

REPORT ON MACHINERY.

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No. 2721

(Received in London Office 29/11/80)

No. in Survey held at *Belfast*

Date, first Survey *23 March 80* Last Survey *24th Nov. 1880*

on the *S.S. William Hinde*

Tons *346.31*
179.9

Master *M. Lyle* Built at *Belfast* When built *1880*
 Engines made by *Jno Rowan & Sons (Lim)* at *Belfast* when made *1880*
 Boilers made by *Jno Rowan & Sons (Lim)* at *Belfast* when made *1880*
 Registered Horse Power *60* Owners *William Hinde* Port belonging to *Belfast*

ENGINES, &c.—

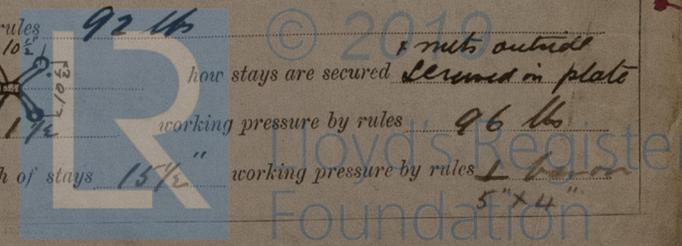
Description of Engines *Compound, Inverted Direct-acting.*
 Diameter of Cylinders *19" x 38"* Length of Stroke *30"* No. of Rev. per minute *90* Point of Cut off, High Pressure *15"* Low Pressure *9/16"*
 Diameter of Screw shaft *7"* Diameter of Tunnel shaft *6 1/2"* Diameter of Crank shaft journals *7"* Diameter of Crank pin *7 1/2"* size of Crank webs *5" x 8 1/2"*
 Diameter of screw *9'-0"* Pitch of screw *14'-0"* No. of blades *four* state whether moveable *no* total surface *30 sq. ft*
 No. of Feed pumps *two* diameter of ditto *2"* Stroke *30"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *two* diameter of ditto *3"* Stroke *30"* Can one be overhauled while the other is at work *yes*
 Where do they pump from *Engine Room, Stokehold, Fore and aft holds*
 No. of Donkey Engines *one* Size of Pumps *4" x 6"* Where do they pump from *Sea and Bilge holds also tanks.*

Are all the bilge suction pipes fitted with roses *yes* Are the roses always accessible *yes* Are the sluices on Engine room bulkheads always accessible *as far as possible*
 No. of bilge injections *one* and sizes *3/4" dia* Are they connected to condenser, or to circulating pump *circulating pump.*
 How are the pumps worked *off Crosshead*
 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 *above*
 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 *none* How are they protected *—*
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*
 Are 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 *before launching*
 Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *deck.*

BOILERS, &c.—

Number of Boilers *one* Description *Cylindrical, Single ended, Steel*
 Working Pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* Date of test *27th October 1880*
 Description of superheating apparatus or steam chest *none*
 Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *yes*
 No. of square feet of fire grate surface in each boiler *37 sq. ft* Description of safety valves *Direct Spring.*
 No. to each boiler *two* area of each valve *8.940"* Are they fitted with easing gear *yes*
 No. of safety valves to superheater *—* area of each valve *—* are they fitted with easing gear *—*
 Smallest distance between boilers and bunkers *10"*
 Diameter of boilers *12' 8" int.* Length of boilers *9' 6" int.* description of riveting of shell long. seams *butt double* circum. seams *lap single*
 Thickness of shell plates *1/16" steel* diameter of rivet holes *3/4" rivets steel* whether punched or drilled *drilled* pitch of rivets *2 7/8"*
 Lap of plating *11 3/4" butt lap* percentage of strength of longitudinal joint *71* working pressure of shell by rules *80 lbs*
 Size of manholes in shell *15 1/2" x 12"* size of compensating rings *5" x 5 3/8" riveted on*
 No. of Furnaces in each boiler *two* outside diameter *40 7/8"* length, top *6'-6"* bottom *8'-6"*
 Thickness of plates *1 3/32" steel* description of joint *welded & single butt lap* if rings are fitted *yes* greatest length between rings *3'-5"*
 Working pressure of furnace by the rules *104 lbs*
 Combustion chamber plating, thickness, sides *7/16" steel* back *7/16" steel* top *7/16" steel*
 Pitch of stays to ditto sides *8" x 8"* back *8" x 8"* top *8" x 8"*
 If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *91 lbs*
 Diameter of stays at smallest part *1" steel* working pressure of ditto by rules *92 lbs*
 End plates in steam space, thickness *1/2" steel* pitch of stays to ditto *2 3/4" x 1 1/2"* how stays are secured *secured in plate with outside*
 Working pressure by rules *81 lbs* diameter of stays at smallest part *2 3/4" x 1 1/2"* working pressure by rules *96 lbs*
 Front plates at bottom, thickness *1/2" steel* Back plates, thickness *1/2" steel* greatest pitch of stays *15 1/2"* working pressure by rules *—*

