

# REPORT ON MACHINERY.

8049

Port of Shull Received at London Office 18 NOV 91  
 Survey held at Shull Date, first Survey Apr 22<sup>nd</sup> Last Survey Nov. 7 1891  
 on the Shon Steam Hauler Britannia (Number of Visits 23) Tons Gross 138  
Net 58  
 Built at Shull By whom built Charles C. Lim When built 1891  
 made at Shull By whom made Charles C. Lim when made 1891  
 made at Shull By whom made Charles C. Lim when made 1891  
 red Horse Power 44 Owners James Meadows & Co Lim Port belonging to Glimsby

NES, &c.—  
 tion of Engines Simple Compound Inverted Direct Acting No. of Cylinders Three  
 of Cylinders 12' 18" & 30" Length of Stroke 18" Rev. per minute 135 Point of Cut off, High Pressure .63 Low Pressure .675  
 er of Screw shaft 5 3/8 Diam. of Tunnel shaft 5 1/6 Diam. of Crank shaft journals 5 1/4 Diam. of Crank pin 5 1/4 size of Crank webs 6 x 3 1/2  
 er of screw 4.6" Pitch of screw 9.3" No. of blades 44 state whether moveable No total surface 2229 sq ft  
 Feed pumps One diameter of ditto 2" Stroke 10" Can one be overhauled while the other is at work ✓  
 Bilge pumps One diameter of ditto 3" Stroke 10" Can one be overhauled while the other is at work ✓  
 do they pump from Engine Room Bilge. Cold Sea.  
 Donkey Engines One Size of Pumps 3' x 6" Where do they pump from Bilge, Cold, Sea & Hotwell  
Changes to Boiler, Condenser, Deck & Outboard. Also 3' Injection with suction in the  
in Room Bilge and discharge on Deck.  
 all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible ✓  
 bilge injections One and sizes 3 3/4" Are they connected to condenser, or to circulating pump Circulating Pump  
 are the pumps worked By rocking lever from intermediate Engine 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 Above  
 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  
 pipes are carried through the bunkers Suction to demand How are they protected brass casing  
 all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes in Engine room  
 the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes  
 were stern tube, propeller, screw shaft, and all connections examined in dry dock Now new Launched 7<sup>th</sup> October 1891  
 screw shaft tunnel watertight ✓ and fitted with a sluice door ✓ worked from ✓

ERS, &c.—  
 Boilers One Description Cylindrical Invert Material Steel Letter (for record) S  
 ing Pressure 150 lb Tested by hydraulic pressure to 300 lb Date of test 10<sup>th</sup> Sept 1891  
 ption of superheating apparatus or steam chest None fitted  
 ach boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately ✓  
 f square feet of fire grate surface in each boiler 263 sq ft Description of safety valves Spring loaded No. to each boiler Two  
 of each valve 3.14" 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 or woodwork 8" Diameter of boilers 9.6"  
 h of boilers 9.3" description of riveting of shell long. seams all steep all circum. seams all in lap Thickness of shell plates 13/16  
 ter of rivet holes 1 3/16" whether punched or drilled drilled pitch of rivets 6 5/8" Lap of plating 12 3/4"  
 ntage of strength of longitudinal joint 82.06 % working pressure of shell by rules 155 lb size of manholes in shell 16" x 12"  
 f compensating rings 28" x 26" x 13/16" No. of Furnaces in each boiler Two Description of Furnaces Plain  
 le diameter 33" length 6.6' between plates thickness of plates 10 1/16" description of joint welded if rings are fitted ✓  
 est length between rings ✓ working pressure of furnace by the rules 164 lb combustion chamber plating, thickness, sides 9 1/16" back 9 1/16" top 9 1/16"  
 of stays to ditto, sides 8" back 8" top 8" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by  
 rules 151 lb Diameter of stays at smallest part 1 3/4" working pressure of ditto by rules 185 lb end plates in steam space, thickness 14 1/16"  
 h of stays to ditto 15" how stays are secured all nuts working pressure by rules 159 lb diameter of stays at  
 smallest part 2 1/4" working pressure by rules 199 lb Front plates at bottom, thickness 12 1/16" Back plates, thickness 10 1/16"  
 atest pitch of stays 8" working pressure by rules 150 lb Diameter of tubes 3 1/4" pitch of tubes 4 1/2" thickness of tube  
 plates, front 14 1/16" back 13 1/16" how stayed lay tubes pitch of stays 9" width of water spaces 10"  
 meter of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. of rivet holes  
 h of rivets working pressure of shell by rules diameter of flue thickness of plates If stiffened with rings  
 ance between rings working pressure by rules end plates of superheater, or steam chest; thickness how stayed  
 Superheater or steam chest; how connected to boiler



## DONKEY BOILER—

Description

*No donkey boiler*

Made at \_\_\_\_\_ by whom made \_\_\_\_\_ when made \_\_\_\_\_ where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ fire grate area \_\_\_\_\_ description of safety  
 valves \_\_\_\_\_ No. of safety valves \_\_\_\_\_ area of each \_\_\_\_\_ if fitted with easing gear \_\_\_\_\_ if steam from main boilers or  
 enter the donkey boiler \_\_\_\_\_ diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_  
 Thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_ pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_  
 per centage of strength of joint \_\_\_\_\_ thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_  
 Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_ thickness of plates \_\_\_\_\_ description of joint \_\_\_\_\_  
 Thickness of furnace crown plates \_\_\_\_\_ stayed by \_\_\_\_\_ working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ diameter of uptake \_\_\_\_\_ thickness of plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *Two top end bolts. Two bottom end bolts. Two  
 main bearing bolts. One set Coupling bolts. One set feed pump valve  
 one set bilge pump valve. Safety valve spring.*

*The vessel efficient with masts and sails as a hauler*

SHIPBUILDING & ENGINEERING CO. LIMITED  
 The foregoing is a correct description,

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship Good*

*The Machinery and Boiler of this Steam Hauler  
 have been constructed under Special Survey and placed on-  
 board in accordance with the Society's Rules. They are now in  
 my opinion in safe working condition and the case is respect-  
 fully submitted for the notification + L.M.C. 11.91. in the  
 Register Book.*

Certificate (if required) to be sent to *The Surveyors, Hull*

The amount of Entry Fee .. £ *1* : - : - received by me,  
 Special .. .. £ *8* : - : -  
 Donkey Boiler Fee .. .. £ *✓* : - : -

(Travelling Expenses, if any, £ *✓* )

Committee's Minute

FRI 20 NOV 1891

+ L.M.C. 11.91

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



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 Foundation