tested to Rule requirements and according to approved plans are, in my opinion, eligible for classification.
The notation of + L.M. C., with date, to be deferred, pending the receipt of a satisfactory report as to fitting on board and performance under steam.

Certificate (if required) to be sent to _____
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee	£	:	:	When applied for,
Special	£	:	:	19
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	19

(Signed) *Arthur A. Chalmers*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. SEP. 7 1923*
 Assigned *TUE. 11 DEC. 1923*

TUE OCT. 9 1923
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