IRON 47-0053



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Diameter of tubes $3\frac{1}{2}$ inch pitch of tubes $4\frac{3}{4}$ thickness of tube plates, front $\frac{7}{8}$ back $\frac{7}{8}$
 How stayed stay tubes pitch of stays $14\frac{1}{4} \times 9\frac{1}{2}$ width of water spaces $1\frac{1}{4} \times 6$ "
 Diameter of Superheater or Steam chest — length —
 Thickness of plates — description of longitudinal joint — diameter of rivet holes — pitch of rivets —
 Working pressure of shell by rules — Diameter of flue — thickness of plates —
 If stiffened with rings — distance 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 *Upright.*
 Made at *Belfast* By whom made *John Rowan & Sons*, when made *1880*
 Where fixed *Stokehold* working pressure *60 lbs* Tested by hydraulic pressure to *120* No. of Certificate *27*
 Fire grate area *8 sq. ft* Description of safety valves *direct spring* No. of safety valves *one* area of each *70"*
 If fitted with casing gear *yes* If steam from main boilers can enter the donkey boiler *Stop valve on*
 Diameter of donkey boiler *3' 9"* length *8' 6"* description of riveting *lap single*
 thickness of shell plates *$\frac{7}{8}$ "* diameter of rivet holes *$\frac{13}{16}$ "* whether punched or drilled *punched*
 pitch of rivets *2 1/8"* lap of plating *2 1/2* per centage of strength of joint *61.8*
 thickness of crown plates *$\frac{7}{16}$ steel* stayed by *flue or uptake & dished*
 Diameter of furnace, top *2' 9"* bottom *3' 3"* length of furnace *14-0*
 thickness of plates *$\frac{7}{8}$ steel* description of joint *lap single*
 thickness of furnace crown plates *$\frac{7}{8}$ steel* stayed by *uptake &*
 Working pressure of shell by rules *79 lbs* working pressure of furnace by rules *80 lbs two tubes*
 diameter of uptake *10 3/4* thickness of plates *$\frac{7}{16}$ L.M.* thickness of water tubes *$\frac{7}{16}$ "*

The foregoing is a correct description,

Manufacturer.

For JOHN ROWAN & SONS

J.A. Adamson Manager

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines and Boilers are now in good order and safe working condition and eligible in my opinion to be noted in the Register Book & Lloyd's m.c.*)

This submitted shall this vessel is eligible to have the works entered in the Register Book
M. 29/11/80

The amount of Entry Fee £ 2 : 0 : 0 received by me,

Special £ 9 : 0 : 0
 Testing steel for boilers 2 2 : 0
 Certificate (if required) .. £ 2 : 0 : 0
 To be sent as per margin.

(Travelling Expenses, if any, £ 6. 6. 0)

Committee's Minute

Tuesday, November, 30th 1880.

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

