

REPORT ON MACHINERY.

3672

No. 3672.

THURSDAY 13 SEPT 1883

No. in Survey held at *Barrow-in-Furness* Date, first Survey *Nov. 20/82* Last Survey *Sept. 15/83*

Reg. Book. on the *H.M. "Pembroke Castle"* (Number of Visits *64*) *3936*
Tons *2560*

Master *J. B. Harrison* Built at *Barrow* By whom built *Barrow Ship Building Co.* When built *1883*

Engines made at *Barrow* By whom made *The Barrow Ship Building Co. Ltd.* When made *1883*

Boilers made at *Barrow* By whom made *"* when made *1883*

Registered Horse Power *450* Owners *Daniel Currie & Co.* Port belonging to *Fundee*

ENGINES, &c.—

Description of Engines *Comp. Inverted Surface Condensing*

Diameter of Cylinders *43-86* Length of Stroke *57* No. of Rev. per minute *60* Point of Cut off, High Pressure *7* Low Pressure *6*

Diameter of Screw shaft *17* Diam. of Tunnel shaft *5 1/2* Diam. of Crank shaft journals *17* Diam. of Crank pin *17 1/4* size of Crank webs *29 1/2 x 12*

Diameter of screw *18-0* Pitch of screw *24-0* No. of blades *4* state whether moveable *yes* total surface *86.6 sq feet*

Feed pumps *Two* diameter of ditto *5 1/2* Stroke *28 1/2* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *Two* diameter of ditto *5 1/2* Stroke *28 1/2* Can one be overhauled while the other is at work *yes*

Where do they pump from *all Compartments*

No. of Donkey Engines *Two* Size of Pumps *6" diam x 12" Stroke* Where do they pump from *Centrifugal from Ballast*

Two Engine Room and No. 3 Hold. Feed from Sea hot-well, Ballast Tank & all Compartments

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 *yes*

No. of bilge injections *Two* and sizes *4" diam* Are they connected to condenser, or to circulating pump *circulating pumps*

How are the pumps worked *Special Circulating Pumps by levers from bolt pistons and Crankshafts*

Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both Valves and Cocks*

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 *new vessel*

Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *Top platform*

BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical, Double Ended* Whether Steel or Iron *Steel*

Working Pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* Date of test *7th July 1883*

Description of superheating apparatus or steam chest *none fitted*

Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *"*

No. of square feet of fire grate surface in each boiler *144 sq* Description of safety valves *Spring* No. to each boiler *Three*

Area of each valve *23.76 sq* 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 or woodwork *10"* Diameter of boilers *15'-9"*

Length of boilers *17'-0"* description of riveting of shell long. seams *DB Shape, Lap Riv.* circum. seams *Lap Riv.* Thickness of shell plates *7/16*

Diameter of rivet holes *1/8* whether punched or drilled *drilled* pitch of rivets *5 1/2* Lap of plating *Butt joint 1 1/2 wide*

Per centage of strength of longitudinal joint *79.5* working pressure of shell by rules *103 lbs* size of manholes in shell *16" diam*

Size of compensating rings *3/4" thick Circular riveted* No. of Furnaces in each boiler *Six*

Outside diameter *49'-5"* length, top *6'-0"* bottom *7'-6"* thickness of plates *7/16* description of joint *corrugated* if rings are fitted *"*

Greatest length between rings *"* working pressure of furnace by the rules *101 lbs* combustion chamber plating, thickness, sides *7/16* back *"* top *7/16*

Pitch of stays to ditto, sides *7 1/8 x 7 1/8* back *"* top *7 1/8 x 7 1/8* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *93 lbs*

Diameter of stays at smallest part *1.382* working pressure of ditto by rules *143 lbs* end plates in steam space, thickness *3/4*

Pitch of stays to ditto *15 x 15* how stays are secured *nuts & washers* working pressure by rules *102 lbs* diameter of stays at smallest part *2 1/2*

working pressure by rules *130 lbs* Front plates at bottom, thickness *7/16* Back plates, thickness *"*

Greatest pitch of stays *about 12* working pressure by rules *117 lbs* Diameter of tubes *3 1/4* pitch of tubes *4 3/8* thickness of tube plates, front *3/4* back *7/16*

how stayed *Stay Tube* pitch of stays *3 1/8 x 8 1/4* width of water spaces *4 1/2 between*

Diameter of Superheater or Steam chest *none* length *"* thickness of plates *"* description of longitudinal joint *"* diam. 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 *Cylindrical Multi-tubular*
 Made at *Barnow* by whom made *Barnow Ship Building Co.* when made *27/7/83* where fixed *in Union*
 Working pressure *90 lb* tested by hydraulic pressure to *120* No. of Certificate *44* fire grate area *27 1/4* feet description of safety
 valves *Spring* No. of safety valves *Two* area of each *7.07* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *no* diameter of donkey boiler *8-6* length *8-6* description of riveting *lap joints tubular*
 Thickness of shell plates *3/32* diameter of rivet holes *3/4* whether punched or drilled *drilled* pitch of rivets *2 1/2*
 per centage of strength of joint *70* thickness of *end* plates *3/8* stayed by *thru ship stays with double*
 Diameter of furnace, *33* bottom *—* length of furnace *6-0* thickness of plates *3/32* description of joint *welded*
 Thickness of furnace crown plates *—* stayed by *—* working pressure of shell by rule *72*
 Working pressure of furnace by rules *95-66* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*
Rings 7 1/2

SPARE GEAR. State the articles supplied:— *all the gear required by the rules, also Spare Piston and Propeller shafts, one Piston rod - one connecting rod with brasses Propeller Pins and Blades complete, Stern Pins, Air Pump, 90 lb pressure HP & LP Valve Spindle, Cylinder Escape Valve & Springs and*

The foregoing is a correct description,
Barnow Shipbuilding Co Manufacturer.
G. H. Dodge

General Remarks (State quality of workmanship, opinions as to class, &c.)
Natural and workmanship good and satisfactory.
The Machinery and Boilers of this vessel are in good order and safe working condition and, in my opinion, are fit for the notification. X *Hyd. M. C. 9-13* in the Register Books.

It is submitted that this vessel is eligible to have the notification + 2 in 8 9.83 recorded

13/9/83
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The amount of Entry Fee .. £ *3* : - : - received by me,
 Special £ *42* : *10* : -
 Donkey Boiler Fee £ *—* : - : -
 Certificate (if required) .. £ *—* : - : - *5/9/1883*
 To be sent as per margin.
 (Travelling Expenses, if any, £ *—*)

Committee's Minute FRIDAY 14 SEPT 1883
L. M. C.

Amicus Retative
 Engineer Surveyor to Lloyd's Register of British & Foreign

