

REPORT ON MACHINERY.

No. *5445. Intro 4. 340* Port of *Hart Harlepool* Received at London Office *THURS 12 MARCH 1891*
 No. in Survey held at *Hart Harlepool* Date, first Survey *11th Sept. 1890* Last Survey *7th Dec 1891*
 Reg. Book. on the *Screw Steamer "Oil Rivers"* (Number of Visits *367th March 1891*)
 Master *Kathay* Built at *Huddlesbro* By whom built *Messrs W. Dixon & Co* Tons { Gross *2776.55*
 Engines made at *Harlepool* By whom made *Messrs P. Richardson & Sons* when made *1891*
 Boilers made at *Harlepool* By whom made *Messrs P. Richardson & Sons* when made *1891*
 Registered Horse Power *240* Owners *Alfred L. Jones* Port belonging to *Liverpool*
 " " " *257*

GINES, &c.—
 Description of Engines *Inverted, Triple Expansion, 3 Cranks* No. of Cylinders *3*
 diam. of Cylinders *23", 38", 61"* Length of Stroke *42"* Rev. per minute *60* Point of Cut off, High Pressure *.5 stroke* Low Pressure *.55 stroke*
 diameter of Screw shaft *11 1/8"* Diam. of Tunnel shaft *11 1/4"* Diam. of Crank shaft journals *11 1/8"* Diam. of Crank pin *11 1/8"* size of Crank webs *14 1/2" x 7 3/4"*
 diameter of screw *17.0"* Pitch of screw *17.4"* No. of blades *4* state whether moveable *no* total surface *80 sq. ft.*
 of Feed pumps *2* diameter of ditto *2 3/4"* Stroke *25"* Can one be overhauled while the other is at work *yes*
 of Bilge pumps *2* diameter of ditto *3 3/4"* Stroke *25"* Can one be overhauled while the other is at work *yes*
 where do they pump from *Fore, main, and After holds, After well & sea.*
 of Donkey Engines *2* Size of Pumps *(10" x 9") (4" x 6")* Where do they pump from *(Ballast tanks, sea, engine room bilge) (sea, hotwell, main boilers, & all bilges)*
 all the bilge suction pipes fitted with roses *yes* Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*
 of bilge injections *one* and sizes *4 1/2 dia* Are they connected to condenser, or to circulating pump *Circulating pump.*
 are the pumps worked *By lever from the after piston rod crosshead.*
 all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*
 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*
 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*
 at pipes are carried through the bunkers *none* How are they protected
 all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*
 the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *yes*
 when were stern tube, propeller, screw shaft, and all connections examined in dry dock *New vessel, before launching.*
 the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *top platform in engine room.*

BOILERS, &c.—
 of Boilers *Two* Description *Cyl. built. Imp. Lined Material Steel* Letter (for record) *S*
 Working Pressure *160 lb.* Tested by hydraulic pressure to *320 lb.* Date of test *25th Nov. 1890*
 Description of superheating apparatus or steam chest *none* Heating surface *4113 sq. ft.*
 each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *No superheater.*
 of square feet of fire grate surface in each boiler *57.5* Description of safety valves *Spring* No. to each boiler *2*
 of each valve *7.07* Are they fitted with easing gear *yes* No. of safety valves to superheater *—* area of each valve *—*
 they fitted with easing gear *—* Smallest distance between boilers and bunkers *woodwork 5"* Diameter of boilers *14.9"*
 length of boilers *10.0"* description of riveting of shell long. seams *double butt strap circum. seams bottle riv' lap* Thickness of shell plates *1 1/16"*
 diameter of rivet holes *1 1/32"* whether punched or drilled *drilled* pitch of rivets *2 1/2" 8 1/4", 2 1/2" 4 1/8"* Lap of plating *11"*
 percentage of strength of longitudinal joint *84.46* working pressure of shell by rules *162 lb.* size of manholes in shell *none*
 of compensating rings *—* No. of Furnaces in each boiler *3* Description of Furnaces *Corrugated*
 inside diameter *3.6"* length *6.0 top, 6.7 bottom* thickness of plates *9/16"* description of joint *welded* if rings are fitted *no*
 test length between rings *—* working pressure of furnace by the rules *166 lb.* combustion chamber plating, thickness, sides *5/8"* back *5/8"* top *5/8"*
 of stays to ditto, sides *8 1/2" x 8 1/2"* back *8 1/2" x 7 1/8"* top *8 1/2" x 8"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by
 rules *166 lb.* Diameter of stays at smallest part *1 3/8"* working pressure of ditto by rules *164 lb.* end plates in steam space, thickness *1 1/32"*
 of stays to ditto *18" x 17"* how stays are secured *double nuts & washers* working pressure by rules *164 lb.* diameter of stays at
 smallest part *2 3/4"* working pressure by rules *174 lb.* Front plates at bottom, thickness *9/16"* Back plates, thickness *7/8"*
 test pitch of stays *12"* working pressure by rules *163 lb.* Diameter of tubes *3 1/2"* pitch of tubes *4 3/4" x 4 3/4"* thickness of tube
 plates, front *1"* back *1 1/16"* how stayed *stay tubes* pitch of stays *14 1/4" x 9 1/2"* width of water spaces *1 1/4"*
 diameter of Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*
 of rivets *—* working pressure of shell by rules *—* diameter of flue *—* thickness of plates *—* If stiffened with rings *—*
 space between rings *—* working pressure by rules *—* end plates of superheater, or steam chest; thickness *—* how stayed *—*
 Superheater or steam chest; how connected to boiler




SPARE GEAR. State the articles supplied:— One propeller, A set of bolts & nuts for a connecting rod & main bearing. One air pump rod, One circulating pump rod. 1 H.P. slide valve spindle, 1 set each, Air, Circulating, & Relief pump valves. 12 Boiler tubes, 12 Condenser tubes, 1 set Piston Springs. 6 Jointing Bolts. Iron Bolts as set.

The foregoing is a correct description.

J. T. Morrison Manufacturer of Engines & Steam Boilers

main steam pipes tested by hydraulic pressure to 320 lb. per square inch and found tight.

The engines and boilers of this vessel have been constructed under Special Survey, and of a good quality of workmanship, the engines and main boilers have been examined under steam, the safety valves adjusted, and found to work well and will in my opinion, be eligible to have  *L. M. C. 1. 91.* recorded in the Register of this Society when the following work has been executed to the satisfaction of a Surveyor of this Society. Thrice valves to be fitted on the stokehold bulkhead and made accessible at all times. Donkey boiler to be fitted with mountings, made secure and examined under steam. Screw tunnel to be fitted with a sliding door and made water-tight. Spare gear to be supplied in accordance with the Rules. This vessel has proceeded to Middlesbrough for completion.

The work above mentioned has now been satisfactorily completed.

Wm. Austin

10th March 1891

Middlebrook-on-Trent

It is submitted that this vessel
is eligible to have + L.M.C.B.-91
wounded. W.D.

12-3-91

Special *C.* £ 32 : 17 : 0

Donkey Boiler Fee £ : :

Certificate (if required) . . £ : : 11. 3 1891

To be sent as per margin.
(*Travelling Expenses, if any, £*)

Committee's Minute

FRI 19 MARCH

+ L. lib. 3/91

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