

## REPORT ON MACHINERY.

No. 354

Received at London Office

Date of writing Report 30<sup>th</sup> Jan 1914 When handed in at Local Office

Port of Bremen

FEB. 3-1914

No. in Survey held at Bremen  
Reg. Book.Date, First Survey 23<sup>rd</sup> April 1913 Last Survey 27<sup>th</sup> Jan 1914

on the steel sc sr FRANKENFELS

(Number of Visits 2)

Gross 5854

Tons Net 3622

When built 1914

Master R. v. Timlen

Built at Bremen

By whom built Aktien Gesellschaft Weser

Engines made at Bremen

By whom made Aktien Gesellschaft Weser

when made 1914

Boilers made at Bremen

By whom made Aktien Gesellschaft Weser

when made 1914

Registered Horse Power 520

Owners Deutsche Dampfschiffahrts-Ges. Harwa Port belonging to Bremen

Nom. Horse Power as per Section 28 520

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

ENGINES, &amp;c.—Description of Engines Triple Expansion surface condensing No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 28 3/4, 46 7/8, 75 9/16 Length of Stroke 53 15/16 Revs. per minute 65 Dia. of Screw shaft as per rule 16 5/32 Material of (M. steel as fitted 16 7/32 screw shaft)

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 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 26

Dia. of Tunnel shaft as per rule 14 3/4 Dia. of Crank shaft journals as per rule 15 7/32 Dia. of Crank pin 15 9/16 Size of Crank webs 10 1/4 Dia. of thrust shaft under

collars 15 9/16 Dia. of screw 19 3/16 Pitch of Screw 19-8 1/16 No. of Blades 4 State whether moveable yes Total surface 102.3 sq ft

No. of Feed pumps 2 Diameter of ditto 3 15/16 Stroke 27 9/16 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 15/16 Stroke 27 9/16 Can one be overhauled while the other is at work yes

No. of Donkey Engines 3 Sizes of Pumps 23 5/8 23 7/8 23 9/8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4-3 9/16 dia In Holds, &amp;c. 2 in each hold-3 9/16 dia. 1 in Tunnel

No. of Bilge Injections 1 sizes 7 7/8 Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room &amp; size yes-3 9/16

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 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 both

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 suction pipes How are they protected by wooden 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

Dates of examination of completion of fitting of Sea Connections 9.12.13 of Stern Tube 12.12.13 Screw shaft and Propeller 18.12.13

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper deck

BOILERS, &amp;c.—(Letter for record 5) Manufacturers of Steel Friedr. Krupp A.G., Gussstahlfabrik, Bismarck-Strasse, Essen

Total Heating Surface of Boilers 6950 Is Forced Draft fitted yes No. and Description of Boilers 3 cylindrical multitubular

Working Pressure 192 lbs Tested by hydraulic pressure to 263 lbs Date of test 10. Oct 1913 No. of Certificate 62, 68, 69

Can each boiler be worked separately yes Area of fire grate in each boiler 49.5 sq ft No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 12.2 sq in Pressure to which they are adjusted 192 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 20 in Mean dia. of boilers 17 1/4 Length 153 Material of shell plates M. steel

Thickness 1.3 Range of tensile strength 28-33 ts Are the shell plates welded or flanged Descrip. of riveting: cir. seams double butt

long. seams quadruple Diameter of rivet holes in long. seams 1.34 Pitch of rivets 10 Lap of plates or width of butt straps 23.2

Per centages of strength of longitudinal joint rivets 111.5 Working pressure of shell by rules 202 lbs Size of manhole in shell 11.8 x 15.8

Size of compensating ring 41.2 x 36.5 No. and Description of Furnaces in each boiler 3 Morrison Material M. steel Outside diameter 43.2

Length of plain part top Thickness of plates crown 61 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 198 lbs Combustion chamber plates: Material M. steel Thickness: Sides 62 Back 62 Top 62 Bottom 82

Pitch of stays to ditto: Sides 8.3 x 7.1 Back 7.7 x 7.6 Top 8.3 x 7.9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 234 lbs

Material of stays steel Diameter at smallest part 1.56 Area supported by each stay 65.5 Working pressure by rules 217 lbs End plates in steam space:

Material M. steel Thickness 1.08 Pitch of stays 15.2 x 14.6 How are stays secured double nuts Working pressure by rules 240 lbs Material of stays M. steel

Diameter at smallest part 2.75 Area supported by each stay 229 Working pressure by rules 220 lbs Material of Front plates at bottom M. steel

