

## REPORT ON MACHINERY.

No. 4719.

Port of *Grimsby.* Received at London Office *19*  
 No. in Survey held at *Grimsby.* Date, first Survey *10 August 06.* Last Survey *10 April 1907.*  
 Reg. Book. *974* upon the *Steel Steamer SPURN.* (Number of Visits *22*)  
 Master *Wm. Steward* Built at *new Holland* By whom built *W. H. Warren.* Tons { Gross *✓*  
 Engines made at *Jaeger.* By whom made *Muir & Houston.* When built *1907.*  
 Boilers made at *Grimsby.* By whom made *J. C. Central Coop. & S. H. C. & Co.* when made *1907.*  
 Registered Horse Power *52.* Owners *Turner & Greaves.* Port belonging to *Hull.*  
 Nom. Horse Power as per Section 28 *52.* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *no.*

ENGINES, &c.—Description of Engines *Triple Exp., hor. Cond., 4 in. Cyls.* No. of Cylinders *3* No. of Cranks *3.*  
 a. of Cylinders *10 3/4 10 3/4 10 3/4* Length of Stroke *22.* Revs. per minute *110.* Dia. of Screw shaft *as per rule 6.22* Material of *Se. Hon*  
 the screw shaft fitted with a continuous liner the whole length of the stern tube *no. 2 liners* Is the after end of the liner made water tight  
 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  
 are fitted, is the shaft lapped or protected between the liners *no.* Length of stern bush *2-3"*  
 a. of Tunnel shaft *as per rule 5.55* Dia. of Crank shaft journals *as fitted 5.55* Dia. of Crank pin *5 3/4* Size of Crank webs *4 1/2* Dia. of thrust shaft under  
 bars *5 7/8* Dia. of screw *7-3"* Pitch of Screw *11-6"* No. of Blades *4* State whether moveable *no* Total surface *18.5*  
 a. of Feed pumps *1* Diameter of ditto *2 1/2* Stroke *11"* Can one be overhauled while the other is at work *✓*  
 a. of Bilge pumps *1* Diameter of ditto *3"* Stroke *11"* Can one be overhauled while the other is at work *✓*  
 a. of Donkey Engines *1* Sizes of Pumps *6 pump & 6 Stk.* No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room *Sea bilge & hotwell 2" bore.* In Holds, &c. *fore and aft peaks and cabin*  
*connections.*  
 a. of Bilge Injections *1* sizes *2 1/2"* Connected to condenser, or to circulating pump *pump* Is a separate Donkey Suction fitted in Engine room & size *6 in. 2 1/2"*  
 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 *no*  
 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 *Below.*  
 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*  
 that pipes are carried through the bunkers *Yes, any steam & water* How are they protected *from 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 *18/12/06.* of Stern Tube *18/12/06* Screw shaft and Propeller *18/12/06.*  
 the Screw Shaft Tunnel watertight *none.* Is it fitted with a watertight door *✓* worked from *✓*

PLERS, &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  
 in each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to  
 h 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  
 g. seams Diameter of rivet holes in long seams Pitch of rivets Lap of plates or width of butt straps  
 percentages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell  
 e of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
 ngth of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings  
 bottom Thickness of plates bottom  
 orking pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
 ch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
 terial of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:  
 terial Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays  
 ameter 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  
 ameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
 ch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and  
 ckness of girder at centre Length as per rule Distance apart *no* and pitch of stays in each  
 orking pressure by rules Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked  
 arately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet  
 es Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed  
 orking pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



# 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 \_\_\_\_\_

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 \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *Two each top & bottom end and main bearings, bolts, a set of coupling bolts, main and donkey feed check valves, air circulating feed & bilge pump valves, boiler tubes bolts & studion & propeller.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey \_\_\_\_\_ During progress of work in shops— \_\_\_\_\_ 1906. Aug 10. 13. 14. 31. Sep 3. 20. Oct 8. 20. 31. Nov 8.

\_\_\_\_\_ During erection on board vessel— \_\_\_\_\_ 1907. Feb 19. 26. 27. Mar. 1. 4. 6. 7. 11. 14. 16. 17. April 10.

\_\_\_\_\_ Total No. of visits \_\_\_\_\_ 22. Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

Dates of Examination of principal parts—Cylinders *old* Slides *old* Covers *old* Pistons *13+14/06* Rods *old*

Connecting rods *old* Crank shaft *old* Thrust shaft *1/10/06* Tunnel shafts \_\_\_\_\_ Screw shaft *8/11/06* Propeller *8/11/06*

Stern tube *8/11/06* Steam pipes tested *146/3/07* Engine and boiler seatings *19/2/07* Engines holding down bolts *27/3/07*

Completion of pumping arrangements *26/3/07* Boilers fixed *27/2/07* Engines tried under steam *27/3/07*

Main boiler safety valves adjusted *26/3/07* Thickness of adjusting washers *5/16*

Material of Crank shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_ Material of Thrust shaft *dup* Identification Mark on Do. *447 One*

Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts *dup* Identification Marks on Do. *4*

Material of Steam Pipes *Solid drawn copper 3" bore 7 lb. sq. in.* Test pressure *320 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines were built under special survey by Messrs. Muir & Houston of Glasgow in 1889, & fitted in the steam trawler "Aquarius".*

*They have now been thoroughly overhauled and examined and the following repairs carried out viz:— The cylinders bored and new pistons fitted, air circulating pumps renewed, all gland bushes & neck rings renewed, crank shaft lined up and steering gear fitted.*

*The dimensions given are from actual measurement. The case is in my opinion eligible for the record & these engines made 1889, refitted 4.07. + A.B. 3.07. See Secretary's letter E 7/6/06.*

The amount of Entry Fee.. £ 1 : 00 When applied for, \_\_\_\_\_

Special .. .. £ 8 - 00 13/4/07 \_\_\_\_\_

Donkey Boiler Fee .. .. £ 9 - 00 When received, \_\_\_\_\_

Travelling Expenses (if any) £ \_\_\_\_\_ 27.6.07 \_\_\_\_\_

Committee's Minute

TUES. APR 16 1907

Assigned

+ hmc 4.07

Engines made 89 refitted 4.07

*B. Ritchie*

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



© 2021

Lloyd's Register Foundation