Thickness 1.06 Material of Lower back plate M. steel Thickness .94 Greatest pitch of stays 15.2 x 7.5 Working pressure of plate by rules 216 lbs

Diameter of tubes 3 Pitch of tubes 4.1 Material of tube plates M. steel Thickness: Front 1.06 Back .90 Mean pitch of stays 10.3

Pitch across wide water spaces 14 Working pressures by rules 206 lbs Girders to Chamber tops: Material M. steel Depth and

thickness of girder at centre 9.25 x 1.58 Length as per rule 24.6 Distance apart 7.9 Number and pitch of stays in each 3-8.3

Working pressure by rules 199 lbs Superheater or Steam chest; how connected to boiler rose Can the superheater be shut off and the boiler worked

separately yes Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater 15 1/8 inch Are they fitted with easing gear yes

ADJUSTING WAREHOUSE

HAR. 58, Canal St., Port. 51

Foundation

01000223



# VERTICAL DONKEY BOILER—Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ 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 \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_  
 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 \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_  
 Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:—*1/3 crank shaft, 1 propeller shaft, 1 propeller blade, 2 crosshead brasses, 2 crank pin brasses, 2 crank pin & crosshead brass bolts & nuts, 2 main bearing bolts, 2 sets of coupling bolts, 1 slide valve rod, 1 set of piston rings, 1 eccentric strap complete, 1 piston rod for air pump, 1 piston and piston rod for circulating pump, 1 complete set of links, 1 set of valves for air, feed & bilge pumps, 1 set of safety valve springs, 2% of condenser tubes, 10% of bolts for cylinder, slide valve cover and piston, a quantity of assorted bolts and nuts, iron of various sizes.*

The foregoing is a correct description,  
**ACTION GESELLSCHAFT "WESER"** Manufacturer.

Dates of Survey while building: During progress of work in shops — 1913: April 23, May 23, June 10, July 9, 10, 15, 23, 25, Aug 22, Sep 18, Oct 3, 10, 17, 22, Nov 26, Dec 9, 12  
 During erection on board vessel — 1913: Dec 18, 30, 1914: Jan 8, 15, 19, 23, 27.  
 Total No. of visits 24.  
 Is the approved plan of main boiler forwarded herewith *yes*  
 " " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *23/4, 23/7* Slides *23/5, 10/6* Covers *10/6, 23/7* Pistons *9/2, 23/8* Rods *25/7*  
 Connecting rods *22/8* Crank shaft *10/6* Thrust shaft *10/7* Tunnel shafts *10/7* Screw shaft *10/7* Propeller *10/7*  
 Stern tube *23/4, 18/9, 10/2* Steam pipes tested *22/10, 26/11* Engine and boiler seatings *9/12* Engines holding down bolts *3/10*  
 Completion of pumping arrangements *23/14* Boilers fixed *30/12* Engines tried under steam *22/11*  
 Main boiler safety valves adjusted *22/11* Thickness of adjusting washers *PORT: 12" STAR: 12" 415" 37"*  
 Material of Crank shafts *M. steel Identification Mark on Do. No 5675 12912 2917/2882* Material of Thrust shafts *M. steel Identification Mark on Do. H.K. 5.13*  
 Material of Tunnel shafts *M. steel Identification Marks on Do. No 4754 55 4723 2918 18683 15676* Material of Screw shafts *M. steel Identification Marks on Do. No 2275 No 8613*  
 Material of Steam Pipes *Steel rolled on the Mannesmann plan Test pressure 576 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*These Engines and Boilers have been manufactured in accordance with the approved plans, the Secretary's letters and otherwise in conformity with the Rules.*  
*The material and workmanship are good.*  
*They are eligible in my opinion to be classed in the Society's Register Book with the notation of **LMC 1, 14.***

*checked from "Spitzfeld"*

It is submitted that  
 this vessel is eligible for  
**THE RECORD + LMC 1, 14.** F.D.

*Y. H. B. KAMP*  
*4/2/14*  
*DRR*

The amount of Entry Fee .. *£46 62.-* When applied for, *22.1.14*  
 Special .. *£945.-*  
 Donkey Boiler Fee .. *£43.-* When received, *19.2.14*  
 Travelling Expenses (if any) *£40.-*

Committee's Minute *FRI. FEB. 6-1914*  
 Assigned *+ LMC 1, 14*  
*7.8.*

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.